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**TACTICS AND TECHNIQUES
FOR COMBINED ARMS HEAVY FORCES:
ARMORED BRIGADE, BATTALION TASK FORCE,
AND
COMPANY TEAM**

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PREFACE

NOTE: Users of this field manual must first read and understand the doctrinal field manuals: FM 71-3 (brigade), FM 71-2 (battalion), and FM 71-1 (company). This manual DOES NOT replace the doctrinal manuals; rather, it supplements them with tactics and techniques for heavy, combined-arms forces at brigade, battalion, and company levels. Plans call for the tactics and techniques to be incorporated into the three doctrinal manuals as they are revised.

FM 71-123 represents a departure from existing field manuals. Many current Army manuals are written in terms of execution, but FM 71-123 reflects the way we fight. Troop-leading procedures provide a thread of continuity, leading the reader chronologically through each mission. Planning, preparation, and execution are addressed in turn to reinforce the staff planning process and illustrate the interaction necessary between commanders and staff. Accordingly, planning, preparation, and execution of each mission are further described in terms of the seven battlefield operating systems (BOS). This structure gives the manual a unique combined arms perspective, encapsulating the activities of each arm and BOS as well as its relationship to the overall operation.

The manual encompasses three echelons: brigade, battalion, and company. This approach allows the reader to understand relationships among the three echelons within the context of the higher headquarters' intent. In addition, each operation is couched in terms of its corresponding threat; for example, an enemy MRP or tank platoon defense may serve as the point of departure for discussion of the company's role in a battalion deliberate attack.

NOTE: Terms such as "Soviet" and "Warsaw Pact," used in previous drafts of FM 71-123 in discussions of threat organization, tactics, and equipment, have been changed, predominantly to "Soviet-style," to reflect recent world events. Most of these discussions are again included in this edition, however, because many potential adversaries of the United States still base their tactics on the war-fighting doctrine of the former Soviet army.

Another purpose of FM 71-123 is to bridge the gap between doctrinal publications, which present concepts, and ARTEP MTPs, which outline training strategies and use standardized checklists to evaluate unit performance of specific tasks. Both doctrinal and MTP publications are written to address "what" rather than "how to," FM 71-123 supplements doctrine and bridges the "how to" void. It presents tactical considerations and techniques to make planning, preparation, and execution easier and describes other "tricks of the trade" that can be incorporated into the tactical plan.

Designed as a thought-provoking professional resource, FM 71-123 will be a primary reference for combined arms soldiers throughout their careers. It may, for example, serve as a point of departure for officer professional development classes one day and as a basis for unit training the next. Above all, it is a living

document, to be read and improved upon as soldiers in the field develop new and innovative techniques. Comments and suggestions are encouraged.

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commandant, USAARMS, ATSB-CSC, Fort Knox, Kentucky 40121-5200.

Unless otherwise stated, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1

COMMAND, CONTROL, AND COMMUNICATION

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To be successful in battle, commanders must be able to make good decisions quickly. Staffs must be able to assist commanders in making those decisions and translating them into action faster than the enemy. Units must be able to respond quickly to changing situations. Through command and control (C2), commanders will seize the initiative from the enemy and defeat it.

To make C2 happen, it must be properly organized in functionally operating facilities. Staffs must be well trained. Commanders and staffs must practice the C2 process regularly so that the procedures are instinctive.

The C2 process comprises—

- Coordination.
- Planning.
- Directing.
- Controlling.

The C2 process is executed through—

- Leadership.
- C2 facilities.
- The planning process.
- Communication.

The leadership environment effects the success of C2. In modern war, the enemy will seldom conform to our expectations. Beating the enemy demands bold, aggressive, risk-taking leaders. Leaders must be willing to take responsibility and use their initiative, guided by their commander's intent. Leaders must be able to think clearly and quickly. Speed and decisive action are essential.

Commanders must be determined to see their intent carried out. They should issue mission-type orders that impose restrictions on subordinates only to assure the coordinated action of the command. Terminology must be widely understood. The commander's intent will guide subordinate commanders in pursuit of the common goal in the absence of communications. The commander must be forward, monitoring the progress of the battle. He intervenes only when necessary.

Commander-subordinate relationships must be characterized by mutual trust and respect. Commanders and subordinates must know how the other thinks. Commanders must teach subordinates not what to think, but how to think. They must decentralize authority to their subordinates, allow freedom of action, and encourage the use of their initiative.

SECTION I. ORGANIZATION AND FACILITIES

General Organization

Command

Responsibilities

The commander is responsible for all his unit does or fails to do. He cannot delegate this responsibility.. The commander is responsible to both his superiors and his subordinates. The commander delegates to his subordinates the authority to accomplish their missions. He increases the effectiveness of the organization by delegating authority, holding subordinates responsible for their actions, and fostering a climate of mutual trust, cooperation, and teamwork.

Planning and Execution

Commanders fight the AirLand battle by synchronizing the execution of the close, deep, and rear fights. AirLand battle will be conducted at a greatly accelerated pace. This involves split-second response to orders and fast, violent execution. The commander must make his decisions based on his ability to see the battle-field. He must be present at the decisive point and take advantage of accurate, timely reports. The planning and execution cycle must be accelerated so the enemy continually finds itself attempting to react to new offensive operations against its flanks and rear. The challenge is to streamline C2 procedures to anticipate and execute immediately.

Intent

Intent is the commander's stated vision which defines the purpose of an operation and the end state with respect to the relationship among the force, the enemy, and the terrain. The intent does not summarize the concept of the operation nor does it describe subunit missions. The commander's intent must be clear to subordinates to allow them to take the initiative in the absence of detailed orders. Leaders must understand the intent of commanders two levels above them. This contributes to swift, coordinated, effective action by the unit.

Chain of Command

The commander issues orders and receives information through the chain of command. He issues all orders to the commander of the next lower unit. Bypassing commanders should occur only in urgent situations. In such instances, the bypassed commander should be notified by the commanders involved as soon as possible.

The Staff

Staff Functions

Staff officers assist their commander in accomplishing the mission. They help the commander make decisions by acquiring, analyzing, and coordinating information. Staff officers present critical information and a recommendation to the commander so he can make good decisions. Common staff functions are—

- Providing information. Staff officers collect, analyze, and disseminate information. They ensure the critical facts are at hand for the commander.
- Making estimates.
- Making recommendations.
- Preparing plans and orders.
- Supervising the execution of decisions.

Staff Responsibility and Authority

Staff officers are assigned functional areas of interest and responsibility. Normally, the commander delegates authority to the staff to take final action on matters within command policy. The assignment of staff responsibility does not connote command authority over other staff officers or over any other command element.

Relationship with Subordinate Commands

Staff officers must understand the situations of the command's units. They must support subordinate units and establish good working relationships with subordinate commanders and staffs. The staff should make recommendations and offer advice to subordinate commanders; they may not, however, deny or refuse a subordinate commander's request, except in those areas where the commander has delegated authority for them to do so. Staff officers will contact a subordinate command only in the commander's name to transmit orders or instructions, but they may offer assistance or exchange information in their own or in the commander's name. If a staff officer determines a subordinate command is not complying with the commander's directives, the staff officer advises the subordinate commander or his staff of the noncompliance. The staff officer then reports his observation and recommendation to his commander. Staff officers normally honor in format requests for information from the higher level staff; they should be open for suggestions from subordinate units.

Command and Staff Communications

The command channel is the direct, official link between echelon headquarters and commanders. Orders and instructions to subordinate units pass on this channel. Within their authority, staff officers may use command channels when acting in the commander's name. The staff channel is the staff-to-staff link between headquarters for coordination and transmission of information. The technical channel carries technical instructions between commands.

Coordination

Coordination is critical to the commander's synchronization of the battle. It must occur internally with combat, CS, and CSS units and externally with higher and adjacent units. It prevents the enemy from exploiting unit boundaries and enables the commander to produce maximum relative combat power at the decisive time and place.

Brigade Command, Control, and Communication Facilities**Brigade Command Group Functions**

The brigade command group has the following functions (see Figure 1-1 for a diagram of the TAC CP):

- Observe the battlefield.
- Influence the battle with personal presence.
- Control (synchronize) the battle-close, deep, and rear.
- Provide planning guidance.

Brigade Tactical Command Post Functions

The brigade TAC CP has the following functions (see Figure 1-1 for legend of terms, equipment and a diagram of the facility):

- Conduct ongoing close operations.
- Provide the commander with combat critical information.
- Disseminate the commander's decisions.

Brigade Main Command Post Functions

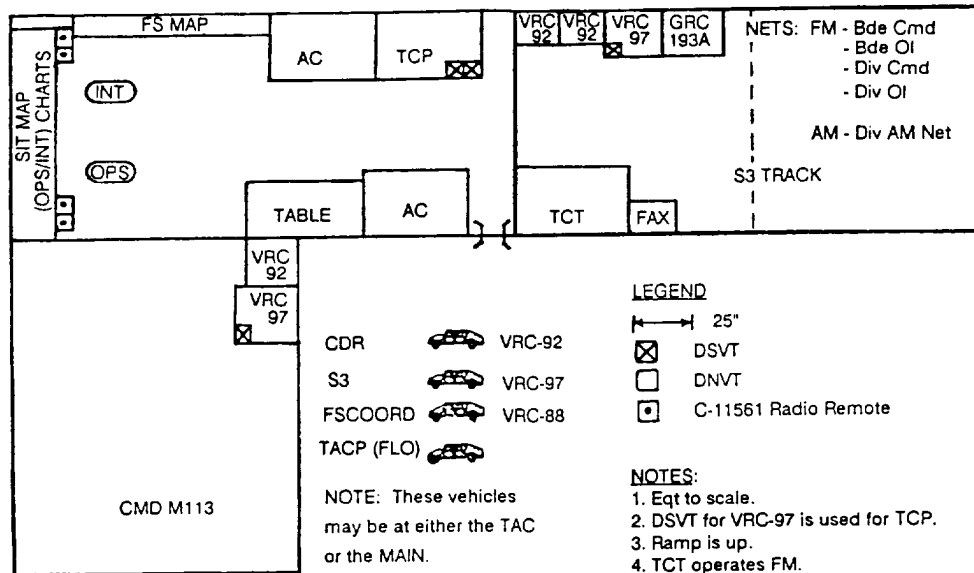
The brigade main CP has the following functions (see Figures 1-2, 1-3, and 1-4 for diagrams of the facility):

- Assist the brigade and TF commanders.
- Monitor the close fight.
- Synchronize (coordinate) CS and CSS.
- Execute planned deep attacks.
- Coordinate operations throughout brigade sector.
- Fight rear operations.
- Plan future operations.
- Keep higher headquarters informed.

Brigade Rear Command Post Functions

The brigade rear CP has the following functions (see Figure 1-5 for a diagram of the facility):

- Sustain current operations.
- Forecast future CSS requirements.
- Conduct detailed CSS planning.
- Serve as entry point for units entering brigade rear area.
- Coordinate with FSB CP (collocate).
- Serve as alternate main CP.

**LEGEND:**

Personnel.

Digital Subscriber Voice Terminal (DSVT): TSEC/KY-68

Digital Nonsecure Voice Terminal (DNVT): TA-1035/U

Radio Remote: C-11561/U

Tactical Computer Terminal (TCT): AN/UYQ-30

Tactical Computer Processor (TCP): AN/UYQ-43 (1)

Analysis Console (AC)

Tactical Army Computer System (TACCS)

VRC-92--SINCGARS FM Radio (2-net, long range)

VRC-89--SINCGARS FM Radio (2-net, 1 short rng, 1 long rng)

VRC-90--SINCGARS FM Radio (single net, long range)

VRC-97--Mobile Subscriber Radio Terminal (MSRT)

GRC-193A--AM Radio

Fascimile (FAX) Machine

Figure 1-1. Brigade tactical command post with command group.

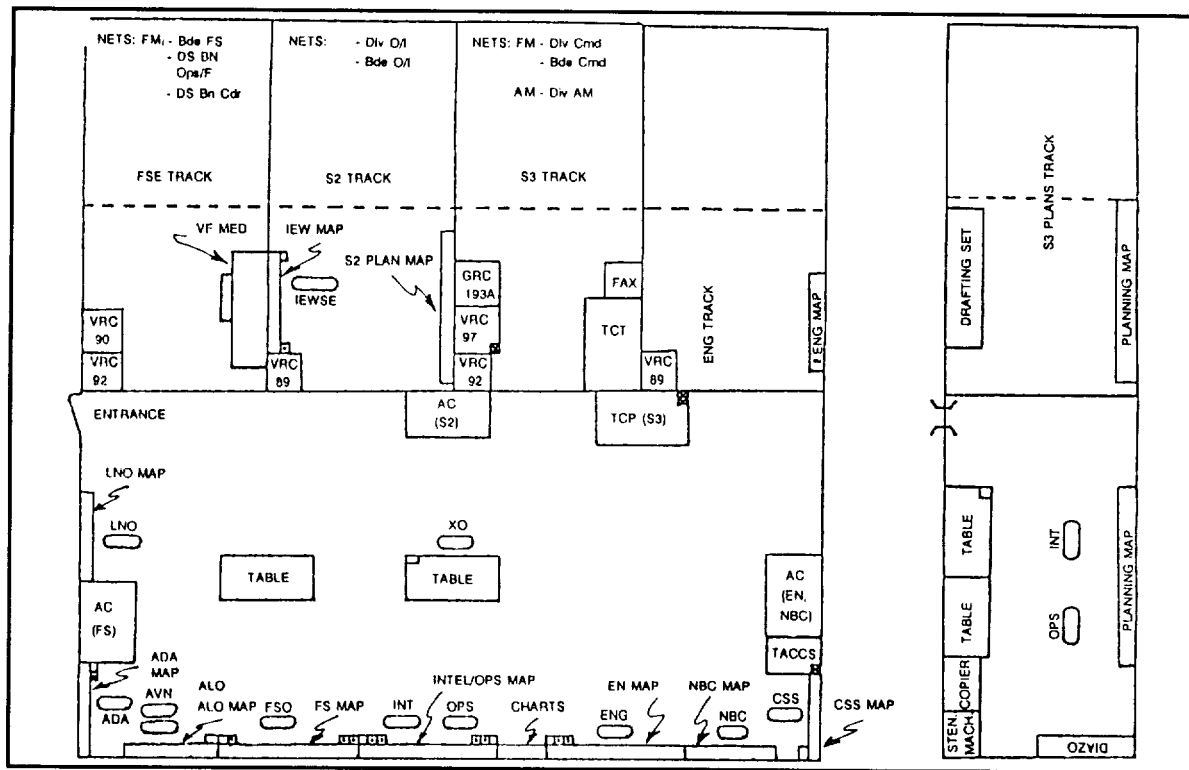


Figure 1-2. Brigade main command post.

(See Figure 1-1 for legend of terms and equipment.)

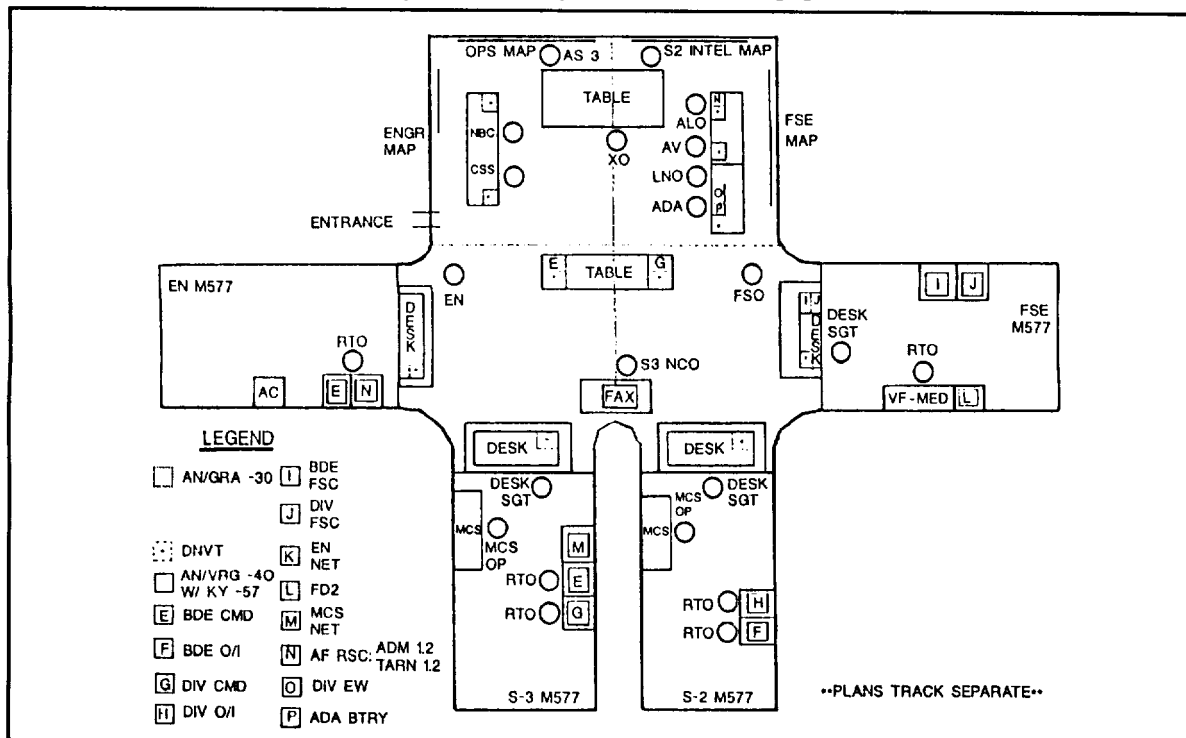


Figure 1-3. Brigade main command post with SICPS (T configuration).

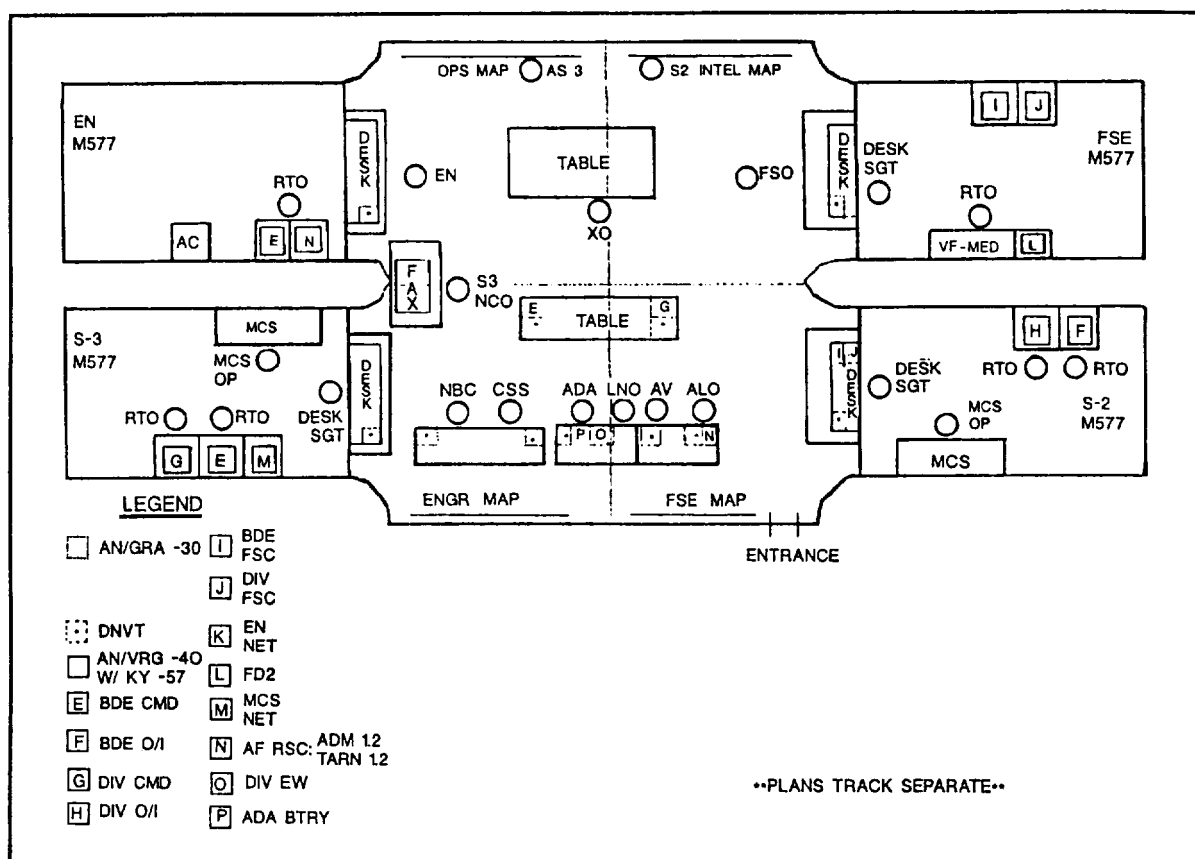


Figure 1-4. Brigade main command post with SICPS (H configuration).

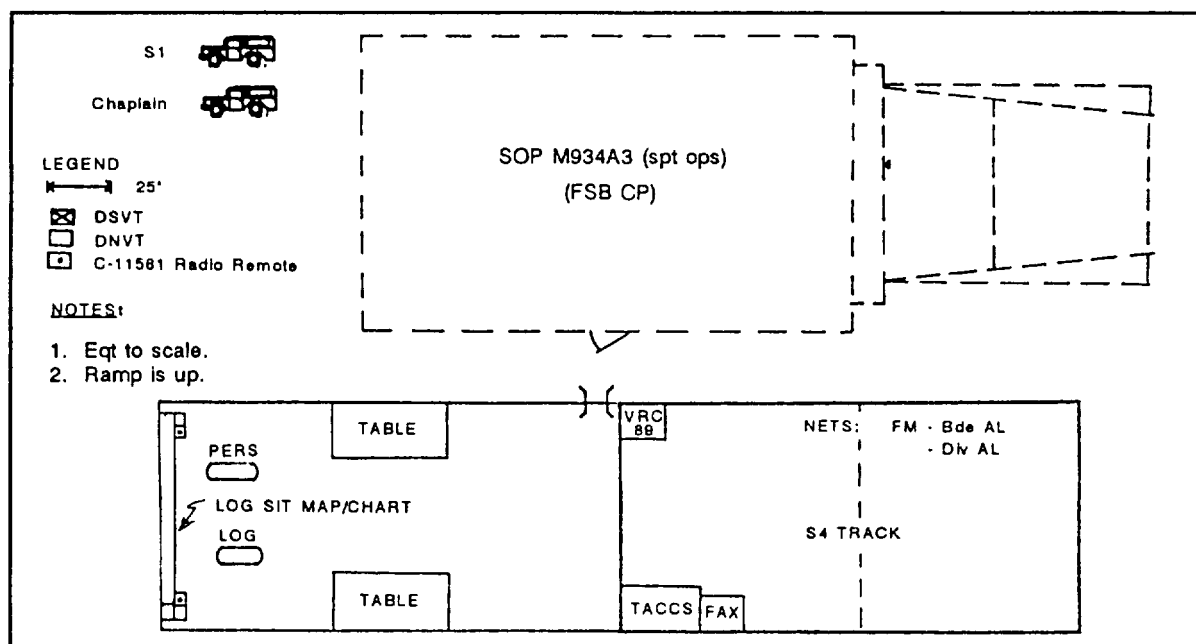


Figure 1-5. Brigade rear command post.

(See Figure 1-1 for additional legend of terms and equipment.)

Battalion Task Force Command, Control, and Communication Facilities

Battalion Task Force Command Group Functions

The battalion task force command group has the following functions (see Figures 1-6 and 1-7 for the organization of armor and mechanized infantry task force command groups):

- Synchronize combat assets in support of close operations.
- Control close operations.
- Maintain current operation situation.
- Provide close situation information to the **main CP**.

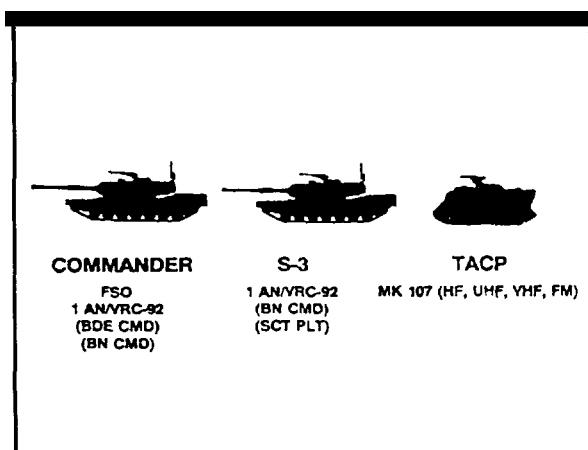


Figure 1-6. Armor task force tactical command post.

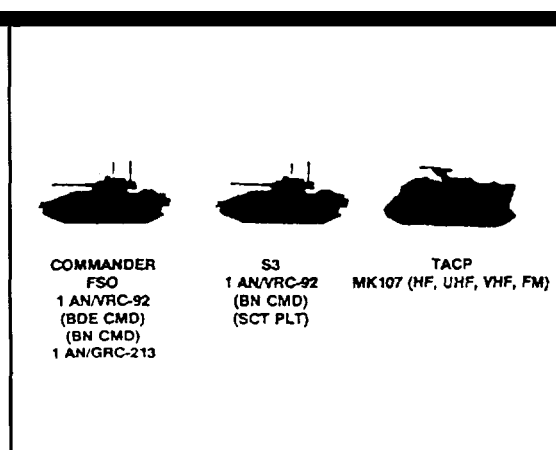


Figure 1-7. Mechanized infantry task force tactical command post.

NOTE: Based on factors of METT-T, other elements, such as the engineer element, may be included in the task force TAC CP.

Battalion Task Force Main Command Post Functions

The battalion task force main CP has the following functions (see Figures 1-8 and 1-9 for diagrams of the facility):

- Synchronize close operations by integrating CS and CSS into the maneuver plan.
- Plan future operations.
- Serve as alternate for the command group.
- Keep higher headquarters informed.

Battalion Task Force Combat Trains Command Post Functions

The battalion task force combat trains CP has the following functions (see Figure 1-10 for a diagram of the facility):

- Plan and coordinate sustainment for tactical operations.
- Serve as alternate for the main CP.

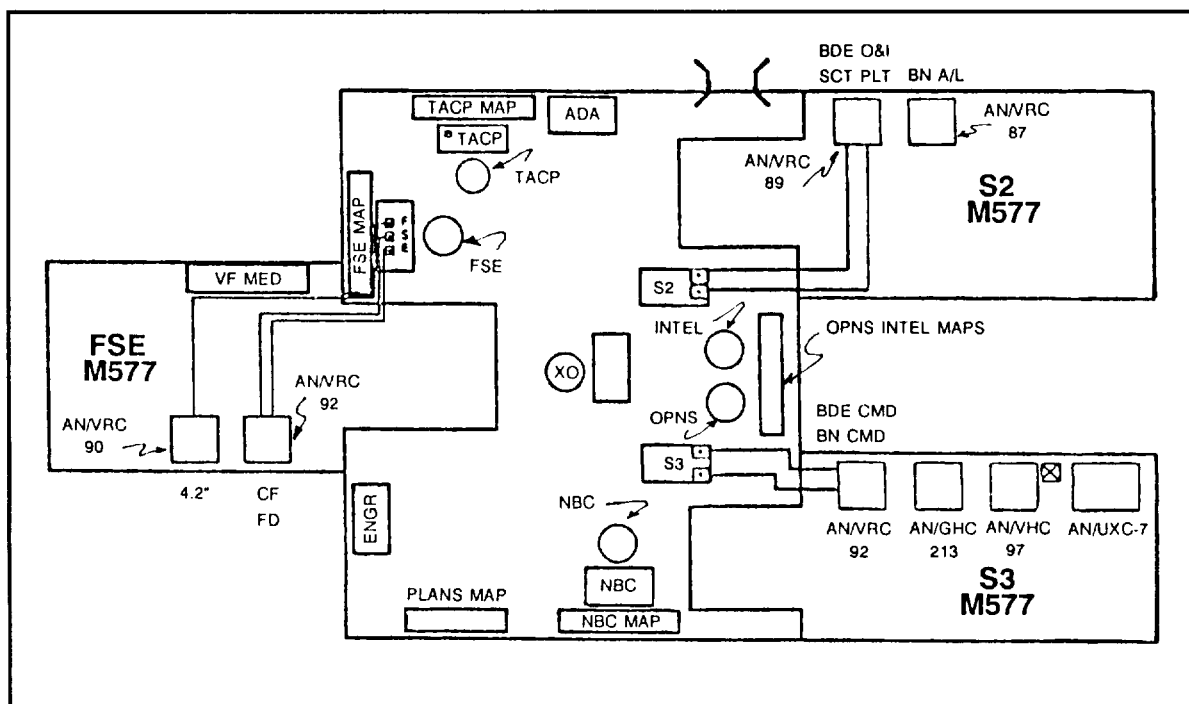


Figure 1-8. Battalion task force main command post with standard M577 extensions.

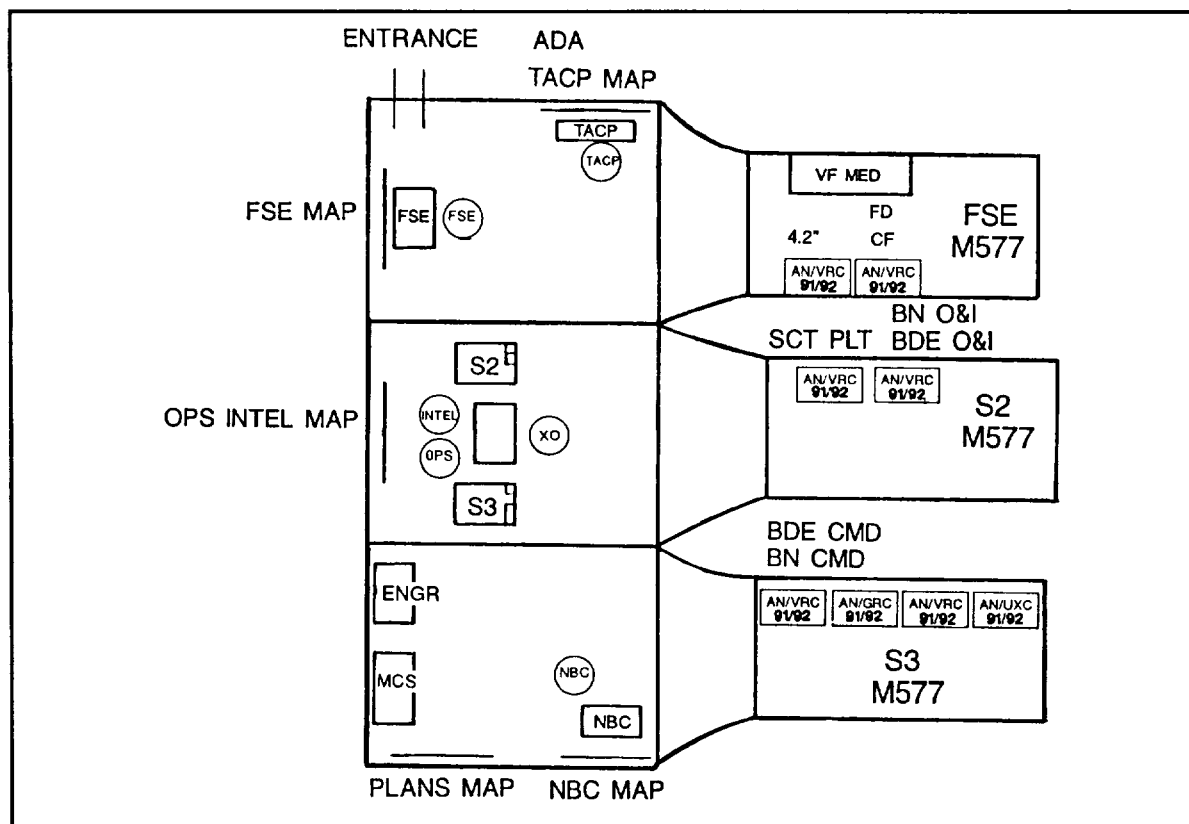


Figure 1-9. Battalion task force main command post with SI CPS.

Battalion Task Force Field Trains Command Post Functions

TENT →

TACCS

SB22

LOC

HHC CDR

PERS

BN AA

BDE AA

CSS SIT MAP

S1

HHC CDR

1 - OE 245

1 - AN/VRC-90 } (BN A/L)*

1-10

Company Team Command, Control, and Communication Facilities

Figures 1-12 and 1-13 illustrate the vehicles used by mechanized and armor company team command groups.

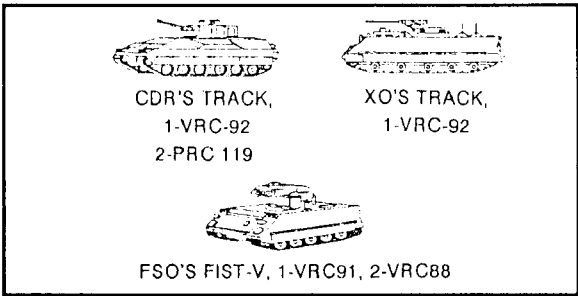


Figure 1-12. Mechanized company team command group.

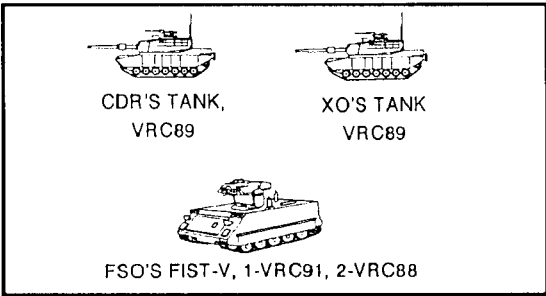


Figure 1-13. Armor company team command group.

SECTION II. THE PLANNING PROCESS

The planning process is a systematic approach to formulating tactical plans. Processes used are troop-leading procedures, the estimate of the situation, METT-T, and IPB. These processes are interrelated. They are accomplished based on the amount of time and other resources available. The following pages explain comprehensively how troop-leading procedures are conducted. They include a discussion of commander and staff actions during troop-leading procedures. They also describe how the estimate, METT-T, and IPB are integrated into the troop-leading procedures.

THE ONE-THIRD/TWO-THIRDS RULE

Planning time for a given headquarters should not exceed one-third of the total planning time available. This one-third lasts from receipt of the order from higher headquarters through briefbacks from subordinates immediately following issuance of the OPORD.

Troop-Leading Procedures

Troop-leading procedures, although continuous, are not a cut-and-dried process. There are no distinct start and stop points. The eight steps are not always performed sequentially; some can occur simultaneously. Although this is a lengthy, comprehensive discussion, applicable to all levels of command, troop-leading procedures can be adjusted to fit the tactical situation. For example, the less time a unit has, the more it must abbreviate troop-leading procedures.

The collection, analysis, and distribution of information is a continuous staff requirement. Information analyzed by a staff section is exchanged with other staff sections and used to update situation statuses. Periodic staff huddles, are useful. To successfully execute the mission, the staff must focus on the information the commander needs.

NOTE: The following discussion of the eight steps in troop-leading procedures is presented in an outline format to allow the reader to track the staff and commander actions and processes with the entries in Figure 1-14, located on the foldout, next page. The outline format also corresponds with the formats for a WO, command estimate, and IPB, which are part of the troop-leading procedures. The foldout is designed to be left open, so the reader may continue referring to it while reading the pages throughout this section.

STEPS	STAFF	COMMANDER
STEP 1. Receive the mission (See page 1-12)	a. Initial warning order	
	b. Mission analysis	b. Mission analysis
	c. Initial time analysis	c. Initial time analysis
	d. Information to cdr	
		e. Commander's restated mission & planning guidance
STEP 2. Issue warning order (See page 1-15)	Issue warning order	
STEP 3. Make tentative plan (See page 1-16)	a. Estimate of situation	a. Cdr's estimate
	(1) Mission	
	(2) Situation and COAs	
	(a) Situation (METT-T)	
	1. Terrain, weather, & enemy	
	2. Own situation	
	3. Time (execution)	
	(b) Courses of Action	
	(3) Analysis of COAs	
	(4) Comparison of COAs	
	(5) Recommendation	
	b. Decision briefing to commander	
		c. Cdr's decision
		d. Cdr's concept of the operation
STEP 4. Initiate movement (See page 1-35)		e. Additional guidance
	f. Develop a tentative plan	
STEP 5. Conduct reconnaissance (See page 1-36)		
STEP 6. Complete the plan (See page 1-36)	a. Preparation of plan/order	
		b. Approval of plan/order
STEP 7. Issue the order (See page 1-37)		
STEP 8. Supervise (See page 1-38)	a. Conduct rehearsal	a. Conduct rehearsal
	b. Issue intelligence and weather update	b. Receive intel and weather update
	c. Execute	c. Execute

Figure 1-14. Troop-leading procedures.

Step 1. RECEIVE THE MISSION

Troop-leading procedures begin with the receipt of a new mission. A unit normally learns of a new mission through a WO from higher headquarters, followed later by an OPORD. A mission could also be announced in a FRAGO as a change to the current operation, or it could be deduced by the commander as a result of ongoing operations. A unit should begin planning as soon as possible. For example, a unit's LO at the higher headquarters CP may receive information on the unit's missions and area of operations. By passing on this information, the LO enables the commander and staff to begin their estimates and reconnaissance before higher headquarters issues its order.

Higher headquarters should take no more than one-third of the available time it has to issue its order to its units. Each successive unit likewise has the same obligation to issue its order in a timely manner. Whenever possible, orders should be issued to subordinates within one-third of the available time.

a. Initial Warning Order. As soon as the staff learns of a new mission, it should issue an initial WO to subordinate units. The initial WO should inform them about the nature and timing of the new mission.

b. Mission Analysis.

(1) When analyzing the mission, the order (if written) should be studied in front of a map with the overlays posted. This will allow a better understanding of the terrain on which the operation will take place. It will also allow implied tasks to be more readily identified. (See Figure 1-15 for an example mission analysis.)

(2) It is a good idea to list all identified tasks on paper. The list can be checked later to ensure that all tasks have been addressed in the plan.

(3) The following should be identified during the mission analysis:

(a) Specified tasks: the tasks stated in the order. Most specified tasks are found in paragraphs 2 and 3, but may be found elsewhere in the order.

(b) Implied tasks: the tasks not stated in the order that must be accomplished to satisfy the overall mission or to satisfy any of the specified tasks.

(c) Essential tasks: the tasks from the list of specified and implied tasks that must be accomplished to complete the overall mission. These tasks go into the restated mission for the unit.

(d) Limitations: the restrictions on the freedom of action of the friendly force. Restrictions prohibit the commander from doing something specific. Statements such as "be prepared to . . ." and "not earlier than . . ." are limitations. Radio-listening silence and time are also examples of limitations.

(e) Higher commander's intent, including—

1 Purpose of the operation.

2 End state. How the battlefield, in terms of the enemy and friendly forces, will look after the operation is over.

3 Intent of the commanders two levels up. Knowledge of the intent provides a framework for commanders to make decisions that support the overall operation.

4 Acceptable levels of risk.

(4) The restated mission contains the elements of WHO, WHAT, WHEN, WHERE, and WHY. It is developed from the list of essential tasks identified earlier. Multiple tasks are listed in the sequence in which they will occur. Tasks should be whole-unit tasks. The mission statement must be able to stand alone. It should, therefore, contain grid locations of critical locations. On-order missions identified as critical are included because the unit can be fairly certain it will execute the mission. Be-prepared missions, on the other hand, are not considered essential because the unit may or may not execute them; they should not be included in the restated mission.

TF COMMANDER INTENT: To draw enemy regiment into EA KILL to destroy it. Then counterattack to regain positions more forward and prepare for the following regiment.

TASKS:

- * Defend in sector from ES583995 to ES616982 NLT 271800R March 19xx (specified).
- Accept battle handover from the covering force at PL BLUE (specified).
- Assist passage of covering force (implied).
- * On order counterattack along AXIS SLAM to destroy enemy forces in EA KILL (specified).
- Plan one priority target (implied).
- Plan obstacles in sector (implied).
- On order, occupy BP12 (specified).
- Prepare BP13 (specified).
- Recon BP14 (specified).
- Occupy passage points 1 and 2 (specified).
- Move to initial positions (implied).
- * On order counterattack to regain more forward positions.

MISSION: Co D defends in sector from ES583995 to ES616982 NLT 271800R March 19xx to support destruction of enemy regiment in EA KILL; on order, counterattacks to complete destruction of enemy in EA KILL and regain more forward positions.

*Essential task.

Figure 1-15. Company team mission analysis (defensive).

c. Initial Time Analysis. Time is analyzed to determine how much is available, how it should be allocated, and how it will affect the command and control cycle.

(1) The ability to analyze time is one of the most important qualities in a commander. Time is vital to all operations. It drives planning and execution. The commander gets his first indication of time available from the higher headquarters WO. The amount of time a unit has to prepare for or to execute an operation determines the amount of detail required in the planning process. For this reason, commanders must know the command and control process and have a command and control organization, facilities, and communications to support it.

(2) The commander should use reverse planning to construct a timeline to accomplish troop-leading tasks. Reverse planning begins with the actions on the objective and works backwards to find a start time for events. The following events must be accomplished at all levels: conduct reconnaissance, plan, issue orders, and deploy forces. All are performed at the same time, if possible. If not, the events that take longest must be set in motion first. The commander also considers movement times from assembly areas or present positions to sectors, battle positions, or LZs. In the offense, he estimates time from crossing the LD to seizing the objective or specific key terrain, then he plans the sequences of units and events associated with it. Other important time considerations include how long key terrain must be held and how long the enemy will take to react.

(3) Time factors should be conservatively planned. During operations, the unexpected occurs. Time-distance factors are only a guide. When synchronizing operations, commanders consider how the factors of METT-T affect their units.

(4) The time analysis produces a schedule of the activities that must occur. Since it drives everything the unit does, the commander must approve this schedule.

(5) The orders spectrum shown in Figure 1-16 offers the commander several methods he can use to develop an order. The spectrum ranges from the quickest methods (on the left end of the spectrum) to the most time-consuming (on the right end of the spectrum). The time a particular staff requires to develop an order depends on many factors, including—

- Physical condition of the staff.
- Quality of command guidance.
- Staff's level of training.
- Staff's level of cohesion.

d. Information to the Commander. This may be the first time the commander is able to meet with his staff. The information may be presented in a briefing to update the commander on the current situation. This is followed by the XO's recommendation of the restated mission.

e. Commander's Restated Mission and Planning Guidance.

(1) The commander approves or disapproves the restated mission recommended by the staff, and issues his planning guidance to the staff. The commander's planning guidance should consist of the following:

- (a) Restated mission.
- (b) Higher commanders' intents (two levels up).

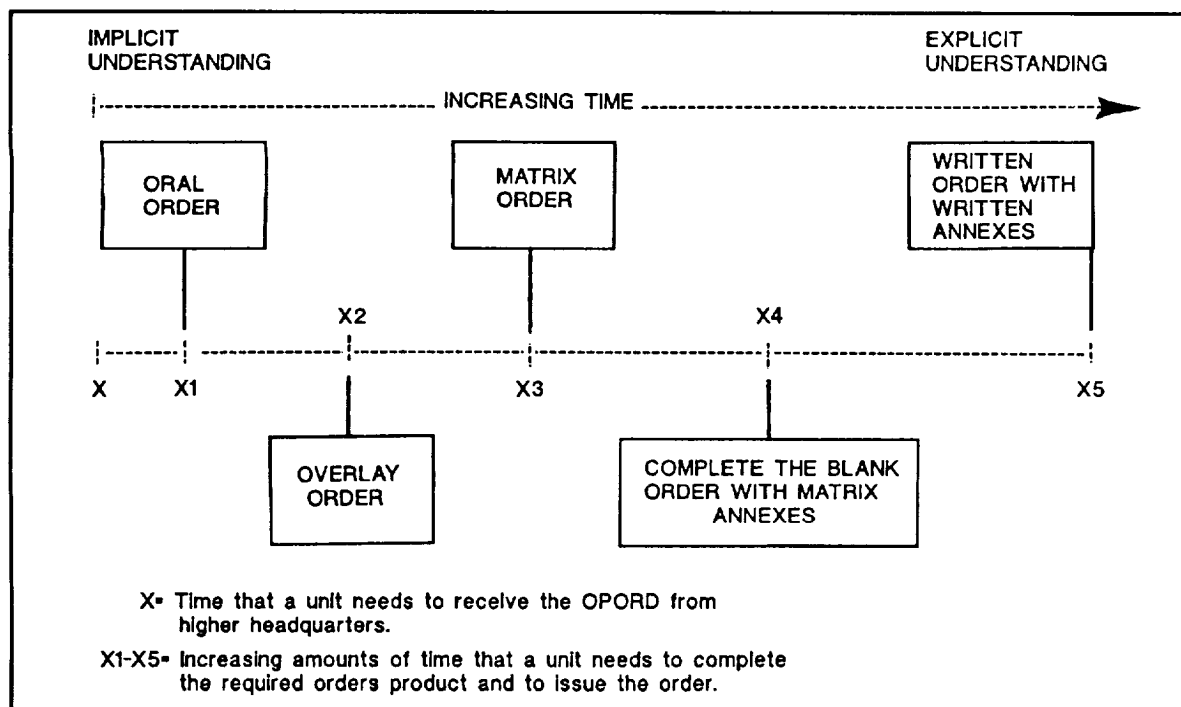


Figure 1-16. Orders development spectrum.

(c) His own (commander's) intent. Since he has not yet made a decision how to accomplish the mission, his intent may not be complete. The intent is shaped by and continues to evolve throughout the planning process. (A definition of intent is on page 1-3.)

(d) Courses of action for the staff to consider during estimates.

(e) Time and place of the decision briefing.

(2) Step 5 of troop-leading procedures is conduct reconnaissance. However, the commander may decide to conduct his reconnaissance at this time instead of later. Reconnaissance missions to the units could also be issued at this time.

Step 2. ISSUE A WARNING ORDER

The staff should issue a WO to units immediately after the commander issues his planning guidance. The WO should be brief, but contain enough information for the units to prepare for the operation. Additional WOs can be issued later to keep the units informed and allow them to begin their planning earlier.

WOs normally do not have a specified format, but some of the information that should be in a WO follows (see Figure 1-17 for an example WO).

1. Subject. Use "warning order."
2. Situation. Use brief description of enemy and friendly situation.

From: CDR, 1st Bde, 23d AD	
To: CDR, TF 1-91	CDR, A/23rd Engr Bn
CDR, TF 1-10	CDR, A/1-440 ADA Bn
CDR, TF 2-11	CDR, 1st FSB
CDR, 1-50 FA	
1. SUBJECT: Warning Order 7-8.	
2. 39th GMRD crossed OHIO RIVER vic BRANDENBURG. Initial assault was halted by 3rd Bde, 25th AD. Initial enemy elements at approx. 60% strength. Enemy halted vic 96 (E-W) grid line.	
3. Changes to task organization: 2-631 (155, SP) R 1-50 FA; 1/A/23rd M (DS); 3/23rd Chem Co (SMK) (OPCON).	
4. No movement prior to 200400 April 19xx.	
5. Attack at 200630 April 19xx to OBJ TOM (ES585995) as part of the div rupture force to hold west shoulder of the div penetration.	
6. Orders group A: 191930 Apr at ES649945.	
7. 1st FSB DS to 1st Bde.	
8. Acknowledge.	
Thurman	
COL	

Figure 1-17. Brigade warning order.

3. Attachments and detachments. Changes to task organization are made as soon as possible so units can move and link up with new units.
4. Earliest time of move. Identifying the earliest *possible* movement time is important so subordinate units can begin their time analysis. Earliest movement time should correspond to the longest move that will be made. There may also be OPSEC reasons as well as C2 reasons for restricting the movement of subordinate units.
5. Nature and time of the operation. Give enough detail to begin planning and reconnaissance. The restated mission may be included.
6. Time and place of the OPORD. State when and where the orders group will meet to receive the OPORD.
7. A/L. Include changes to support requirements.
8. Acknowledgment. Ensure WO has been received by all addressees.

Step 3. MAKE A TENTATIVE PLAN

The decision making that forms the basis for the whole operation is performed in this step. Although each primary member of the staff perform an estimate, this discussion focuses only on the commander's (operations officer's) estimate. The discussion also addresses LPB.

The time factor is a major influence on how the estimate is performed. If there is enough time, the staff can provide a formal decision briefing to the commander. There may only be enough time, however, for the S3 and the commander to briefly discuss courses of action over a map. Commanders and staffs must be flexible enough to use the available time wisely when performing their estimates.

a. Command Estimate (commander's/operations officer's estimate). The estimate process is explained below. Included in this discussion is one example of an IPB technique. For a detailed review of the IPB process, refer to FM 34-130. See Figure 1-18 for a summary of the command estimate.

(1) MISSION. This paragraph is the commander's restated mission, which resulted from mission analysis conducted earlier.

(2) SITUATION AND COURSES OF ACTION.

(a) Analysis of the Situation. The situation is analyzed using METT-T. The factors of METT-T compose the total tactical environment in which military units are employed. Mission was analyzed during step 1 of the troop-leading procedures, receive the mission. Enemy, terrain, and weather are analyzed during the IPB. The analysis of troops (or the friendly situation) follows IPB. Finally, an analysis of the time needed to execute the mission is conducted. Keep in mind that a time analysis has already been accomplished during step 1 of the troop-leading procedures. Since the mission has been analyzed, the next item of discussion for METT-T is IPB.

1 Intelligence preparation of the battlefield. IPB is a systematic and continuous process of analyzing the enemy, weather, and terrain in a specific geographical area. The IPB process integrates enemy doctrine with weather and terrain to determine how the weather and terrain will influence the enemy's fight.

a IPB is a commander's business. It is integral to the command estimate. The commander and all members of the staff participate in the IPB process. The S3 uses the IPB to analyze the enemy, terrain, and weather in his estimate. He must know the IPB process. He must also be able to evaluate the quality of the S2's work. The S1 and S4 use the IPB to determine the impact of enemy, terrain, and weather on personnel and logistical operations. The CS staff uses the IPB in a similar manner for their operations.

b IPB is a lengthy process. The S2 must start the IPB process at the earliest possible moment. Early identification of the area of operations will enable the S2 to start the terrain analysis. As a minimum, the situation template should be finished when the S3 begins his analysis of the situation.

-
- (1) MISSION
 - (2) SITUATION AND COURSES OF ACTION
 - (a) Analysis of the situation (METT-T).
 - 1 Terrain, weather, and enemy (IPB).
 - 2 Own situation.
 - 3 Time (execution time).
 - (b) Own courses of action.
 - (3) ANALYSIS OF COURSES OF ACTION
 - (a) Enemy capabilities (retained for analysis).
 - (b) Friendly forces.
 - (c) Critical events.
 - (d) Assumptions.
 - (e) Criteria for analysis.
 - (f) War-gaming of course of action 1 (advantages and disadvantages).
 - (g) War-gaming of course of action 2 (advantages and disadvantages).
 - (h) War-gaming of additional courses of action.
 - (4) COMPARISON OF COURSES OF ACTION
 - (a) Comparison matrix.
 - (b) Discussion.
 - (5) RECOMMENDATION/DECISION

Figure 1-18. Command estimate

Some of the techniques provided in the following discussion will assist staffs at both brigade and battalion level in performing the IPB. Figure 1-19 illustrates the IPB process.

NOTE: The IPB, the first step in the analysis of the situation in the command estimate, is discussed on pages 1-18 through 1-27. The second step (own situation) begins on page 1-27.

NOTE: Throughout the IPB, the S2 must "paint a picture" of how the IPB will affect the operation.

a. **Battlefield Area Evaluation (Overlay #1, Combined Obstacles Overlay).** Identify the area of operations and outline the area of interest.

b. **Terrain Analysis (Overlay #1).**

- (1) Identify NO-GO terrain (green crosshatch marks).
- (2) Identify SLOW-GO terrain (green single-hatch marks).
- (3) Identify GO terrain.
- (4) Identify mobility corridors.
- (5) Identify avenues of approach (Overlay #2, Avenues of Approach Overlay):
 - (a) Friendly AAs. Use black; label alphabetically left to right facing the enemy; label the size force.
 - (b) Enemy AAs. Use red; label numerically left to right facing the friendly force; label the size force.
- (6) Determine the most likely avenues of approach.
- (7) Identify key and decisive terrain.
- (8) Analyze observation and fires, and cover and concealment.

c. **Weather Analysis. Determine—**

- (1) Visibility.
- (2) Wind speed and direction.
- (3) Precipitation.
- (4) Temperature.

d. **Threat Evaluation.** Gather and organize the following information: order of battle, doctrine, training, equipment, known locations.

e. **Threat Integration.** Use the following overlays:

- (1) Situation template (Overlay #3, Situation Template).
- (2) Event template (Overlay #4, Event Template).
- (3) Decision support template (Overlay #5, Decision Support Template).

Figure 1-19. Intelligence preparation of the battlefield.

a. **BATTLEFIELD AREA EVALUATION (Overlay #1: Combined Obstacles Overlay).**

(1) Identify the area of operations. This is the geographical area assigned by the higher headquarters and defined on the higher headquarters operations overlay (see Figure 1-20).

(2) Identify the area of interest. This is determined by the commander. It contains enemy forces that could affect future operations. In the absence of guidance from the commander, make the area of interest at least half again the size of the area of operations (see Figure 1-20). Outline the area of interest on the combined obstacles overlay (see Figure 1-21 for an example combined obstacles overlay).

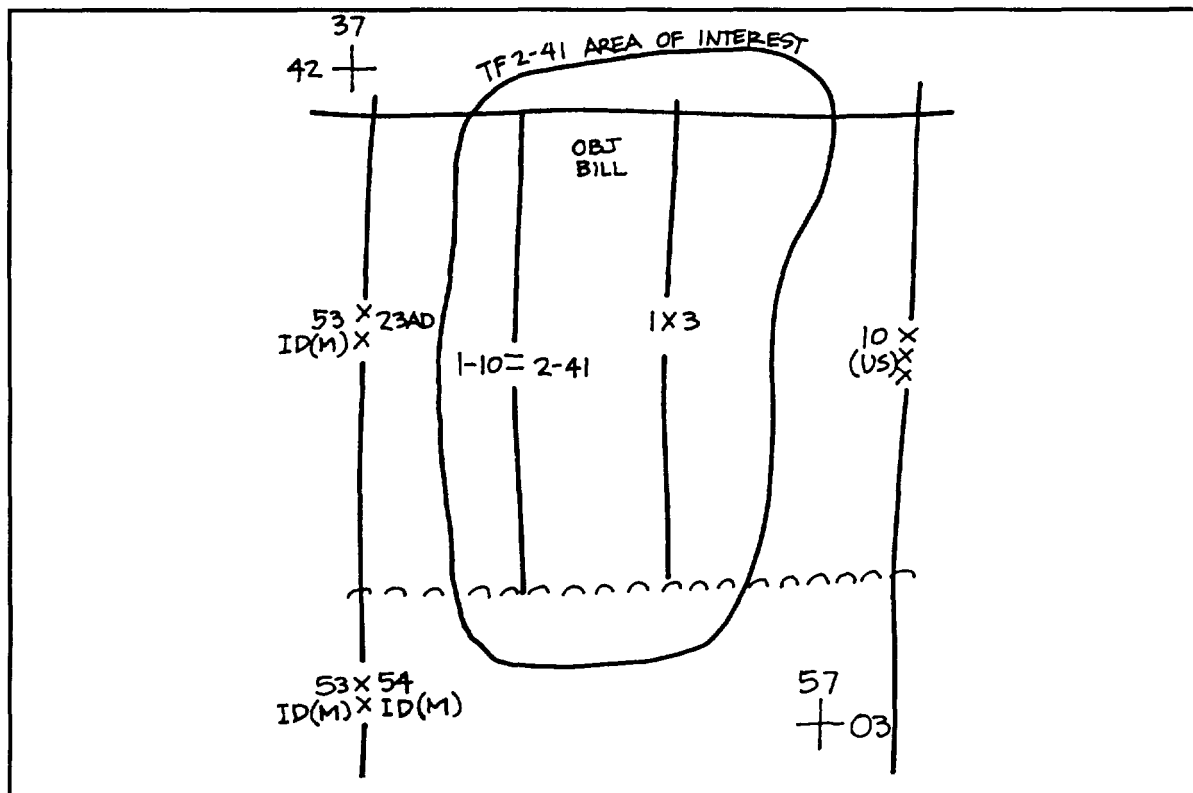


Figure 1-20. Areas of operations and interest (battalion level).

b. TERRAIN ANALYSIS (Overlay #1, Combined Obstacles Overlay). The terrain is analyzed using the five military aspects of terrain (the sequence may vary according to the way IPB is developed):

- Obstacles.
- Cover and concealment.
- Observation and fields of fire.
- Key terrain.
- Avenues of approach.

(1) Identify NO-GO terrain. Use green crosshatch markings. NO-GO terrain hinders ground movement in all directions. It substantially reduces the speed of movement. It is also a function of the type of force that will move through that terrain. The following define NO-GO terrain features:

- (a) Built-up areas 500 square meters or larger. Built-up areas can be smaller if surrounding terrain makes them difficult to bypass.
- (b) Hydrology. Water features that cannot be forded or spanned by an AVLB.
- (c) Slopes. Slopes of 45 percent or greater uphill (directional).
- (d) Vegetation. Trees 6 to 8 inches thick and with less than 20-foot intervals (armor only).
- (e) Elevation. Terrain with elevation changes of 200 to 400 meters per kilometer.
- (f) Roads and trails. Wooded areas with one trail per kilometer and no hard surface roads (armor only).
- (g) Man-made obstacles.

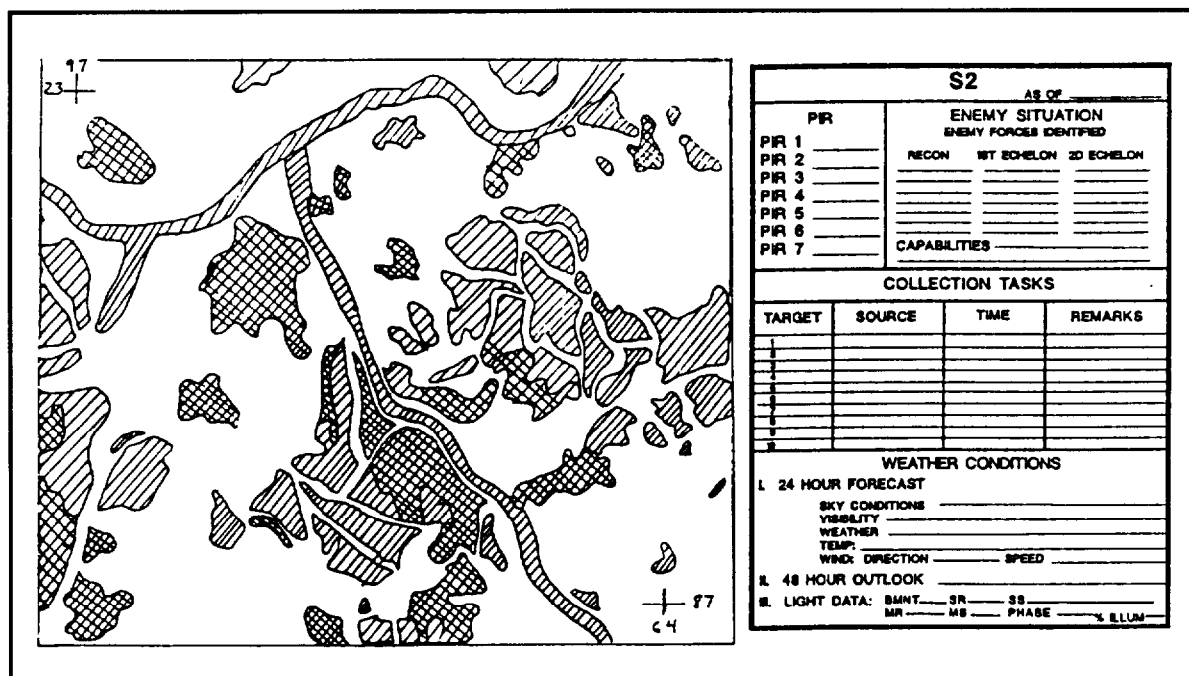


Figure 1-21. Combined ostacles overlay.

(2) Identify SLOW-GO terrain. Use green single-hatch markings. SLOW-GO terrain hinders ground movement, but to a lesser degree than NO-GO terrain. Little effort is needed to enhance mobility. The following define SLOW-GO terrain feature:

- Hydrology. Water features that can be forded in several areas.
- Slopes. Uphill slopes of 30 to 45 percent.
- Vegetation. Trees 2 inches thick with less than 20-foot intervals (armor only).
- Elevation. Terrain with elevation changes of 100 to 200 meters per kilometer.
- Roads and trails. Wooded areas with one hard surface road or two trails per kilometer, or one hard surface road and one trail per kilometer (armor only).

(3) Identify GO terrain. GO terrain is not marked on the map. GO terrain is fairly open terrain that presents no hindrance to ground movement. Mobility does not require enhancement.

(4) Identify mobility corridors. These are routes a force can use to move from one place to another while deployed. They traverse GO terrain predominantly, bypassing NO-GO terrain and occasionally passing over SLOW-GO terrain. These routes are identified for forces two levels down. Units have the following mobility corridor widths:

- Company—500 meters.
- Battalion—1.5 kilometers.
- Brigade/regiment—3 kilometers.
- Division—6 kilometers.

These are only planning widths. Mobility corridors may be only as wide as the width of the vehicles in some conditions. Consideration must be given to the type of movement formation two levels down (column, wedge, inverted wedge, diamond, box, etc) and the ranges of weapon systems used throughout the depth of the formation.

(5) Identify avenues of approach (Overlay #2, Avenues of Approach). Place overlay #2 on top of overlay #1. Use axis of advance graphic symbols. Determine avenues of approach one level down. Identify both friendly and enemy avenues of approach. Identify avenues of approach throughout the area of interest. (See Figure 1-22 for an example avenue of approach overlay.)

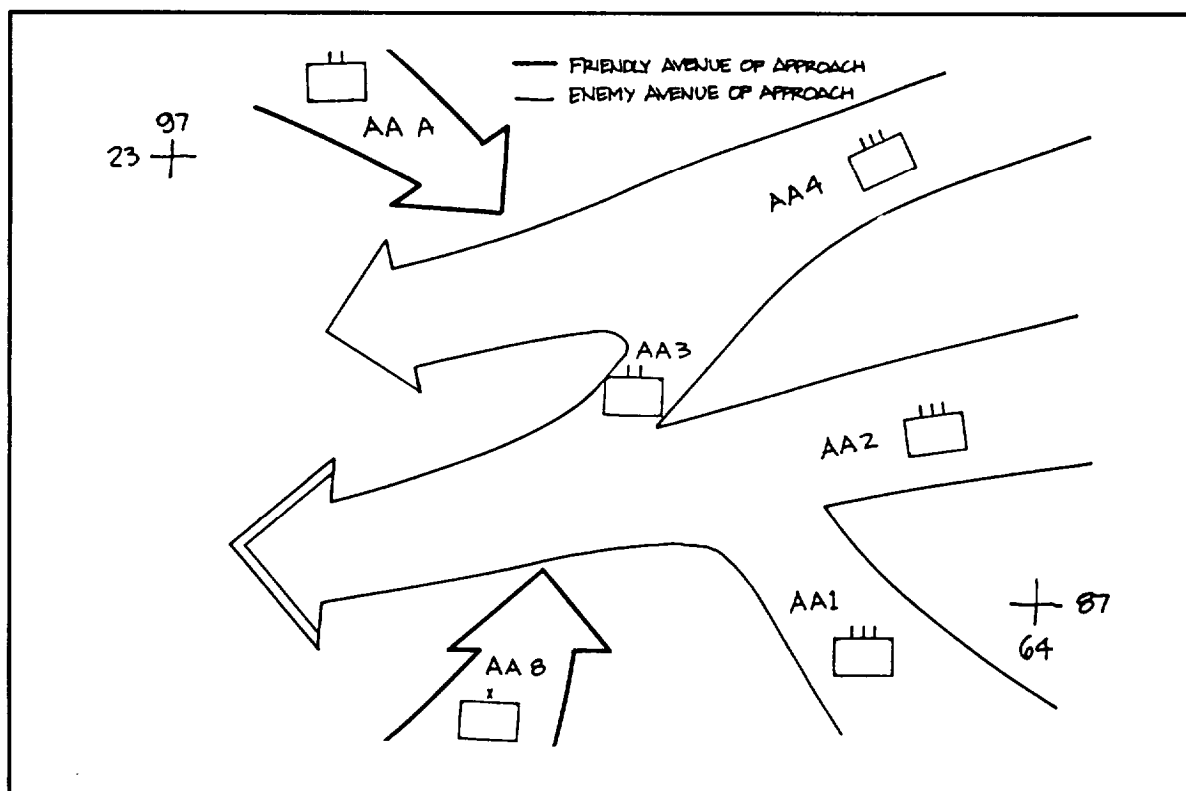


Figure 1-22. Avenue of approach overlay (brigade level).

- (a) For offensive operations, identify friendly avenues of approach first. Identify enemy counterattack avenues of approach second.
- (b) For defensive operations, identify enemy avenues of approach first. Identify friendly counterattack avenues of approach second.
- (c) Mark friendly avenues of approach in black. Label them alphabetically left to right facing the enemy. Label the size force.
- (d) Mark enemy avenues of approach in red. Label them numerically left to right facing the friendly force. Label the size force.
- (e) Mobility corridors can be combined to make avenues of approach. Maximum distances between mobility corridors (sizes of avenues of approach) are as follows:
 - 1 Division avenues of approach have regimental mobility corridors no more than 10 kilometers apart.
 - 2 Regimental avenues of approach have battalion mobility corridors no more than 6 kilometers apart.
 - 3 Battalion avenues of approach have company mobility corridors no more than 2 kilometers apart.
 - 4 Company avenues of approach are at least 500 meters wide.

(6) Determine the most likely enemy avenues of approach. This is done by placing a double arrowhead on the most likely avenues of approach. Avenue of approach overlays can be sent to subordinate units, but this should not preclude subordinates from doing a complete terrain analysis on their own.

(7) Identify key and decisive terrain (Overlay #1). Draw a black circle around the terrain and label it "K#" or "D#."

(a) Key terrain is any feature that, in the control of a combatant, will provide an advantage over the opposing force. Key terrain is important to the accomplishment of the operation.

(b) Decisive terrain is key terrain that has an extraordinary impact on the mission. Control of this terrain determines success or failure of a particular mission. It is normally designated by the commander. In some situations, there may not be recognizable decisive terrain.

(8) Analyze observation and fires, and cover and concealment.

c. WEATHER ANALYSIS. Analyze the effects of weather on terrain, troops, and equipment for both friendly and enemy operations.

(1) Determine visibility (including fog) and light data. Low visibility—

(a) Hinders the defense and favors the offense.

(b) Makes C2 more difficult.

(c) Degrades reconnaissance, surveillance, and target acquisition.

(2) Determine wind speed and direction.

(a) Both factors usually favor the force upwind.

(b) Both affect employment of smoke and chemicals.

(c) As wind speed increases, wind chill becomes a consideration.

(3) Evaluate precipitation data.

(a) Precipitation decreases cross-country mobility and visibility.

(b) Extensive cloud cover reduces the effectiveness of CAS and aerial resupply.

(4) Evaluate temperature effects on personnel and equipment.

After the terrain and weather analyses, the S2 and S3 can determine the effects of terrain and weather on enemy and friendly courses of action in their estimates.

d. THREAT EVALUATION. Threat evaluation is a detailed study of the enemy's composition, organization, tactical doctrine, weapons and equipment, and supporting battlefield functional systems. It is a continuous process resulting in doctrinal templates. Doctrinal templates convert enemy order of battle into graphic displays of how the enemy might look, according to doctrine, without the effects of weather and terrain.

(1) Information sources include

(a) Higher headquarters' intelligence overlays, INTSUMs, and PERINTREPs.

(b) Order of battle handbooks.

(c) Doctrine, training, and equipment publications.

(2) The staff should maintain the following enemy information:

(a) Composition (order of battle).

(b) Strength.

(c) Committed forces and units currently in contact.

- (d) Reinforcements. Enemy units not committed in or out of the friendly sector, but which can react to the friendly course of action.
 - (e) Artillery, engineer, air, and NBC assets, and other forces, such as EW, air defense, anti-tank, unconventional warfare, and combat surveillance.
 - (f) Enemy engineer obstacles and fortifications.
- e. **THREAT INTEGRATION.** Analyze the enemy two levels down. There are three parts to threat integration: the situation template, the event template, and the decision support template.
- (1) **Situation template (Overlay #3, Situation Template).** The situation template is a doctrinal template with terrain, weather, and known intelligence applied (see Figure 1-23.) This template becomes the intelligence overlay of the OPORD. Use red unit or graphic symbols. Ensure all units are accounted for and no units are duplicated. For example, a templated company with a known enemy platoon location should have a (-) symbol.
- (a) Plot known enemy locations (solid symbols).
 - (b) Template assumed enemy locations (dashed).
 - (c) Identify boundaries, CPs, and reserves.
 - (d) Identify PIR. PIR is located in the coordinating instructions of paragraph 3 of the OPORD. If organic elements are not capable of gaining the information, request information from higher headquarters.

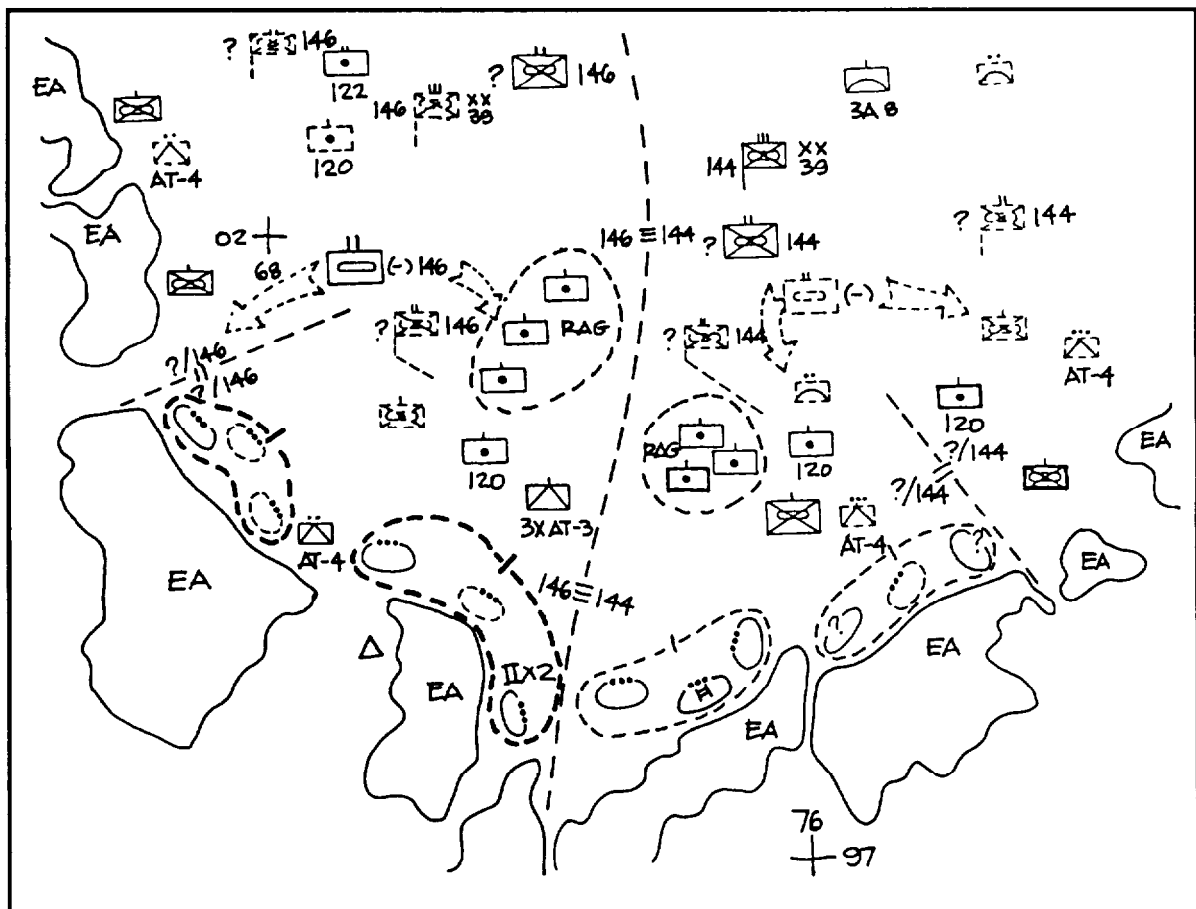


Figure 1-23. Battalion level situation template (offensive mission).

(2) Event template (Overlay #4, Event Template). The event template shows significant battlefield events and enemy activities that provide indications of enemy courses of action (see Figure 1-24). It is used for focusing intelligence collection assets.

- (a) Select NAI. NAI are places where enemy activity will confirm or deny enemy courses of action. Use circles with numbers inside.
- (b) Determine the enemy's most probable course of action.
- (c) Determine the enemy situation. The S2 can now prepare paragraph 1a (enemy situation) of the OPORD. The S2 also develops the unit R&S plan (see Figure 1-25). The S3 can now determine the enemy situation portion of his estimate.

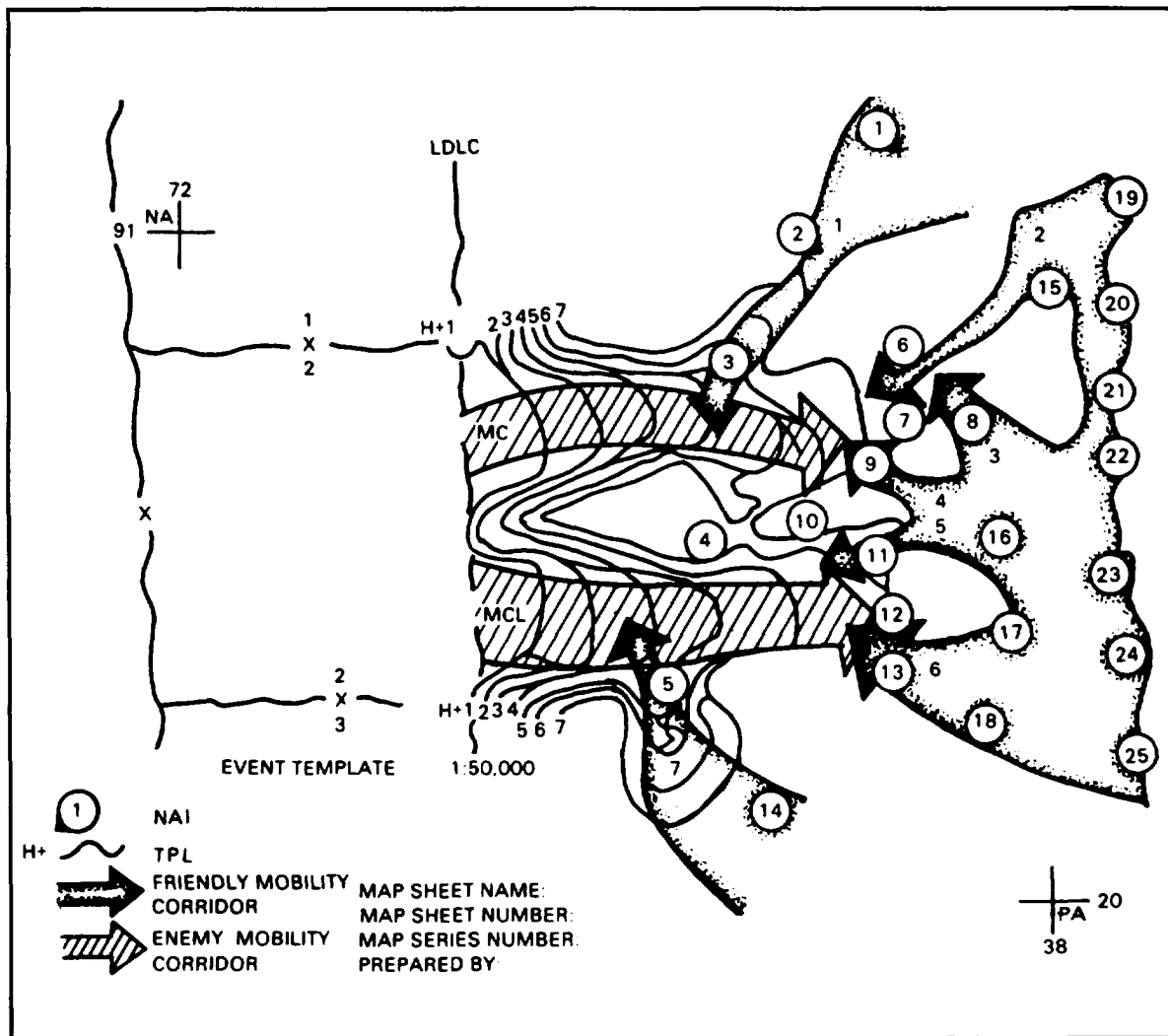


Figure 1-24. Event template.

(3) Decision support template (Overlay #5, Decision Support Template). The decision support template identifies enemy activities, relative to time and location, that may require tactical decisions. It is developed through war-gaming by the entire staff. This template is useful for contingency planning. In addition, the S3 can use the decision support template in his war-gaming when he analyzes courses of action later. The following steps will be helpful in preparing a decision support template.

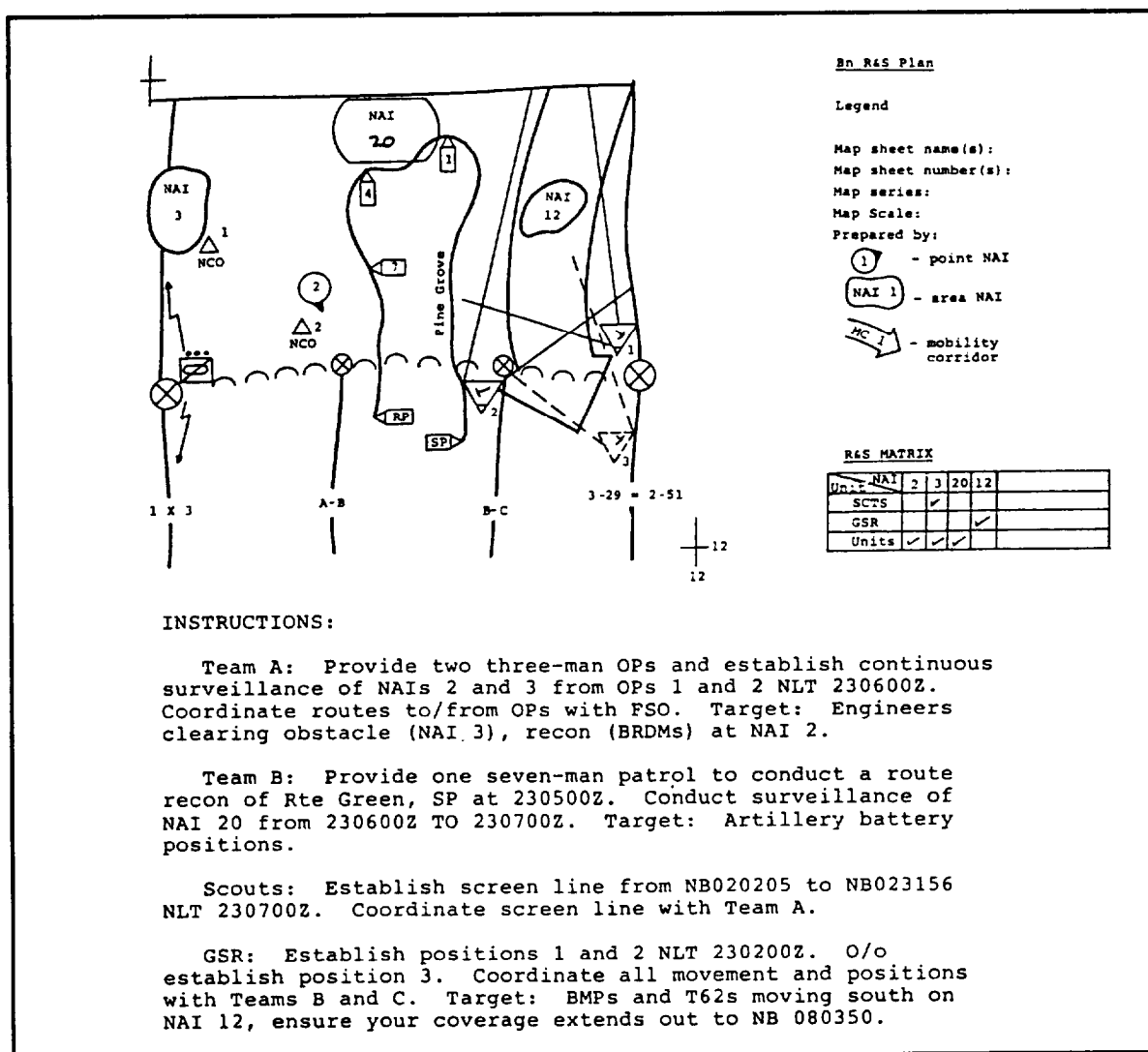


Figure I-25. Battalion reconnaissance and surveillance plan.

(a) Prepare a decision support matrix. This supports the decision support template. Place the matrix on the template outside the area of interest. Fill in the matrix as the war-gaming proceeds. (See Figure I-26 for an example decision support template and matrix.)

(b) Draw time lines. Label them with H-hour times. Movement rates are determined as the number of minutes the enemy will take to travel 1 kilometer. Use this formula: rate (in minutes per kilometer) equals 60 divided by speed (in kilometers per hour). For example, if the enemy's most likely movement rate is 25 kilometers per hour through an area, the enemy movement rate will be 2.4 minutes per kilometer. Enemy movement rates will most likely be dependent enter-terrain and formation.

(c) Identify TAI. TAI are locations for effective interdiction of enemy forces by deep battle or, if necessary, close battle. Use rectangles with numbers inside.

(d) Identify decision points. Decision points are based on the time and distance factors necessary to react to the enemy's approach to TAI. Use the formula for the movement rate in minutes per kilometer, described above. Indicate decision points using triangles with numbers inside.

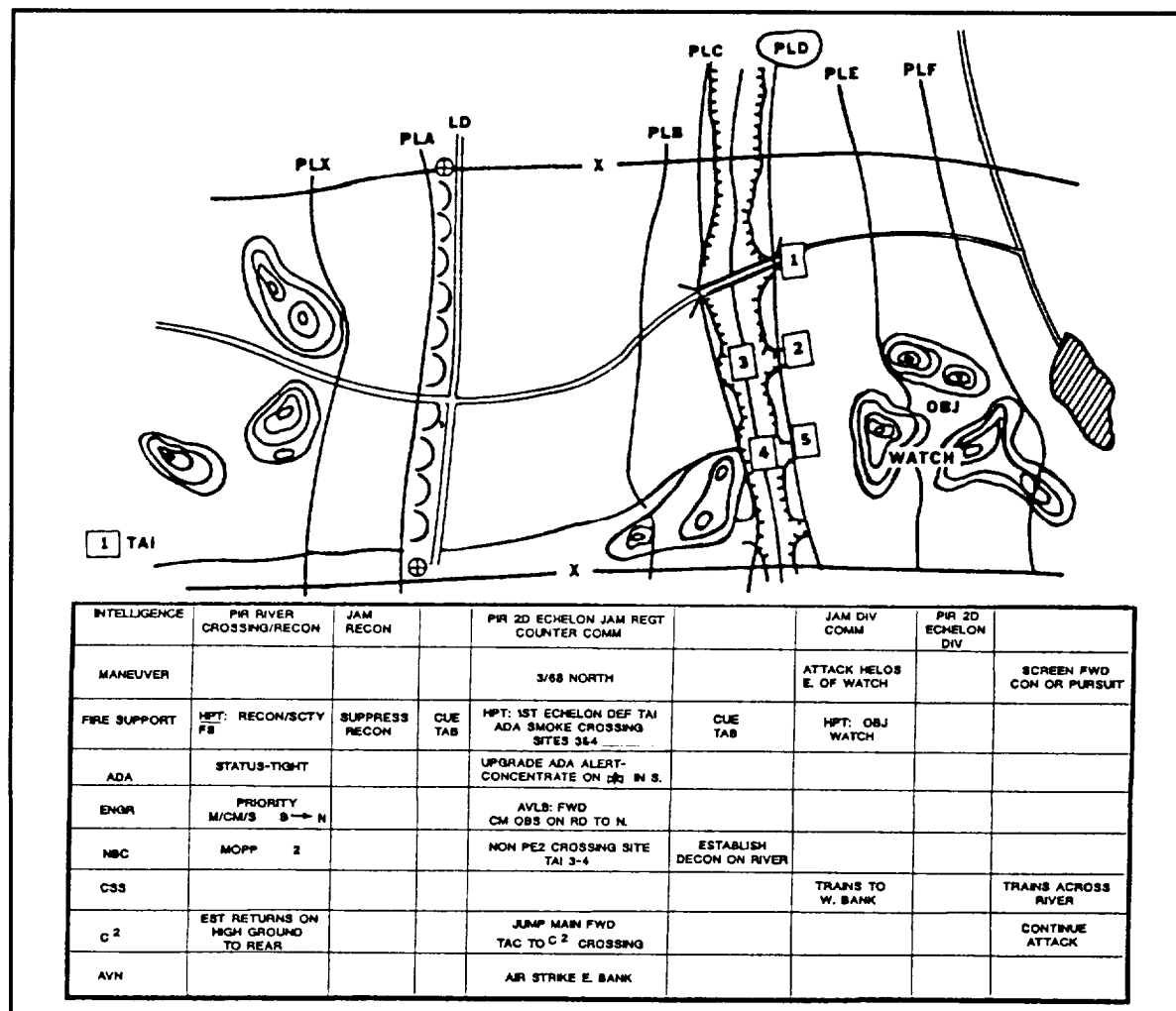


Figure 1-26. Decision support template and matrix (brigade defense).

NOTE: The overlays/templates previously described pertain to brigade level IPB. When time is limited or when battalion-level IPB is conducted, the following overlays/templates can be produced:

- Overlay #1: Combined Obstacles Overlay. Put all terrain analysis on this overlay, including avenues of approach.
- Overlay #2: Threat Integration. The situation template, event template, and decision support template are put on one overlay.

This method saves time and acetate, though information will be more cluttered. In most cases, however, information contained on these two overlays is still readily understandable.

NOTE: IPB is a useful aid to planning. There is a tendency, however, to believe the assumptions made in IPB are in fact true and to develop plans accordingly. This is dangerous because it could make friendly forces susceptible to surprise by the enemy. Commanders and staffs must be aware of this possibility. They must develop plans to prevent the command from being surprised by unexpected enemy actions.

IPB is the commander's, as well as the whole staff's tool in decision making. Hence, the commander and the staff should be actively involved in the IPB process.

NOTE: This concludes the discussion of IPB. The analysis of the situation in the command estimate continues with an analysis of the unit's own situation and an analysis of time (execution time).

2 Own situation. The S3 receives information from all staff officers to help him determine the status of friendly force relative to the type of operation to be conducted. Much of this information (facts) might have been identified when the staff and commander exchanged information before the development of the restated mission (mission analysis) and commander's planning guidance. With the aid of the staff, the S3 projects the status of the unit at the beginning of the operation. The S3 does this by making assumptions about the changes that can occur between then and the time of execution.

a Composition. This is a summary of forces that can aid in accomplishing the mission. Familiarity with the unit, task organization, staff officers, subordinate leaders, and reference documents can aid the S3 in determining the unit's composition. Command and support relationships must be identified.

b Disposition. This is determined for the present and the future by the S3 with the aid of the commander, subordinate leaders, and other staff officers. The S3 can also use overlays, situation maps, or previously published documents. The information addressed should include the location of combat, CS, and CSS units.

c Strength. This listing develops friendly capabilities and vulnerabilities to aid the commander in selecting courses of action. Factors to be considered include the unit mission and intent of the commander one and two levels up, current location of subelements, current and future locations of flank unit's and higher commander's reserves, the seven battlefield operating systems, and unit morale. The commander should also consider the effects on soldiers; pacing items; and the logistical status of the organic, attached and OPCON combat, CS, and CSS units for the operation. Strength is determined by the number of weapon systems and personnel strength, not by unit size. Battalions determine strength based on the number, type, and status of available platoons.

d Significant activities. This refers to the selected items of information, such as successful tactical techniques or unit morale, considered during planning.

e Peculiarities and weaknesses. These should be considered and their influence on possible friendly courses of action should be noted. Only pertinent headings are used. They can include personnel, intelligence, operations, logistics, and civil-military operations. Input from the appropriate staff officer is added.

3 Time (execution time). During step 1 of troop-leading procedures, the mission and planning time were analyzed. In addition to understanding how to organize planning time, the commander must determine how much time is required to execute critical tasks of the mission. Analysis of execution time will help determine the degree of success, plan for contingencies, and anticipate requirements. This analysis, although rather subjective, requires a knowledge of movement rates and the amount of time it takes to move forces from one point to another (see Table 1-1). Elements of analysis are—

a Start time of mission execution.

b Movement time.

c Maneuver time.

d Time required to seize or secure objectives.

e How long key terrain must be held.

Table 1-1. Unopposed rates of movement.

Terrain Type	Light Infantry	Mechanized
GO	4.0 kmph (day) 3.2 kmph (night)	24 kmph (day) 24 kmph (night with lights/ night vision devices)
SLOW-GO	2.4 kmph (day) 1.6 kmph (night)	16 kmph (day) 8 kmph (night, blacked out)
NO-GO	1.0 kmph (day) 0.1 to 0.5 kmph (night)	1.0 kmph (day) 0.1 to 0.5 kmph (night)

(b) Own Courses of Action. After analyzing the situation using METT-T the courses of action are developed.

A course of action is a possible plan to accomplish the mission. It is usually stated in broad terms, with the details determined during the analysis (step (3) in the command estimate). It may be revised, modified, or changed during the analysis. The S3 should develop a manageable number of different courses of action for all staff members to analyze. Imagination and creativity are required. Each course of action should be viable. The S3 should avoid the pitfall of developing only one good course of action among other less feasible courses of action.

Areas that should be addressed in courses of action are task organization, scheme of maneuver, main effort, and use of reserves. Courses of action include WHAT, WHEN, WHERE, HOW, and WHY, but not WHO. The units who perform tasks in courses of action are determined when the commander makes his decision.

Use the following steps in developing courses of action.

1 Analyze relative combat power.

a Relative combat power is the overall relationship of enemy versus friendly combat power. It provides conclusions about friendly capabilities pertaining to the operation being planned. It analyzes all the available combat power of friendly forces and enemy forces (from the situation template), assuming that all forces are in contact at once.

b The planner analyzes two levels down for both friendly and enemy forces. For example, a brigade would normally analyze the relative combat power of enemy versus friendly companies.

S3s should remember that war is, as Jomini noted, "an impassioned drama and in no way a mathematical operation." This step merely provides the planner with a notion of WHAT, not HOW.

2 Array initial forces. The initial array of forces begins at the expected point of initial contact. Using the planning ratios for various combat missions found in Table 1-2, and giving careful consideration to the terrain and enemy templating assumptions, the planner can make some general conclusions about the type of operations he can conduct. He might also get the beginning indication of where the operation might take place. For example, the minimum ratio for an attack is 3:1. This provides the planner with an appreciation of forces required to accomplish the mission.

Table 1-2. Historical planning ratios for the array of friendly units.

Friendly Mission	Friendly: Enemy	Notes
Delay	1:16	
Defend	1:3	Prepared or Fortified
Defend	1:2.5	Hasty
Attack	3:1	Prepared or Fortified
Attack	2.5:1	Hasty Position
Counterattack	1:1	Flank

3 Develop the scheme of maneuver.

a The scheme of maneuver provides the HOW of a course of action. It identifies the main effort and addresses the five elements of the battlefield framework:

- Deep operations.
- Security operations.
- Close operations.
- Rear operations.
- Reserve operations.

b At brigade level all five elements of the battlefield framework are normally addressed. At battalion level, however, deep operations and rear operations are not normally addressed.

4 Determine C2 and maneuver control measures.

a Ensure the span of control is not exceeded. Subordinate headquarters should control two to five subordinate units.

b Control measures should be the minimum required to control the operation. They should not normally split avenues of approach or key terrain, but should allow one unit to have responsibility for the area. Additionally, space should be provided on the flanks of each avenue of approach to allow for maneuver and fires. The main effort may be in a narrower area, while the area of the supporting effort may be wider.

5 Develop course of action statements and sketches. Figure 1-27 shows an example of a course of action statement and sketch.

a The course of action statement addresses WHAT, WHEN, WHERE, HOW, and WHY, but not WHO. The sketch provides a generic picture of the statement. Together they identify the scheme of maneuver and the main effort. Each course of action should accomplish the mission, be viable, and be different from the others.

b At brigade level, courses of action include the five elements of the battlefield framework. At battalion level, however, deep operations and rear operations are normally not addressed.

c At brigade and lower levels, the sketch can be an acetate overlay on a map. The statement can be written somewhere on the overlay.

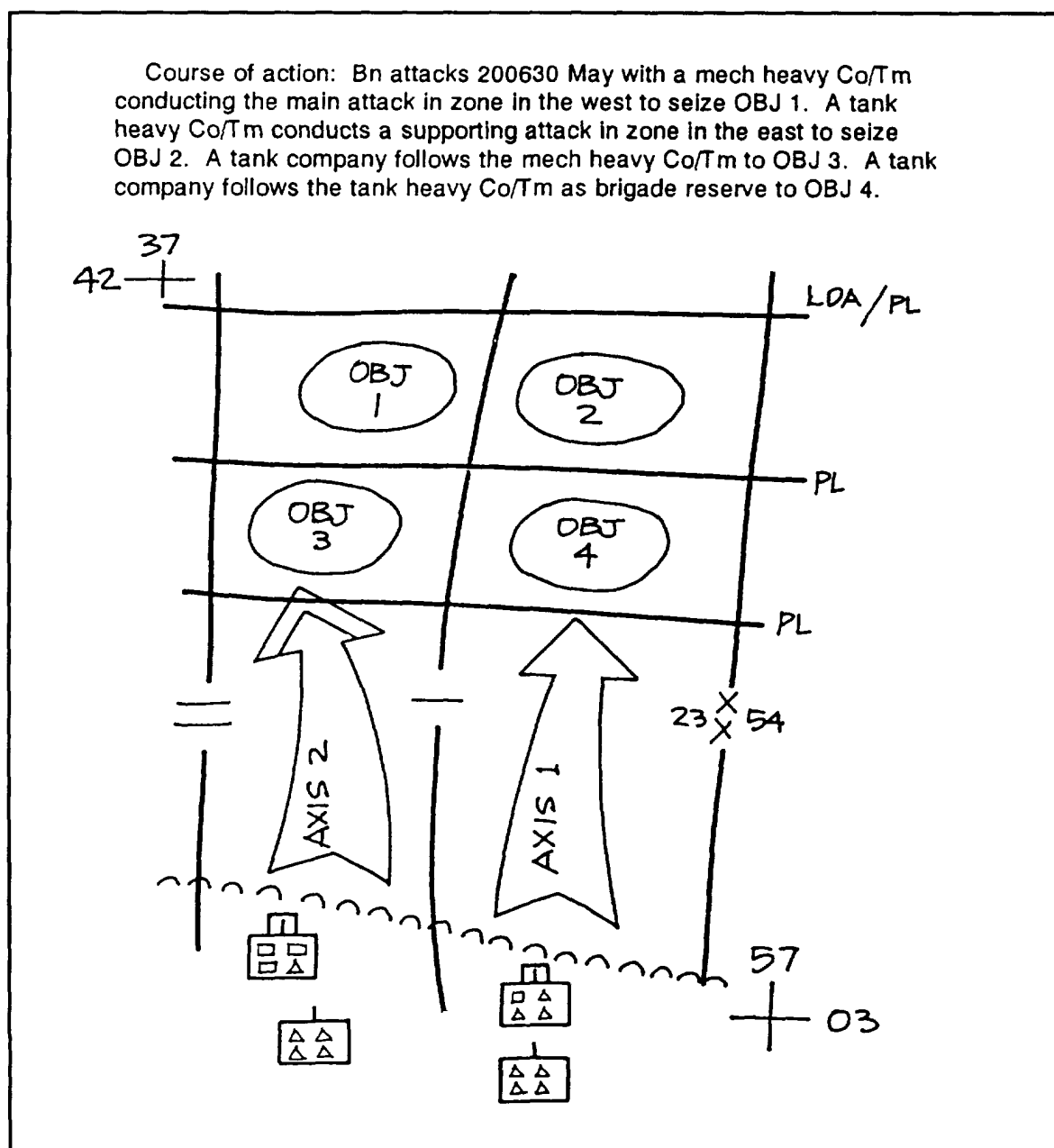


Figure 1-27. Course of action statement and sketch (battalion).

The following is another technique for developing a course of action.

1. Determine the decisive point. The battalion main effort, which could be to gain or retain terrain, destroy enemy forces, or secure friendly forces, focuses on the decisive point during the decisive phase of the battle. A point is potentially decisive if the essential tasks and purpose of the command, determined through mission analysis, could be achieved there.

2. Determine the supporting efforts. The commander can determine what supporting efforts are needed by asking the question, "What else must be done to allow the main effort to succeed?"

3. Determine Purposes. The commander determines the purposes to be achieved by the main and supporting efforts. He links the main effort's purpose directly to the battalion's purpose. He links the supporting efforts' purposes directly to the main effort's purpose.

4. Determine the Essential tasks. Determine the essential task(s) required for subordinate units (main and supporting efforts) to achieve the purposes determined above.

5. Task organize. Develop a generic task organization based on the number of available company headquarters. This task organization allows achievement of the common purpose. Weight the main effort. Ensure more risk is taken in the areas away from the main effort (economy of force). Do not consider assets, such as CAS or FASCAM, that maybe unavailable to the battalion during execution.

6. Establish control measures. Establish control measures that clarify responsibilities and synchronize the efforts of subordinates to support the possible main effort. Allow as much freedom of action as possible.

7. Prepare a course of action statement and sketch. This is accomplished in the same manner described in the previous discussion.

(3) ANALYSIS OF COURSES OF ACTION. Analysis identifies the advantages and disadvantages of courses of action. The S3 analyzes (war-games) each course of action against likely enemy courses of action. War-gaming is a logical step-by-step process that relies heavily on tactical judgment and experience. The analysis process is action-reaction-counteraction.

During war-gaming, the course of action can be changed or modified, or another one can be developed. Additionally, the S3 identifies requirements for CS and CSS.

The rules for war-gaming include the following:

- List the advantages and disadvantages as they become obvious during the war-gaming process.
- Remain unbiased.
- Continually assess the feasibility of the course of action to see if it meets the requirements of the mission.
- Avoid comparing courses of action.
- Avoid drawing premature conclusions,
- Trace each course of action from beginning to end against the most likely enemy course of action and variations.
- The S2 must interpret the template to anticipate enemy actions.

Before stinting, post the enemy situation (situation template), the friendly situation, and the course of action to be analyzed on a map. Then war-game using the following steps.

(a) List enemy capabilities (retained for analysis). Often there is not enough time to war-game every enemy capability. List the most important enemy capabilities that can be war-gamed in the time available.

(b) List friendly forces. Use the METT-T analysis of troops (friendly situation).

(c) List the critical events. Use the task list from mission analysis to identify critical tasks that are essential to mission accomplishment or that require detailed analysis.

(d) List the assumptions. Assumptions are made when necessary facts are not available. Assumptions are usually based on factors of METT-T that cannot be controlled. The validity of each assumption is tested

CRITICAL EVENT: PENETRATE 2ND DEFENSIVE BELT						
SEO	ACTION	REACTION	COUNTERACTION	ASSETS	TIME	RMKS
1	TF#1 assist bypass of TF#4 onto AXIS UP	MRD deploys ATTK HELO Bn into OBJ BEAR	Atchd Stgr Tms engage D.F. sup w/50cal	C/2-440ADA 2ea Co/Tms	H+5	Lose Tk Plt
2	TF#4 secured OBJ CAT	D.F. possible MRC PA65432 I.D. from RAG	lea Co/Tm suppresses MRC.	lea Co/Tm	H+6	Commits 1 TM to fix MRC
3	TF#2 assist bypass of TF#3 onto AXIS DOWN	MRC in Ansbach reorients to the south	TF#2 shifts defense to suppress MRC.	lea Co fires 2ea CO clearing TF#3	H+6	
4	TF#3 secures OBJ RED	MRD repositions TR for possible river crossing	TF#3 est hasty def on Main River; Secures intact bridges	TF#3 C/2-440 ADA	H+7	Need ADA assets
CRITICAL EVENT: CONSOLIDATE ON OBJ BLOCK						
1	TF#4 o/o secures OBJ BLUE	MRC on BLUE repositions engages TF#4/ I.D. fires	TF#4 fixes MRC on OBJ BLUE	Commits lea Co/Tm to fix	H+8	Loses lea Tk Plt
2	TF#2 clears/ secures routes for follow-on forces	Small pockets of resistance	TF#2 commits 2ea Co's for clearing ops	TF#2	H+8	
3	TF#1 o/o moves on AXIS OP and consolidates on OBJ CAT.	MRC still suppressed by TF#4 Co/Tm.	TF#4 conducts handover w/TF#1 of MRC on OBJ CAT	TF#1 1 Co TF#4	H+9	
<u>ADVANTAGES</u>			<u>DISADVANTAGES</u>			
(1) Avoids the teeth of the 1st echelon MRB. (attack weakness)			(1) TF#1's RT flank will be exposed to the lead MRC in the North on Axis North. (security)			
(2) Axis South attacks along the MRB boundary avoiding the main kill sack and hits the MRC in the flank. (attack weakness)			(2) TF#2's attack on Axis South could easily be bogged down by a small force due to the restrictive terrain. (terrain)			
(3) OBJ BEAR seizes the key terrain to control the likely avenues of approach of the Regt counterattack force. (terrain)			(3) Axes South and Down are limited to secondary roads which will impede the movement of the follow-on Bde. (terrain)			
(4) Attacks on a narrow front for ease of command and control. (cmd & con)			(4) Major roads for future MSRs and offensive operations will not be cleared for up to 12 hours after OBJ BLOCK is secured. (CSS)			
(5) Axis Down avoids the 2nd echelon defenses and hits the enemy's RAG and possible CSS assets. (attack weakness)			(5) The brigade must take the time to stop and pass following forces forward. (simplicity)			
(6) OBJ RED gives us the key terrain on the west side of the river to assist follow-on forces in a hasty river crossing. (terrain)			(6) There is no reserve. (reserve)			

Figure 1-28. Sample war-gaming worksheet with advantages and disadvantages (brigade level, offensive mission).

against the question, "Is the assumption absolutely necessary for the solution of the problem?" or "Would the end result change if the assumption were not made?" If the answer is no, the assumption is not valid and should not be used.

(e) Select the criteria for analysis. List the criteria for analysis that will be used to judge the value of the course of action and determine the advantages and disadvantages. The following are sources for criteria:

- 1 Principles of war.
- 2 METT-T.
- 3 Commander's intent.
- 4 Analysis of battlefield operating systems.

(f) War-game (visualize) the battle and assess the results. Do this for each course of action. War-gaming techniques include—

- Avenue-in-depth technique, which focuses on one avenue at a time.
- Belt technique, which divides the battlefield into areas that run the width of the sector. This allows the commander to analyze each critical event and all forces involved.
- Box technique, which is a microanalysis of isolated critical areas and is less time-consuming.

1 Select a war-gaming technique and use it to—

a Analyze the critical events of the courses of action against enemy capabilities using the criteria listed.

b Identify requirements for CS and CSS.

c Identify requirements for external support.

d Identify the necessary changes to courses of action.

e Address degree of risk of failure for each course of action.

2 Record and display results, including the advantages and disadvantages. A war-gaming worksheet can aid in recording the results and determining requirements. Figure 1-28 shows a sample worksheet.

3 Repeat the steps for each course of action.

(4) COMPARISON OF COURSES OF ACTION. The fourth step in the estimate process consists of comparing options and choosing a course of action.

(a) Comparison matrix. An effective technique for comparing courses of action is to use a comparison matrix. To set it up, list the significant factors used in step 3 (analysis) of the estimate on the left side of the chart: list the course of action numbers across the top. (figure 1-29 provides an example format for a course of action comparison matrix.) The simplest way to use this matrix is to give a plus to the best course of action for each factor. If two or more courses of action are equally superior, give them both a plus. All others receive a minus. Another way is to rank the courses of action. The best course of action for each significant factor is given a 1, the second best a 2, and so on. The course of action with the lowest total sum supports the significant factors best. This comparison matrix conveniently summarizes the results of the analysis and comparison. It aids the staff in deciding their recommendations, and aids the commander in forming his decision during the decision brief.

(b) Discussion. The weights of one factor's advantages and disadvantages are rarely the same as those for another factor, so weighting significant factors might be necessary. One or several of the METT-T factors might be considered more important than others—for example, an assault might need to be conducted on a particular objective before BMNT. In this example, time may be more important than the other significant factors. If the example chart in Figure 1-29 is used, speed may be weighted as twice as important as the other factors. The commander/S3 could annotate “x2” beside “speed” on Figure 1-29. If the numbering system previously described is used to rank courses of action, the value assigned to each course of action is doubled. This makes the already significant course of action factor “speed” more significant than other significant course of action factors.

NOTE: This method of weighting a course of action is just one way the commander can indicate the importance of one factor over others. However, the commander should be careful when weighting significant factors. Seldom is one factor so vital to the mission that it causes the planners to rule out other viable courses of action that do not take advantage of that specific factor.

WEIGHT 0,1,2	RATINGS ++, +, 0, --, --	CA1	CA2	CA3	CA4	REMARKS
	MISSION					
	ENEMY					
	TERRAIN					
	TROOPS					
	TIME					
	3, 5, M, M					
	OVERALL					

Figure 1-29. Example course of action comparison matrix.

(5) RECOMMENDATION/DECISION. The staff recommends to the commander the best course of action.

NOTE: This concludes the discussion of the command estimate.

b. Decision Briefing to the Commander. The staff provides a decision briefing to the commander. Its purpose is to aid the commander in making a decision. Each course of action is outlined, the advantages and disadvantages of each presented, and a recommendation made. The commander may decide on a specific course of action or a variation of courses of action. Figure 1-30 lists a technique for effective briefings.

c. Commander's Decision. The commander considers the staff recommendation presented by the S3, completes his estimate, and announces his decision and concept.

d. Commander's Concept of the Operation. The commander's concept provides the necessary elements of paragraph 3a of the OPORD, concept of the operation. The commander's concept is a clear, concise statement of the task organization, the mission statement, the commander's intent, the general scheme of maneuver, supporting fires, and the acceptable degree of risk. The commander's concept takes the same form as the staff recommendation, except that the commander confirms the units to be employed. The main effort in the

1. Restate the mission.
2. Situation.
 - Terrain. Use combined obstacles overlay. Describe effects of terrain on enemy and friendly courses of action.
 - Weather. Describe effects of weather on enemy and friendly courses of action.
 - Enemy. Use situation template. Describe most probable enemy course of action.
 - Troops. List the task organization.
 - Time. List the estimated time to accomplish critical events.
3. Courses of action and analysis. Describe one course of action and its advantages and disadvantages. Do the same for following courses of action.
4. Comparison. Provide a comparison matrix. State the best course of action and describe why.
5. Recommendation. State the course of action the staff recommends.

Figure 1-30. Technique for decision briefings.

scheme of maneuver is critical—it affects all planning. The commander's concept provides the least information needed to further develop the tactical plan and to issue the order.

e. Additional Guidance. The commander can provide the staff with more planning guidance besides his decision and concept. How much he provides depends on the experience of the staff and on how well they know the commander. This extra guidance helps the staff complete the plan and prepare orders. The commander can include an elaboration on the scheme of maneuver, fire support plan, and CSS. He outlines any task organization changes he wishes to make. He also designates subordinate units to be employed, which is a command responsibility that cannot be delegated. The S3 can only recommend units (though not as part of the operations estimate "recommendation").

f. Develop a Tentative Plan.

(1) The tentative plan results from the commander's decision and concept and becomes the basis for the finalized plan. It consists of—

- (a) Task organization (maneuver units).
- (b) Mission.
- (c) Scheme of maneuver.
- (d) Operations overlay.

(2) A WO may be issued at this point to update subordinate units on further developments. This is especially important when units must move early.

Step 4. INITIATE MOVEMENT

a. Movement can be started in several ways: with a new WO, a FRAGO, or a movement order. The unit may have to reposition to start the operation on time. Movement of subordinate units may be necessary to change task organization. Some movement, especially by reconnaissance units, may

be necessary immediately after receipt of the WO from higher headquarters. If there is enough time to issue the OPORD before any movement begins, the movement instructions can be included in the OPORD. Often, movement may have to occur simultaneously with planning.

b. During initial time analysis, conduct time distance analysis to determine when the unit must start movement so it can conduct the mission on time.

c. Since the XO or S3 is often busy during the planning of an operation, the planning and preparation of a movement plan may become the task of a junior staff officer. Training of junior staff officers in movement planning will be valuable. See Appendix A, *Movement*.

Step 5. CONDUCT RECONNAISSANCE

a. Reconnaissance should be conducted whenever possible. The commander may want to conduct reconnaissance immediately after restating the mission and providing planning guidance to the staff. Otherwise, commanders may conduct reconnaissance after the decision briefing. In this case, the commander will use reconnaissance to confirm his decision or to make necessary changes to the plan.

b. The situation, especially the time available, dictates the type and quality of reconnaissance. To best use available time, leaders should do an initial map reconnaissance to find routes and locations to reconnoiter before departing. For best results, map reconnaissance begins immediately on receipt of the higher headquarters' WO; it should continue through mission accomplishment. Physical reconnaissance can be conducted along the same routes units will use. In addition, necessary coordination with other units, such as for passage of lines, can be made during reconnaissance.

c. Other leaders, such as the S3, may conduct reconnaissance, either with the commander or separately. The leaders should be accompanied by a security element, which usually will be composed of subordinate unit members.

d. Before departing on reconnaissance, the leader should leave instructions with the person next in charge. In his contingency plan, the leader should provide the following information:

(1) Where the leader is going.

(2) Others that are going with the leader.

(3) Time the leader will be gone.

(4) What should be done if the leader does not return.

(5) Other actions, such as actions on enemy contact and things to be accomplished while the leader is away.

e. Subordinate units can also be given reconnaissance missions. These missions could be based on the S2's R&S plan, developed from the NAI on the event template during IPB. All pertinent information is reported to the TOC so the information can be used to complete the plan.

Step 6. COMPLETE THE PLAN

a.. Preparation of the Plan/Order. (See FMs 71-1, 71-2, and 101-5 for example OPORD formats.)

(1) After the commander makes his decision and issues his concept, the staff quickly prepares the plan/order. Using the tentative plan as a basis makes this process more efficient. Reconnaissance results are used in preparing the plan/order. Multiple copies of the plan/order must be made and overlays must be accurately copied. Standard procedures should be established to include all staff members in the reproduction procedure. Each staff officer can be made responsible for producing appropriate portions of the plan/order.

(2) The following are integrated into the plan/order:

- (a) Fires.
- (b) Air defense.
- (c) Engineer.
- (d) Intelligence.
- (e) EW.
- (f) MP.
- (g) NBC.
- (h) Signal.
- (i) C2.
- (j) CSS.

(3) Orders do not command an operation; they assist in control. An order provides a visualization and articulation of the commander's intent and enough information so that all subordinate units can work together toward the desired end. Commanders and their staffs must ensure that orders are not lengthy and that redundancy is reduced. Short, concise mission-type orders are used, but only if a common doctrinal understanding and a good SOP exist. Use only the words and graphic control measures necessary to ensure a coordinated effort.

(4) A good plan is clear, brief, and complete. It is simple to understand and to execute. Mission-type orders that describe WHAT, not HOW are used to give subordinates maximum latitude and minimum restrictions. A good plan uses positive expression. It is timely. A 70-percent solution given on time is better than a 100-percent solution delivered too late. A good plan provides decentralization. It delegates authority to the maximum extent consistent with control. A good plan is flexible. It allows for changes as the situation changes.

(5) Annexes are used only when absolutely necessary and when the information is important to the whole command. Annexes must not serve as a substitute for subordinate unit orders. Resist the temptation to allow the staff to spell out in great detail how a CS unit, for example, is to do its job. Subordinate unit commanders must develop their own orders and plans and not rely on detailed guidance from higher headquarters.

(6) Graphics. The staff should follow the guidelines below when preparing the plan/order.

- (a) Ensure graphics are simple, yet clear enough for a subordinate element to understand.
- (b) Include the number of control measures necessary to ensure execution of the operation as intended.
- (c) To add flexibility, provide additional checkpoints where there are no control measures. Checkpoints provide a reference for unanticipated maneuver. They also simplify FRAGOs. The plotting of TIRS points outside the area of operations will also aid in the transmittal of FRAGOs and provide a means of operating outside the area if necessary.

b. Approval of the Plan/Order. The commander approves the plan or order by signing the original copy.

Step 7. ISSUE THE ORDER

a. An OPORD is a directive issued by a commander to subordinate commanders for coordinated execution of an operation. A FRAGO is an abbreviated OPORD used to convey changes to an OPORD as required by the situation. Both can be used when issuing orders.

b. A number of different orders groups can be established in the unit's SOPs to speed the issuance of orders and to provide flexibility in issuing orders for different purposes.

- (1) Orders group Alpha (hasty planning): commander, XO, S3, S2, FSO, and engineer.
 - (2) Orders group Bravo (detailed planning): orders group Alpha, plus S1, S4, FAC, air defense officer, and other necessary CS and CSS officers.
 - (3) Orders group Charlie (issue orders): orders groups Alpha and Bravo, plus company team commanders and LOs.
- c. The commander should use the following techniques in issuing orders:
- (1) Use any aids that can help personnel to understand the conduct of the operation. At battalion and company level, issue the order from a vantage point overlooking the terrain on which the operation will be conducted. If that is not possible, use aids such as sand tables, sketches, or graphics.
 - (2) The order should be issued at the time and place stated in the WO. The most secure means available should be used. As a minimum, an overlay order, including an execution matrix, should be issued to subordinate leaders. All essential personnel should be present. They should be oriented to the maps, graphics, and other aids to provide them with an initial reference point from which they can gain an understanding. A time check should be made at the conclusion of the order and the meeting.
 - (3) The order is normally briefed orally to the orders group. If a written order is also issued, the staff briefs only the most essential information. Members of the orders group can read the details later. The meeting should normally last no longer than 30 minutes. More time should be taken, however, to ensure understanding.
 - (4) During issuance of the order, the commander personally provides his intent and concept of operation to the orders group. All personnel should leave the meeting with a clear understanding of his intent and the intent of the next higher commander.

Step 8. SUPERVISE

Once orders are issued, the commander supervises combat preparation and execution. He ensures his intent is understood and his decisions are implemented. Supervision spans a wide variety of activities, including leadership and synchronization of the battle.

a. Rehearsal. When time permits, commanders conduct briefback rehearsals with their subordinate commanders. The briefback rehearsal ensures the commander's intent is understood. It also ensures greater synchronization of operations during execution. Key staff officers may participate; staff sections also conduct their own rehearsals. The requirement for briefback rehearsals may be specified in WOs. Consideration must be given, however, to the need for subordinate commanders to plan and prepare their own operations. Rehearsals are discussed in detail in Chapter 2, Section II.

b. Intelligence Update. Just prior to the start of the operation, the commander should receive an intelligence and weather update" from the S2.

c. Execution. During execution of the operation, the commander should position himself where he can best command and control the battle. He will monitor the situation, assess the important information, make decisions, and issue FRAGOs. FRAGOs normally contain the minimum necessary changes to the plan.

The following actions will aid the commander during the execution of the operation.

(1) Subordinate commanders should coordinate departures from the plan with the commander. If they cannot contact the commander, subordinate commanders may take action based on their knowledge of the commander's intent and their own judgment. Subordinate commanders must notify the commander of their action at the earliest opportunity.

(2) SOPs should specify essential information about enemy and friendly situations to keep reporting simple.

(3) The staff should have periodic huddles to update all members on essential information they might have missed in the confusion of ongoing operations.

NOTE: This concludes the step-by-step discussion of hoop-leading procedures.

Abbreviated Decision-Making Process

Introduction

If planning time is short, the commander may abbreviate the decision-making process only in the amount of time required for each step. All steps should be completed, in the proper order, as outlined in preceding paragraphs. The following paragraphs address techniques for shortening the process so that the best possible plan can be produced in a timely manner.

Mission Analysis

The mission analysis step of the decision-making process can be shortened as follows.

Facts and Assumptions

The staff must keep the facts and assumptions up to date on a continuous basis. Time to prepare written estimates may not be available. The staff must therefore be prepared to give their estimates orally.

Analysis of Higher Mission and Intent

Commanders may give a more detailed explanation of the higher commanders' mission and intent. This information can be sent to subordinate units immediately in the form of a WO.

Commanders may also perform much of the task analysis themselves, or in consultation with one or two key personnel (i.e., the XO or S3).

The XO must organize the staff according to a specific timeline. He can also shorten planning time by developing preformatted methods of transmitting information so the commander can focus on the crucial bits of information that are needed for decision making at each step in the process.

Commander's Guidance

Regardless of planning time available, the commander must develop his intent fully and ensure that all staff members understand it.

Commanders can significantly shorten planning time by giving detailed and directive guidance. For example—

- Give the staff specific direction on how to develop courses of action.
- Give the staff specific courses of action to develop.
- Specify the number of courses of action to be developed.
- Develop the entire course of action and issue it to the staff, thus allowing them to move directly to war-gaming.

After the commander's guidance is issued, another WO is issued. This WO should include the restated mission, the commander's intent, aspects of the planning guidance that subordinate units would find useful, and the planning time line.

When mission analysis is condensed, staff members should raise concerns to the commander about mission analysis before course of action development. The staff and commander must have a common basis of understanding or the following steps will take much longer and probably will not reflect the commander's true intent.

Course of Action Development

Unless the commander has developed a course of action and issued it as part of commander's guidance, the staff must find ways to shorten the time required for course of action development. Normally, any serious compromise of the steps involved in course of development will be felt adversely during war-gaming. Therefore, time reductions in this step usually flow from improved staff training, experience, and efficiency.

Analysis of Courses of Action

Analysis of courses of action is the most time-consuming of all the planning steps. There are several factors that can speed up the process.

The Commander

The commander can direct that the staff war-game the courses of action against only one situation template. The commander selects a situation template based on his assessment of which one is the biggest threat to the accomplishment of his intent.

The Staff

Staff assistants set up the war-gaming battlefield (maps, acetate, automation tools) during the mission analysis and course of action development steps.

The S3

The S3 can select a war-gaming method that takes less time. The box method, in which the staff focuses on one or two critical points, is an example. Another way is to use the avenue-in-depth technique to analyze only the activities of the unit making the main attack.

The commander can shorten the process by participating in the war game. This makes the war-game briefing unnecessary. War-gaming itself may be condensed, but *not eliminated*. The use of "experienced" war-garners can speed the process. Also, the use of automated simulations may help to decrease the time devoted to calculations and combat calculus.

Comparison of Courses of Action

When there is only one course of action being analyzed, this step is omitted. When this step is used (more than one course of action), its length is often governed by the number and complexity of comparison tools considered. To shorten this step, the XO should use one consolidated decision matrix instead of one from each staff section. Also, decision matrixes can be simplified by unweighting them or reducing the number of factors or criteria considered.

Decision and Execution

A formal decision brief probably will not be needed if the commander has narrowed the courses of action at the outset and has been interactive during staff planning.

The time required to create and distribute the order may be reduced by using standard orders formats and abbreviated orders that are graphic intensive. Another time-saving technique is to have the commander and key staff deliver the order to the subordinate commander, or visit soon after receipt. What might be lacking in the written OPOD can be made up with a personal visit from the commander or his personal agent.

Application of Troop-Leading Procedures

Troop-leading procedures are used at all echelons of command. The previous discussion of troop-leading procedure provides commanders and staffs with a detailed explanation of the processes involved in planning. The application of troop-leading procedures in practice will vary with each situation.

Company commanders will not be able to perform all the planning processes contained in the troop-leading procedures. They cannot produce a detailed IPB product. They will have to visualize all elements of the IPB that relate to their area of interest. This includes identifying enemy avenues of approach and dead space, reconnoitering as far forward as possible, and viewing the AO from the enemy's perspective. Company commanders should seek assistance from the battalion staff. Ten to 15 minutes of staff coordination can preclude much wasted time and effort. Company commanders can also receive assistance during planning from their XO's, 1SGs, and fire support team chiefs.

SECTION III. COMMUNICATION

General

Communication is the means through which C2 is exercised. The chain of command and succession of command must be known throughout the organization. There must be open lines of communications up, down, and laterally. The commander should—

- Provide for redundancy in means of communications. When possible, have a backup means at key locations.
- Make sure subordinates know what to do during interruptions in communications. Ensure SOPs specify immediate actions in case of jamming. This should include code words and prearranged frequencies to switch to.
- Avoid overloading the communications systems. Use them only when absolutely necessary. Practice disciplining communications procedures by eliminating nonessential conversations.
- Minimize the use of radios to preserve them.
- Pay particular attention to maintaining effective lateral communications.

Responsibilities

Responsibilities for communications are as follows: senior to subordinate, supporting to supported, reinforcing to reinforced, passing to passed (for forward passage of lines), passed to passing (for rearward passage of lines), left to right, and rearward to forward. All units take prompt action to restore lost communications. These responsibilities also apply to the establishment of liaison between headquarters.

Means of Communications

Wire

Wire is the primary means whenever the situation permits. Wire is normally used when the unit is stationary. It is used for communicating in AAs and in defensive positions.

Messengers

Messengers are used between C2 facilities and between higher and lower headquarters. Although messengers are slower and more vulnerable than other means of communications, they can be used when other means cannot.

Sound and Visual

Sound and visual signals may be included in SOI extracts or in unit SOPs. Visual signals include lights, flags, arm-and-hand, and pyrotechnics. Sound signals include metal-on-metal, rifle shots, whistles, and bells.

Mobile Subscriber Equipment

Key brigade personnel can communicate with the brigade, higher headquarters, or adjacent units through the MSE. The brigade CPs also have tactical computers that connect them to higher headquarters faster.

Telephone Lines

Commercial telephone lines can be used with permission of higher headquarters.

Radio

Radio should not be the primary means of communication before contact is made with the enemy. To avoid detection by enemy direction-finding equipment, use all other means to communicate until it becomes absolutely necessary to use the radio. Once units make contact, the primary means of communication will be FM voice. Unit radio nets are described below.

Command Nets

Command nets are for C2. They are controlled by the S3. All subordinate units are normally on this net.

Operations and Intelligence Net

The OI net is controlled by the S2. Intelligence reports and operations matters are sent on this net.

Administrative/Logistics Net

This net is used for A/L traffic within the battalion or brigade. It is controlled by the S4.

Special Radio Nets

Brigades and battalions have FS nets, air defense early warning nets, and a USAF tactical air request net. At battalion level, the scout platoon net can also function as a surveillance net.

Communications Techniques

The eavesdrop technique may be used at all levels. It requires radio stations to monitor and use message traffic on a given net, even if they are not the direct recipients of the message. For example, the battalion and company commanders may neither respond to nor relay a report by a company to the battalion. They simply monitor and use the information as necessary. This allows commanders to stay abreast of the situation without having to respond to all reports. The main CP takes the bulk of the reports. The main CP can provide essential information to the commander on request. All C2 elements monitor transmissions.

Other techniques include the following:

- Ensure communications checks have been conducted prior to starting an operation. Ensure that an actions-on-jamming plan has been completely disseminated.
- Send all necessary spot report information the first time.
- Have the NCS enforce radio discipline continuously. This will reduce unnecessary transmissions.

Communications Security

Radio Transmissions

Radio transmissions should be brief to reduce the EW signature. Using a secure means or operational and numerical codes will also reduce the chance of enemy detection. Use low-power transmissions and terrain to mask signals from enemy direction-finding equipment. Messengers or wire should be used for lengthy messages. Units must practice the use of SOIs, SOPs, and operational terms.

Physical Security

Physical security protects cryptographic systems and classified documents from capture or loss. Before an area is vacated, it should be inspected for any materials that will provide friendly information to the enemy. Wire lines are patrolled to prevent enemy tapping. When SOI codes or cryptographic equipment is lost or captured, the facts are reported promptly to the next higher command. The SOP must contain instructions for destruction of equipment and classified documents to prevent their capture or use by the enemy. The battalion should establish priority for issue of SOIs and extracts.

SECTION IV. COMMAND POST OPERATIONS

Brigade Tactical Operations Center Operations

Brigade Command Group

The command group, operating under the brigade commander, operates well forward at the critical location of the battle. The primary function of the command group is to influence the battle through personal presence. Other functions include providing planning guidance, conducting ongoing close operations, and disseminating the commander's decisions.

Tactical Command Post

The brigade TAC CP, with the S3 in charge, is the forward-most CP in the brigade. It operates approximately as far forward as the battalion main CPs. It consists of intelligence, operations, and FS personnel. The brigade command group will go forward from this CP to see the critical location of the battle.

Main Command Post

The brigade main CP, with the XO/2IC in charge, locates in the brigade area generally forward of the division main CP, but behind the battalion main CPs. It consists of staff personnel representing all facets of brigade operations. The main CP has a support area with assets that provide CSS to the brigade's C2 elements. Assets in the support area also help provide security for the main CP. The alternate CP is normally the TAC CP or a battalion CP.

Rear Command Post

The brigade rear CP, with the S1 in charge, is collocated with the FSB CP. It has A/L personnel.

Battalion Command Post Operations

The battalion command group is located forward with the companies.

The main CP has all the battalion's staff representatives. The battalion XO is in charge. The alternate CP is normally the combat trains CP or a mortar FDC. These facilities, therefore, monitor the tactical situation in addition to performing their other functions.

The S4 is normally in charge of the combat trains CP. This CP is usually positioned 1 to 2 kilometers from the main CP to facilitate coordination of CSS. It monitors both the tactical and CSS situations.

The battalion rear CP is located with the battalion field trains in the BSA. The HHC commander is in charge of it.

Company Command and Control Operations

Companies have command groups rather than CP facilities. CP functions are normally conducted by the company XO from his tank. The ISG may assist the XO with logistical reporting and serve as an alternate for company CP functions.

Command Post Operation Techniques

Communications

CPs monitor communications nets, receive reports, and process information into the essential friendly information and enemy intelligence the commander needs. This information is maintained on maps and charts. All communications are remoted out to the maps. Personnel use headsets to better hear the net they are operating on. Each staff section maintains daily journals to log messages and radio traffic.

Maps

CPs maintain information in the form of easily understood map graphics and charts. Status charts can be combined with situation maps to give commanders friendly and enemy situation snapshots that are needed for the planning process. The information can be updated quickly. For simplicity, all map boards should be the same size and scale, and overlay mounting holes should be standard on all map boards. This allows for easy transfer of overlays from one board to another.

Map Posting Procedures

All graphics should be posted on an overlay. Operations graphics are posted on the OI map board. FS, air defense, and engineer graphics are posted on the appropriate map boards. The following procedures for posting friendly and enemy information on the OI map will aid commanders and staff officers in following the flow of battle. Friendly and enemy unit symbols should be displayed on clear acetate placed on the operations overlay. These symbols can be marked with regular stick cellophane tape or with marking pen. The exact unit location is indicated by the center of mass of the symbol. Units normally keep track of subordinate units two levels down. This may be difficult during the conduct of combat operations. It may be necessary to track locations of immediate subordinate units instead.

Friendly Forces

Posted friendly information should include all subordinate units, CPs, trains, higher headquarters CPs, and flank unit locations. (See examples of friendly unit graphic symbols in Figure 1-31.)

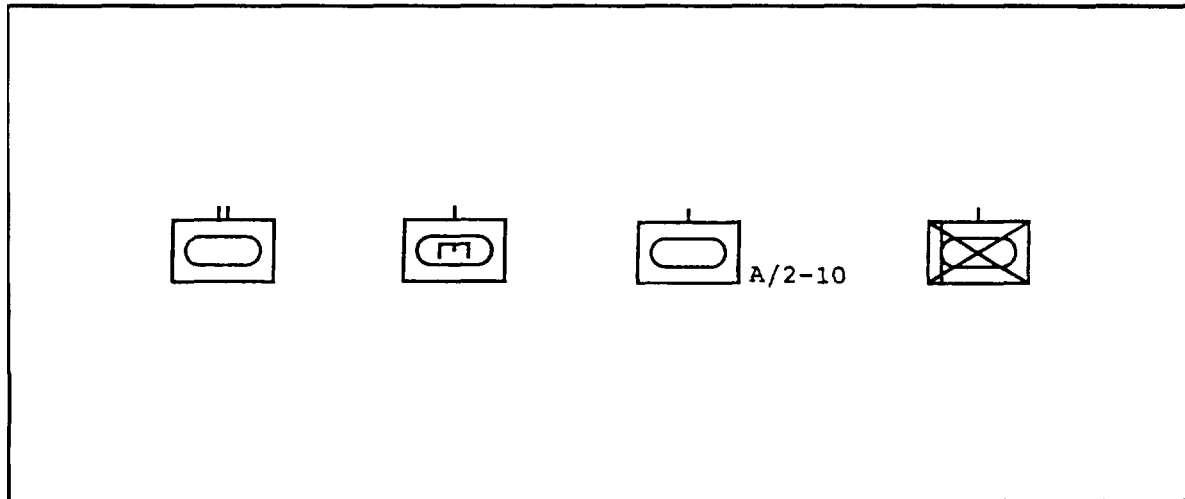


Figure 1-31. Friendly unit graphic symbols.

Enemy Forces

Spot reports depicting time, location, direction of movement, and composition should be marked in red. Use cellophane stickers or red pen. If red is unavailable, use double lines. Another method is to log the spot report, assign the report a number, and place the number by or on the unit symbol. Try to put as much information as possible on the unit marker without losing clarity. Unknown enemy information is not added to the symbol until the information is confirmed. (See Figure 1-32 for examples of enemy unit graphic symbols.)

Obstacles

Obstacles should be shown in green on at least the engineer overlay. If possible, known obstacles should also be displayed on the OI map.

Charts

Figure 1-33 shows examples of charts in the main CP.

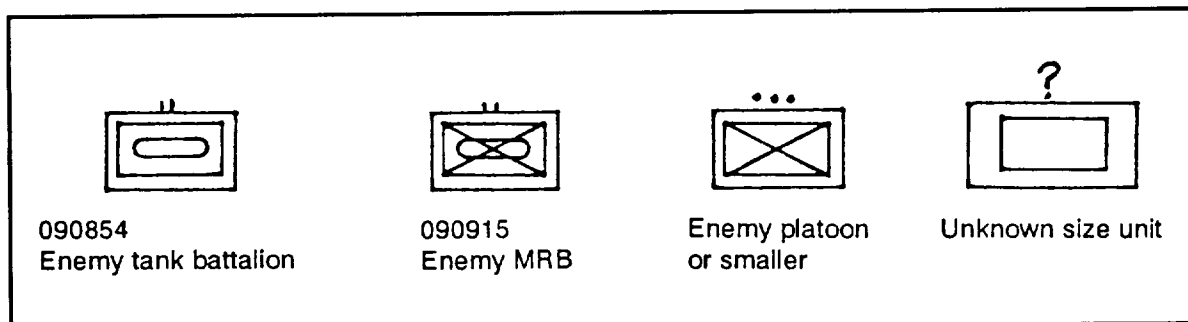


Figure 1-32. Enemy unit graphic symbols.

S2				AS OF _____	
PIR		ENEMY SITUATION ENEMY FORCES IDENTIFIED			
PIR 1 _____		RECON	1ST ECHELON	2D ECHELON	
PIR 2 _____					
PIR 3 _____					
PIR 4 _____					
PIR 5 _____					
PIR 6 _____					
PIR 7 _____					
		CAPABILITIES _____			
COLLECTION TASKS					
TARGET	SOURCE	TIME	REMARKS		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
WEATHER CONDITIONS					
I. 24 HOUR FORECAST					
SKY CONDITIONS _____					
VISIBILITY _____					
WEATHER _____					
TEMP: _____					
WIND: DIRECTION _____ SPEED _____					
II. 48 HOUR OUTLOOK _____					
III. LIGHT DATA: BNMT _____ SR _____ SS _____					
MR _____ MS _____ PHASE _____ % ILLUM _____					

COMBAT STATUS						
UNIT	ASSIGNED		AVAILABLE		STATUS	
	TANKS	APCs	TANKS	APCs	EQUIP	PERS
CO/TM						
CO/TM						
CO/TM						
CO/TM						
CO/TM						
SCOUTS						
MORTARS						
TOC						
CBT TNS						
SPT PLT						
NOTES						
STATUS: GREEN - 80-100%, AMBER - 60-80%, RED - 40-70%, BLACK - 20% < 20%						

Figure 1-33. Tactical operations center charts

Information Kept at the Operations and Intelligence Map

This information includes—

- Task organization.
- SOI data.
- Unit status chain (SITREP or SLANT report).
 - These are updated as reported by the units.
 - Units report changes only.
 - Color codes for status are a useful technique for reporting status during combat.

- Charts.

- These should correspond to and be easily transferred from the report formats.

NOTE: Maintain files of OPORDs and corresponding subordinate unit orders.

Main Command Post Actions Upon Receipt of a Message

Upon receiving a message, the main CP staff will—

- Log receipt of the message.
- Acknowledge understanding and receipt of the message.
- Ensure each staff section in the CP receives the information. This could be done by writing the message on multicarbon paper transmittal slips. Coordinate with staff sections as necessary.
- Take the necessary action, using combined arms with integrated CS and CSS.
- Post the information.

NOTE: The XO will monitor activities and step in when necessary.

Techniques

The following techniques can be useful in accomplishing main CP operations.

During the battle, indicators are more the rule than minute details. Reports are formatted so they can be sent in abbreviated form during the battle to provide combat critical information quickly. After the battle, the same reports can be sent with more detailed information so the staff can do more detailed planning.

SLANT reports (SITREPs) state operational status of a unit by its type of weapon systems. For example, for a company with MIs/M2s/TOWs/mortars/infantry squads/engineer squads, the report would look something like this: "My slant is 6/3/0/0/2/1." This is more brief than a logistic status report, but it gives sufficient operational indication of that unit's status. Fuel and ammunition status could also be included. Color codes for status can also be used. This gives logisticians and operations personnel information on unit support requirements.

Spot reports should include enemy description, location, activity, and time.

Logistic status reports, used on A/L nets, can be expanded versions of SLANT reports with more detailed information. These reports can be sent during lulls in the battle.

Subordinate commanders coordinate with each other on their higher commander's command net during the battle. The higher commander eavesdrops on his command net to stay updated on the situation. Main CPs also eavesdrop to gain combat information from subordinate units. This allows subordinate commanders to use initiative and provide feedback to the commander. The commander monitors the situation and steps in when necessary. His silence is approval of what is going on.

The XO of the unit (2IC) sends the consolidated situational updates to higher headquarters. This allows the commander to stay on his internal net to tight the battle and eavesdrop on his higher commander's net. If the commander cannot switch frequencies to talk on the higher commander's net, the XO can also take calls.

CPs should broadcast periodic situation assessments. This will clarify the battlefield picture and compare this picture with what is seen on the battlefield. Corrections can then be made to the picture.

Guidons call is a technique to alert all stations: on a command net to listen with full attention to a net call that requires conflation of receipt. An example of guidons call is "Guidons, guidons, this is (sender's call sign), message traffic." Subordinate stations answer in turn. Only subordinate commanders XOs, or S3s answer.

SECTION V. COMMAND POST SURVIVABILITY

Positioning

There are several considerations in positioning CPs. CPs should be located on ground that is trafficable, even in poor weather. The area around the CP should be large enough to contain all vehicles. Other considerations for positioning CPs follow:

- Ensure line-of-sight communications with higher, lower, and adjacent units.
- Avoid redundancy of communications.
- Mask signals from the enemy.
- Use terrain for passive security (cover and concealment).
- Collocate with tactical units for mutual support and local security.
- Avoid possible enemy TRPs for enemy artillery and CAS.
- Locate the CP near an existing road network out of sight from possible enemy observation. Subordinate commanders and LOs must be able to find it.

Security

Operations Security

OPSEC considerations for positioning CPs follow.

There should be no signs advertising CP locations. CP vehicles should be dispersed. All vehicles and equipment should be thoroughly camouflaged. Noise and light discipline should be maintained.

A security force should be posted to protect CPs. Security force positions should be established as in any defensive position. A 360-degree perimeter should be maintained. The security force should be positioned far enough out from CPs to prevent enemy fires on the CPs. It should be equipped with antitank weapons to protect CPs from enemy armor. Additionally, a reserve reaction force should be established. Communications must be established between the security force and the CPs. Always rehearse the execution of the perimeter defense.

At brigade level, the security force consists of support area personnel and off-duty personnel. There may also be MPs. Battalions normally must rely on off-duty personnel. The command group may assist in securing a CP if they happen to be collocated. Units may rarely be able to employ combat elements to help secure a CP. Often, however, CP survivability will depend on concealment and mobility.

The following are some OPSEC techniques to consider.

- In general, the enemy threat is reduced when C3 assets are positioned off major enemy mounted avenues of approach. CPs should be positioned so the enemy bypasses them.
- If antennas are remoted outside the perimeter, an LP/OP should be employed to secure them.
- Near and far recognition signals must be disseminated to all subordinate units and elements of the CP. These signals, challenges, and passwords should be used to control access into the CP perimeter.
- In case of artillery or air attack, designate a rally point and an alternate CP location at a minimum of 500 to 1,000 meters away.

Displacement

CPs may displace as a whole or by echelon. Displacement as a whole is normally done for short movements, with communications maintained by alternate means and minimal risk of degrading CP operations. CPs normally displace by echelon. A portion of the CP, called a jump CP, moves to the new location, sets up operations, and takes over operational control of the battle from the main CP. The remaining portion of the CP then moves to rejoin the jump CP. The jump CP consists of the necessary vehicles, personnel, and equipment to temporarily take over CP operations while the remainder is moving.

The XO or S3 selects a general location for the new CP site. The jump CP can be accompanied by a quartering party. The quartering party may consist of a security element and personnel and equipment for quartering the remainder of the CP. The signal officer, who is usually part of the quartering party, ensures communications on all nets can take place from the new site. When the jump CP becomes operational, it also becomes the NCS for the unit's nets. The remainder of the CP then moves to rejoin the jump CP.

At brigade level, the role of the jump CP can be performed by the TAC CP if necessary. In this case, the TAC CP may or may not be positioned at the new location. Jumping in this manner can be done in both offensive and defensive operations. If it has radios, the plans section's M577 can serve as an alternative jump CP.

At battalion level, the jump CP would normally have to come from within the main CP. Another technique is to hand off control to the command group and move the main CP as a whole. The command group can also split. The commander can move with the main effort, while the S3 moves with the supporting effort.

At company level, the 1SG, with the combat trains behind the company, should be prepared to take over CP functions from the XO when the XO gets heavily involved in fighting.

Chapter 2

PREPARATION FOR COMBAT**CONTENTS**

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SECTION I. ASSEMBLY AREAS

An AA is a position in which a force prepares or regroups for further action. Units in AAs execute maintenance, resupply, and personnel actions to maintain the combat power of the force. Task organization and reorganization of the force, the development and issuance of tactical orders and plans, coordination with other units or higher headquarters, reconnaissance, training, and rehearsals may also be conducted. Units occupying AAs employ passive and/or active OPSEC measures to deny enemy intelligence any indicators of friendly plans and intentions, force composition, or unit identity and locations consistent with the higher commander's deception plan. Designation and occupation of an AA maybe directed by a higher headquarters or by the unit commander such as during relief or withdrawal operations or during unit movements. AA planning, occupation, and departure are difficult and time consuming. Performed correctly, they can aid in

structuring the unit for timely execution of combat operations. Done incorrectly, they confuse and disorganize a unit before it ever makes contact with the enemy. AAs are categorized as either administrative or tactical.

Types of Assembly Areas

Administrative Assembly Areas

Administrative AAs are those established to the rear of the corps rear boundary (COMMZ) where the likelihood of enemy contact is remote and the commitment of the force from the AA directly into combat is not anticipated. Examples of administrative AAs include seaport debarkation and POMCUS marshaling areas and AAs occupied by units in reserve to echelons above corps. Brigades occupy administrative AAs alone or as part of a larger force.

Administrative AAs will ideally provide--

- Concealment from air and ground observation.
- Terrain masking of electromagnetic signal signature.
- Sufficient area for unit and vehicle dispersion consistent with the degree and type of rear area threat and air threat present.
- Hardstand areas for maintenance and vehicle, equipment, and supply storage.
- Buildings for maintenance, billeting, mess, and headquarters. Optimally, buildings will have light, heat, and wire communications.
- An area suitable for a utility helicopter LZ.
- Suitable entrances, exits, and internal routes. Ideally, entrances and exits can be easily secured by unit personnel.
- Good drainage and soil conditions that will support unit vehicle movement.

Administrative AAs are organized and occupied with an emphasis on unit integrity, ease of operations, C2, and efficient use of facilities. Tactical dispersion and protection from ground or air attack are lesser considerations. Units will typically be grouped tightly together and at an extremely low readiness condition.

Units that are not EAC reserve and are occupying administrative AAs are typically preparing to move forward to a tactical AA in preparation for employment in combat operations. Forces may occupy administrative AAs to await arrival of other units before moving forward.

Tactical Assembly Areas

Tactical AAs are areas occupied by forces forward of the corps rear boundary where enemy contact is likely and commitment of the unit directly from the AA into combat is possible or anticipated. They are typically outside the range of enemy medium artillery fires, generally no closer than 15 km from the line of contact. Examples of tactical AAs include locations occupied by units designated as tactical reserves, by units after completing a rearward passage of lines, temporarily by units during tactical movement, and by units during reconstitution. Brigades typically occupy tactical AAs alone, although their parent divisions may be in the same general geographic area, as when the division is in the corps rear area as the corps reserve.

Tactical AAs will ideally provide—

- Concealment from air and ground observation.
- Cover from direct fire.
- Terrain masking of electromagnetic signal signature.

- Sufficient area the dispersion of subunits and their vehicles consistent with the tactical situation, both enemy and friendly.
- Buildings for unit trains, maintenance operations, and C2 facilities (TOC/TAC CP/rear CP).
- Suitable entrances, exits, and internal routes. Optimally, at least one all-weather paved surface road will transit the AA and connect to the main supply route in use by the next higher headquarters.
- Terrain that allows the observation of ground and air avenues of approach into the AA.
- Good drainage and soil conditions that will support unit vehicle movement.

Units in tactical AAs are typically preparing to move forward to execute a forward passage of lines followed by offensive operations or have been assigned a reserve mission by their higher commander.

Organization of the Assembly Area

Brigade

Methods

Brigade tactical AAs may be organized using one of two methods.

Method 1. The brigade may assign sectors to subordinate maneuver battalions and require them to tie-in their fires with adjacent battalions. In this method the brigade C2 facilities, brigade HHC, and most CS assets are located near the center of the AA. This technique essentially configures the brigade in a perimeter defense, with maneuver battalions deployed along the entire perimeter and oriented outwards (see Figure 2-1).

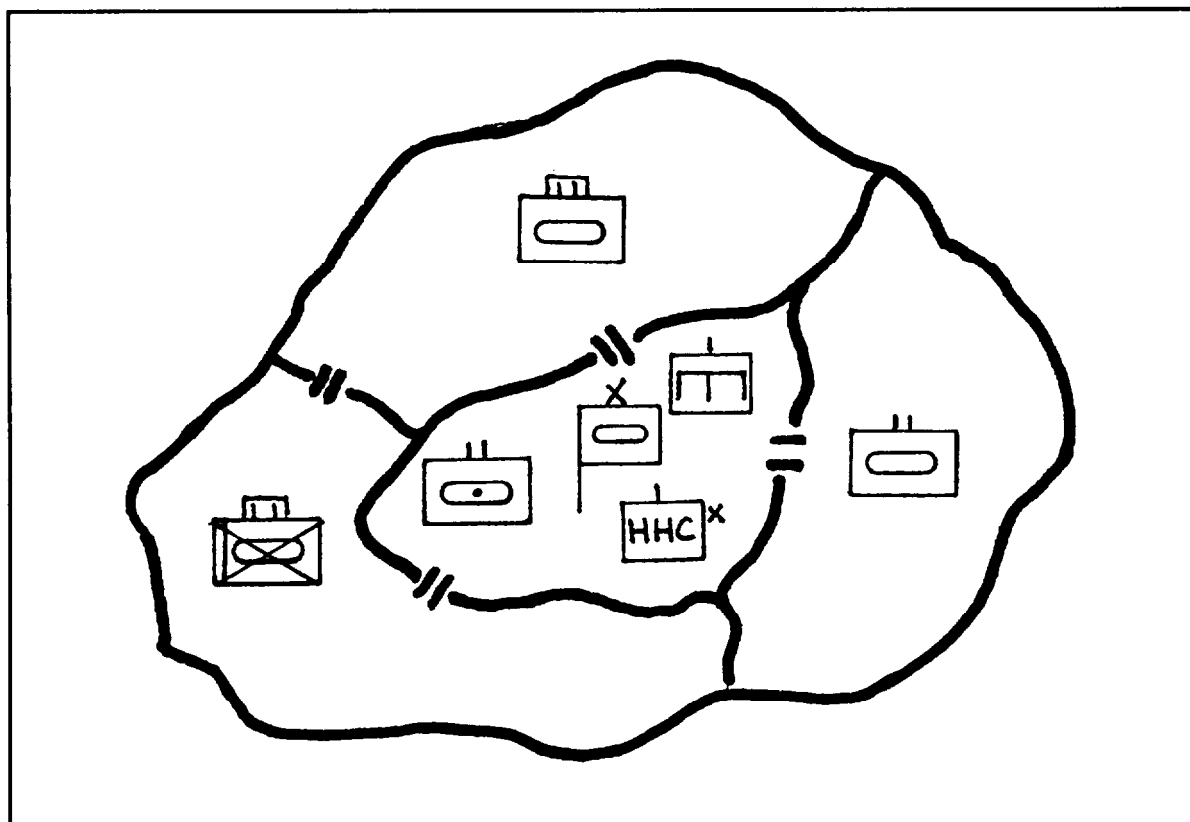


Figure 2-1. Brigade tactical assembly area organization, method 1.

Method 2. The brigade may assign separate individual AAs to subordinate elements. In this method, subordinate units maintain their own 360-degree security. Areas between subunits should be secured through visual and electronic surveillance or patrols. Brigade C2 facilities, the HHC, and the bulk of CS assets occupy positions central to the outlying maneuver battalions. SHORAD units may need to collocate with outlying maneuver units or establish separate firing positions around the brigade in order to provide adequate air defense. This is the most typical organization for the brigade tactical AA (see Figure 2-2).

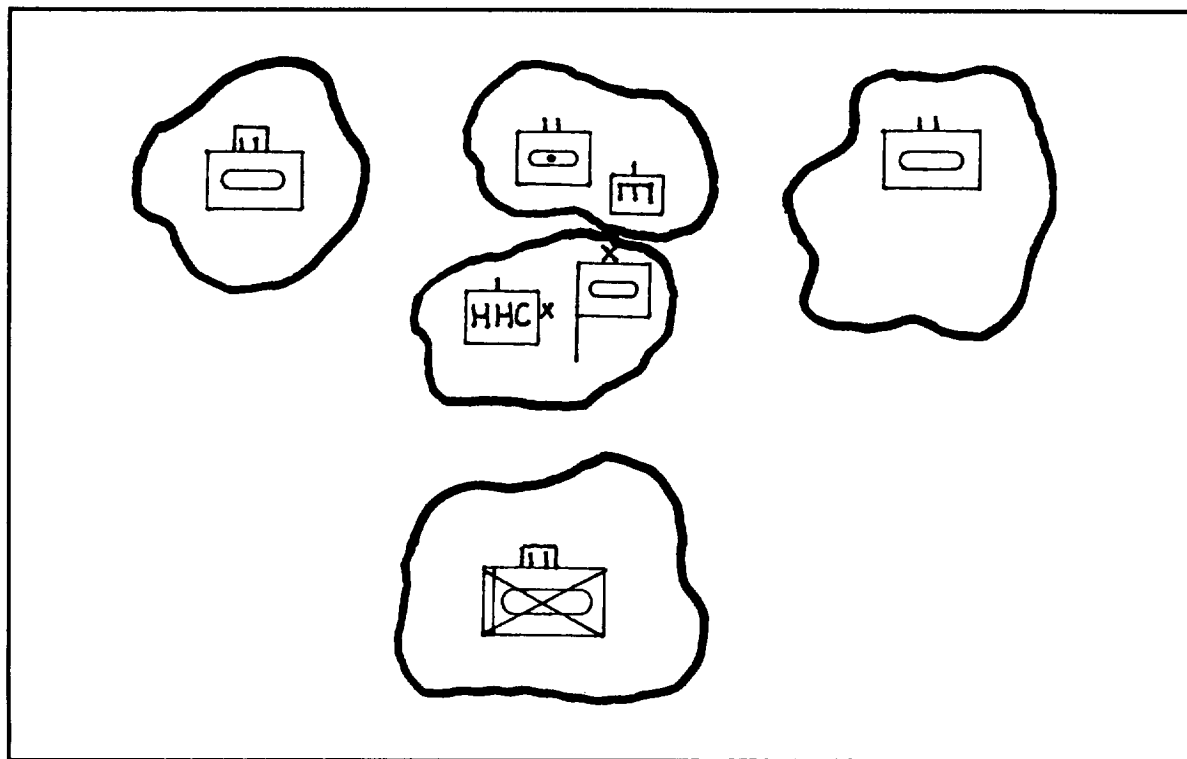


Figure 2-2. Brigade tactical assembly area organization, method 2.

Locating the Brigade Support Area/Forward Support Battalion

When the brigade is in corps rear or division rear and is not designated as a reserve, field trains of the brigade's subordinate battalions are collocated with their parent unit; the BSA is not established. In that case, the FSB will move and establish a separate AA like other battalions of the brigade. When the brigade moves forward of division rear or is in division rear as a tactical reserve, the BSA is formed by inclusion of the battalion field trains with the FSB. In either case, the FSB/BSA will be positioned to the rear of the supported battalions. This positioning prevents the extensive traffic in and out of the FSB/BSA from interfering with battalion AA activities. It also allows the battalions to move forward and deploy without having to maneuver through or around the BSA/FSB. The location of the FSB/BSA in relation to supported battalions depends on the rear area threat, mission of the brigade, proximity to division/corps MSR, and the ability of the BSA/FSB to support the battalions given the distance between them. Other information concerning the positioning of the BSA/FSB is in Chapter 8, *Combat Service Support*.

Battalion

Methods

Battalion tactical AAs may be organized using one of three methods.

Method 1. The battalion may occupy a portion of the perimeter of a brigade AA. In that case, it will array company teams generally on a line oriented on avenues of approach into the AA. Leftmost and rightmost

units tie in their fires and areas of observation with adjacent units of other battalions. Depending on tactical situation and width of the area assigned to the battalion, the battalion may maintain a reserve. Battalion trains are located to the rear of the companies. The battalion heavy mortar platoon and the battalion CP are located centrally within the AA where they can communicate land support units by fire. The battalion scout platoon, possibly with mechanized infantry augmentation, screens along the most likely or dangerous avenue of approach. The scout platoon may also conduct periodic patrols to make contact points with other units or effect direct coordination (see Figure 2-3).

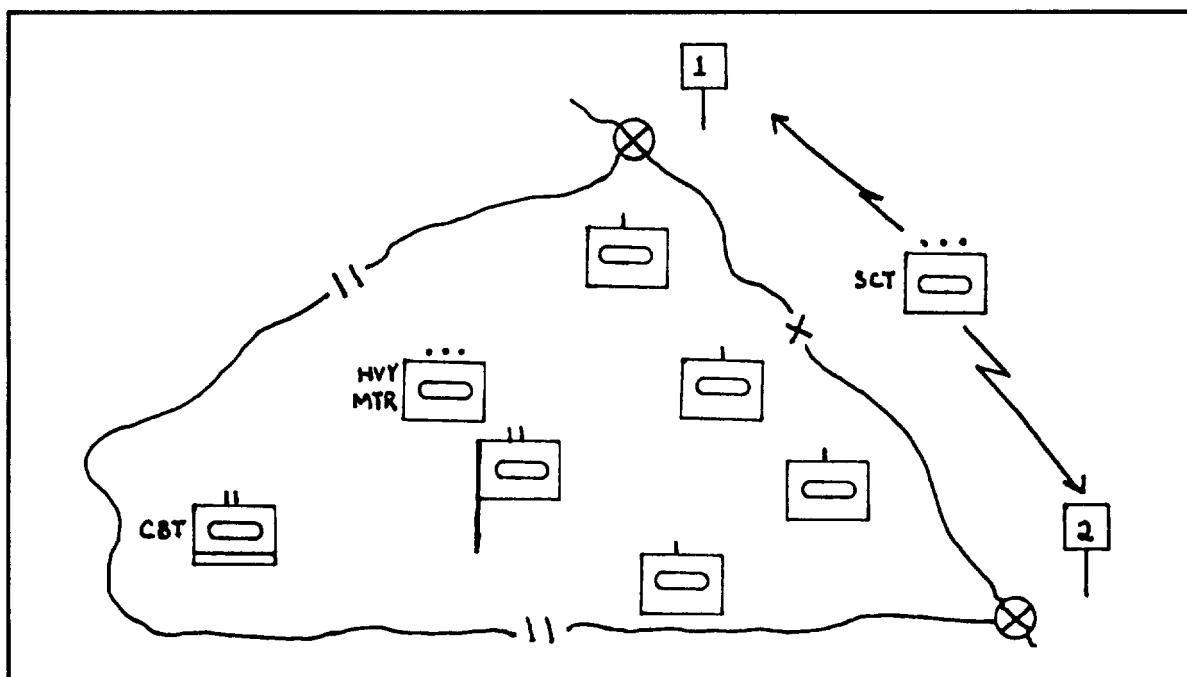


Figure 2-3. Battalion tactical assembly area organization, method 1.

Method 2. The battalion may assign sectors to subordinate companies and require them to tie in their fires and observation with other companies. The battalion CP, trains, and heavy mortar platoon are located near the center of the AA. Ideally, company sectors are assigned to place the best task organization possible astride the appropriate enemy avenue of approach: mechanized infantry units on dismounted avenues, armor units on mounted avenues, and so on. The battalion scout platoon may occupy OPs at key points around the entire perimeter of the battalion or screen along the most dangerous or likely avenue of approach. This method essentially configures the battalion in a perimeter defense with companies oriented outward. This is the most typical organization of battalion AAs (see Figure 2-4).

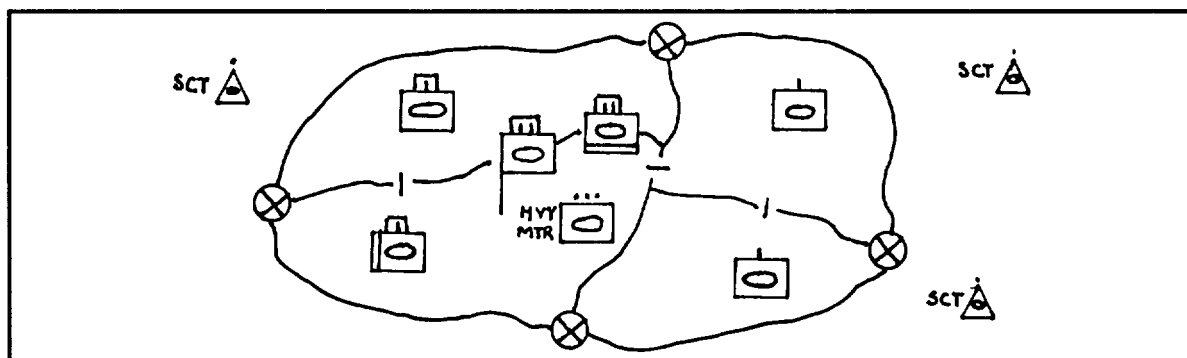


Figure 2-4. Battalion tactical assembly area organization, method 2.

Method 3. The battalion may assign separate individual AAs to subordinate companies, which establish their own 360-degree security. Areas between companies are secured through surveillance and patrolling. The battalion CP, trains, and heavy mortar platoon establish positions central to outlying companies. If the battalion is dispersed over a large area, SHORAD assets, if available, may need to collocate with companies for adequate air defense (see Figure 2-5).

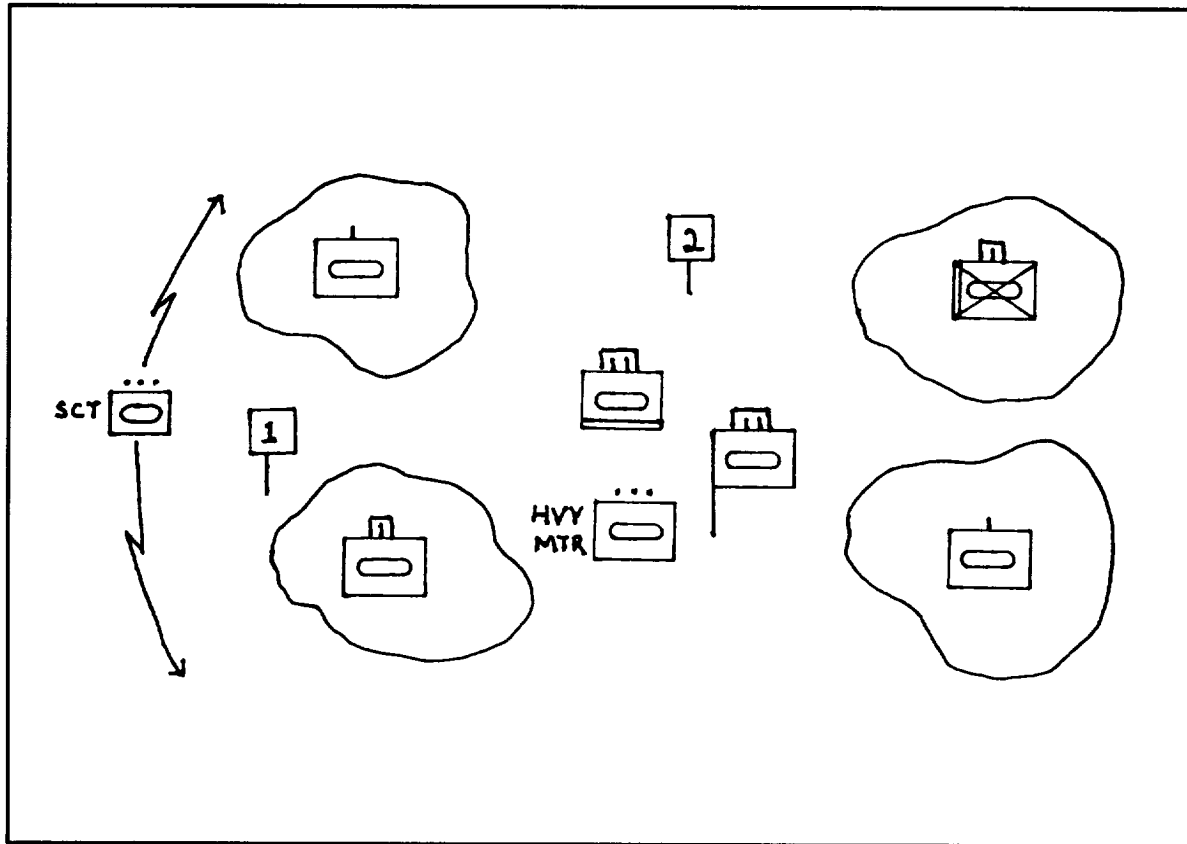


Figure 2-5. Battalion tactical assembly area organization, method 3.

Locating Battalion Trains

While the battalion's parent brigade is located in the corps or division rear area and not designated as a tactical reserve, the brigade does not form a BSA. In this case the battalion establishes unit trains, which are positioned centrally within the battalion AA. In all other cases, the battalion will usually establish echeloned trains by locating the field trains with the FSB in the BSA and positioning the combat trains centrally within the AA. Other information concerning the positioning of battalion trains is in Chapter 8, *Combat Service Support*.

Company

Company tactical AAs maybe organized using one of two methods.

Method 1

The company may occupy a portion of a battalion AA perimeter. In this case, the company arrays platoons generally on a line oriented on avenues of approach into the AA. Leftmost and rightmost units tie in fires and AOs with adjacent units of other companies. Company trains are to the rear of the company. OPs/LPs are oriented on the most likely or dangerous avenue of approach (see Figure 2-6).

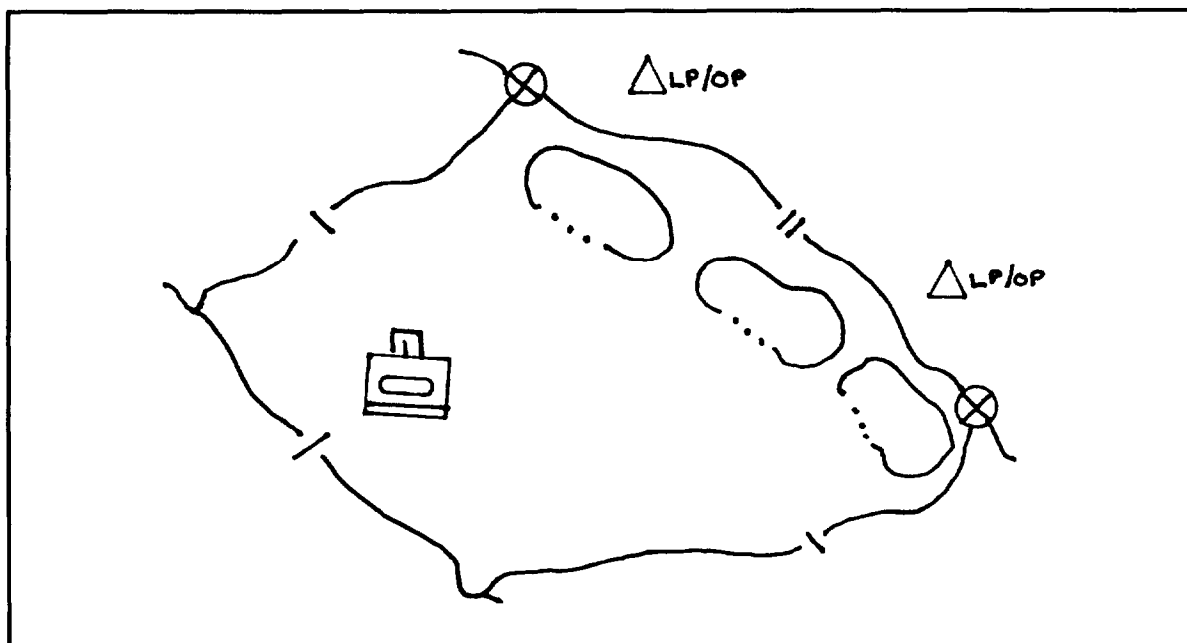


Figure 2-6. Company tactical assembly area organization, method 1.

Method 2

The company may assign sectors of fire and observation to platoons and require them to overlap the sectors. Company trains are located near the center of the AA. Ideally, platoon sectors are assigned to place the best type of unit possible astride the appropriate enemy avenue of approach: mechanized infantry units on dismounted avenues, armor units on mounted avenues, and so on. The platoons may establish OPs at key points adjacent to their sectors. This method essentially configures the company in a perimeter defense with platoons oriented outward (see Figure 2-7).

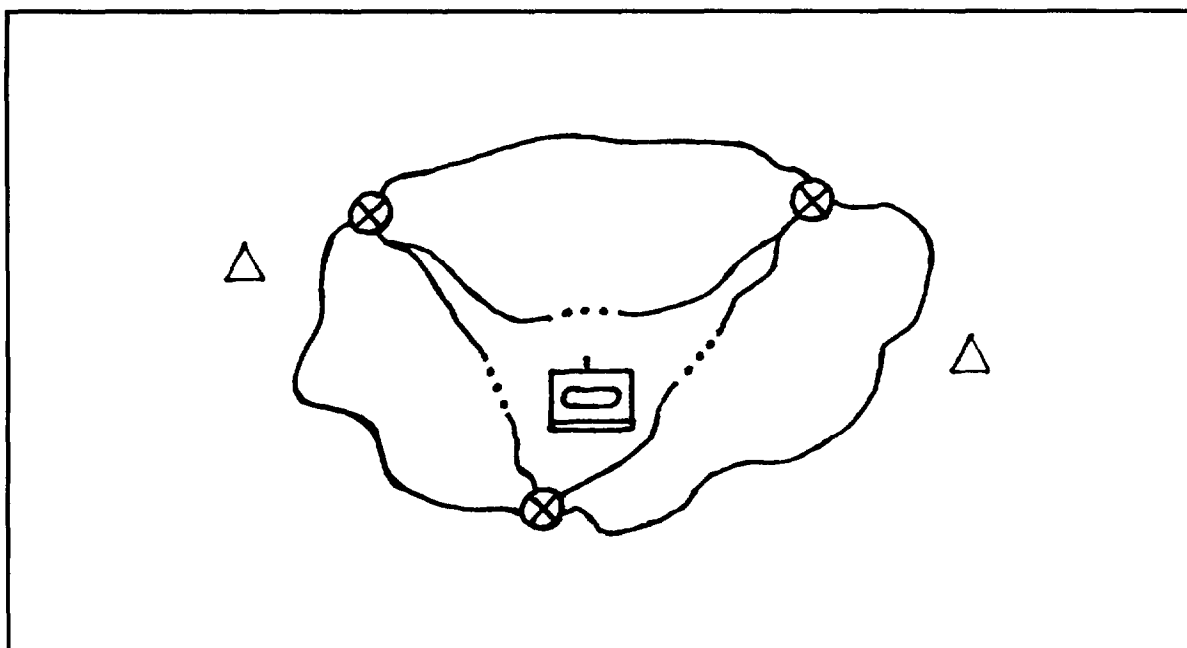


Figure 2-7. Company tactical assembly area organization, method 2.

Quartering Party

A quartering party is a group of unit representatives dispatched to a probable new site of operations in advance of the main body to secure, reconnoiter, and organize an area prior to the main body's arrival and occupation. Unit SOPs establish the exact composition of the quartering party and its transportation, security, communications equipment, and specific duties. Quartering parties typically reconnoiter and confirm the tentative locations for their parent elements selected from map reconnaissance. Quartering parties also usually act as a liaison between their parent headquarters and the quartering party of their higher headquarters to change unit locations within the AA based on the results of their reconnaissance.

Brigade Quartering Party

General

In organizing for the movement to and occupation of a tactical AA, the brigade will not employ a quartering party which includes subunit representatives. The brigade HHC and TOC will organize and dispatch a single quartering party to confirm the tentative locations for the HHC support elements and the new brigade TOC location. When preparing to occupy an administrative AA, the brigade S4 should accompany the quartering party. If the brigade will move to the AA at a later time, the brigade HHC/TOC quartering party will return to the brigade's current location after completion of a reconnaissance of the area. In this case, the quartering party may not act in a liaison capacity, and subunit requests for changes to the AA plan will be resolved after returning to the brigade's present position.

Planning

Intelligence

The S2 will routinely receive intelligence information from the brigade's higher headquarters throughout the brigade's deployment and operations. From this information the S2 will determine the characteristics and likelihood of the air and ground threat to the quartering party during its movement to and occupation of the AA. This information will assist the other members of the brigade staff and the quartering party OIC in determining the most appropriate mode of transportation for the quartering party, the degree and type of security required by the quartering party, and the desirability of maintaining the quartering party in the AA during the movement of the rest of the brigade. If the next higher headquarters has not provided the required information, the S2 will take positive action to obtain this information. This action may include requests to higher and adjacent units, liaison with units currently responsible for the brigade's new AA, or, in coordination with the S3, the tasking of subordinate units to perform reconnaissance missions. All pertinent information is provided to brigade staff sections, battalion S2s, and the brigade commander. Information obtained by the brigade through the reconnaissance and surveillance efforts of subordinate units is forwarded to the brigade's higher headquarters.

Maneuver

The quartering party will typically move to the new brigade AA by infiltration. The brigade quartering party may move with another subunit quartering party for security depending on the likelihood of enemy contact. In this case, it may be necessary to move as a march unit of a road march if the number of vehicles exceeds local SOP restrictions on vehicular infiltration. Ideally, the quartering party will move over the routes to be used by the brigade to execute a route reconnaissance and a time-distance check. While this will obtain useful information for the brigade, it will slow the movement of the quartering party to the speed of the brigade main body march units.

Composition of the quartering party is usually established by the brigade SOP. It will normally include an OIC and representatives from the brigade HHC and the brigade TOC. The OIC must be senior enough that he can settle disputes between the brigade tentative plan and the subunit quartering party OICs and NCOICs. The brigade HHC commander or assistant S3 will typically be designated as the OIC. The HHC and main CP representatives must be competent officers or senior NCOs who can make realistic decisions concerning the

positioning of their respective elements. HHC representatives typically include NCOs from key support sections such as communications, supply, maintenance, and NBC at the commander's discretion. The main CP representative may be the brigade sergeant major or an assistant staff officer. The brigade signal officer or a representative from the divisional forward signal platoon from the main CP will typically be included as a main CP representative. This representative will identify a location for the new CP site which provides FM line-of-sight communication requirements. If the brigade will remain in the new AA for approximately 12 to 24 hours or longer, the main CP communications representative may also select a position suitable for a PCM shot. The quartering party must have FM communication with the brigade main CP/TOC or TAC CP and ground mobility once in the AA. Therefore, the quartering party is normally provided a tactical wheeled vehicle with FM radio. The HHC and TOC representatives must be competent officers or senior NCOs who can make realistic decisions concerning the positioning of each of their respective elements. In close terrain or in limited visibility, the quartering party may require additional personnel to act as guides for HHC elements and the TOC. The HHC and TOC representatives should obtain marking materials or means to construct field expedient markers for vehicle and unit positioning. If the quartering party is going to remain at the new AA and wait for the remainder of the brigade to close, a forward CP will normally be included in the quartering party. This CP may be either the TAC CP (less the commander) or an element from the main CP/TOC displacing to act as a jump TOC. In any case, this forward CP element must be capable of providing C2 of the brigade during the movement of the brigade main CP/TOC.

The quartering party may include a representative from the FSB or brigade S4 who will reconnoiter and quarter the tentative FSB/BSA location. More often, the FSB will organize, dispatch, and support its own separate quartering party. Additional details concerning movement of the BSA/FSB are found in Chapter 8, *Combat Service Support*.

Fire Support

The brigade will not normally plan or employ indirect fires in administrative AAs except in self-defense against observed targets. This restriction may be modified by standing rules of engagement, by the presence of exceptionally high degrees of rear area threat, or because of temporary changes in the tactical situation. Brigade FS in administrative AAs would be provided on an as-needed basis through rear area defense planning, CAS, or host nation support.

The brigade will not normally plan for indirect fires in support of the quartering party. Rather, the brigade FSO/FSE will coordinate with units through whose areas the brigade will move or in whose area the new AA lies to obtain their existing artillery target lists. The FSO/FSE compares this list to the current enemy situation to determine if additional targets are required to support the quartering party. If needed, these additional targets will be coordinated for inclusion in the target list of the appropriate units. The brigade FSO/FSE will also coordinate to allow the quartering party to initiate calls for fire through the units already in place. If calls will be processed via DMD, the brigade FSE/FSO will ensure that a qualified FIST element accompanies the quartering party. If calls for fire will be processed through FM voice, the FSO/FSE must ensure that the brigade signal officer will obtain the required SOI data and VINSON fills.

The coordination of FS for the brigade during movement to and occupation of the AA is vital. The brigade may not move to or occupy AAs with its own supporting artillery since that artillery is probably firing in support of units in contact with the enemy. Typically, the only FA support available is that coordinated from other units or GS artillery from the brigade's higher headquarters.

Mobility, Countermobility, and Survivability

Engineer support for the brigade in the administrative AA is provided on an area support basis by US military engineer units in the COMMZ or through host nation support. Engineer units assigned in support of the brigade will not normally be used for engineer missions. During transit of the COMMZ, mobility support will continue to be provided by COMMZ engineer units or through host nation support.

MCS engineer support for the quartering party is not normally required since the brigade will generally be moving through a known and secure area, with area support engineer units available as needed. Moreover, scarce engineer assets allocated to the brigade are probably better employed in support of other units in the brigade.

If the quartering party is to perform a route reconnaissance over a route about which no current information exists or is subject to enemy interdiction, engineer personnel may accompany the quartering party to perform evaluation of roads and bridges.

Air Defense

Air defense units will not normally accompany the quartering party. Air defense protection for the quartering party is provided by HIMAD/SHORAD units already in place. If an element of the main CP travels with the quartering party, a SHORAD asset in support of the brigade may move with the CP element in accordance with the commander's priorities of protection.

Combat Service Support

During his planning the OIC must determine the support required for the quartering party. His estimation of necessary supplies and equipment must cover the entire quartering party, including accompanying staff section representatives, CS assets, and CSS assets, as required. Movements during limited visibility may require the OIC to obtain additional night-vision devices or chemical light sticks. If the quartering party will travel over extended distances or if CSS support is difficult to obtain through nearby units, the quartering party may be accompanied by other CSS assets such as fuel, maintenance, or medical support. If support will be obtained on an area support basis, the brigade S4 must ensure that the brigade signal officer coordinates for the SOI information and for the requesting procedures necessary to receive the support required.

Command and Control

The quartering party OIC commands the quartering party. He exercises C2 through personal contact, adherence to known unit SOPs, timely and thorough troop-leading procedures, and FM voice communications when applicable. He reports directly to the TAC CP or main CP (TOC), whichever is providing C2 for the rest of the brigade. If the TSOP or seniority does not clearly establish a 2IC for the quartering party, he will appoint one. Over extended distances, FM retransmission or early displacement of the TAC CP or an element of the main CP (TOC) along the brigade's routes may be required to maintain contact with the quartering party and the remainder of the brigade. The brigade signal officer will coordinate with units the quartering party will pass through and those in and around the new AA to obtain SOI information and VINSON secure device fills. This signal information must include CS and CSS units and their headquarters. The quartering party may be required to move under radio listening silence or other emission-restrictive posture, especially en route to tactical AAs.

Preparation

Intelligence

The brigade S2 will continue to gather, process, and disseminate intelligence information. For tactical AAs where a quartering party will be used, the brigade S2 will ensure the quartering party OIC is aware of the current enemy situation, probable enemy course of action, weather forecast, and the terrain and vegetation likely in the new AA. This intelligence information must specifically address areas the quartering party will travel through and the AA itself.

Maneuver

The quartering party will assemble at a time and place directed by the OIC or by TSOP. The OIC will coordinate with the S3 to determine the mission of the quartering party, whether or not the quartering party is to remain in the AA and await the remainder of the brigade, and the route to be used by the quartering party. The OIC will post graphics on his map concerning the brigade's route, location and identity of friendly units, and the brigade's tentative occupation plan for the AA. He will also determine if there are restrictions on the movement of the quartering party, such as restricted routes, contaminated areas, specific timings to comply with, or a requirement to move under cover of darkness. The OIC will ensure that subordinate unit quartering parties know where and when the brigade quartering party will be located in the AA. If the brigade quartering party is to move with a subordinate unit quartering party for security, the brigade quartering party OIC will coordinate with that unit's quartering party.

The OIC will backbrief the XO and S3 concerning his movement and occupation plans, composition of the quartering party, and timings for departure and arrival at the new AA. He will highlight any contingency plans he has developed for the quartering party.

The brigade will not usually direct the rehearsal of the quartering party. However, the quartering party may rehearse its own actions. Possible actions to rehearse include actions at defiles; reactions to air attack, ground attack, or ambush; and actions of guides.

Fire Support

The brigade FSO/FSE will prepare a target list and/or overlay of the artillery targets available to support the quartering party for all tactical AAs. The FSO/FSE will also ensure that the quartering party has some means to initiate calls for fire, via either DMD or FM voice, and that FS personnel appropriate to the tactical situation accompany the quartering party.

Mobility, Countermobility, and Survivability

The brigade engineer will coordinate with the quartering party OIC to determine if sending engineer personnel with the quartering party for the reconnaissance and evaluation of routes, bridges, and cross-country mobility is recommended. The brigade engineer will also determine the procedure for the quartering party to request rear area engineer support and brief the OIC on these procedures. The brigade engineer will also ensure that the brigade signal officer's signal coordination includes SOI information for area support engineer units and headquarters.

Air Defense

Air defense units may move with the quartering party en route to and in the new tactical AA. If air defense assets will move with the quartering party, the air defense unit leader will ensure that he knows both the current and projected future weapons control status and air defense warning. He must ensure that Stinger systems have the correct IFF code for that 24-hour period. Particular attention must be given to the potentially different WCS and ADW of the various units the quartering party will move through en route to the AA. The air defense unit moving with the quartering party must conform to the ADW and WCS of these units.

Combat Service Support

Having determined the support requirements of the quartering party during the planning phase, the OIC will take all actions necessary to obtain the support he needs to accomplish his missions. Most quartering party personnel will come with a supporting vehicle. If too many members arrive without transportation, the OIC will need to coordinate with the brigade HHC commander for additional vehicles. The OIC will ensure that all vehicles are prepared for movement including full fuel tanks, maps, radios if so equipped, ammunition, and water. The OIC and any accompanying medical personnel will ensure that they understand the air and ground medical evacuation procedures as well as the locations of the nearest medical facilities along the route of march. A vehicle tow bar should be carried by one or more quartering party vehicles. Radio checks with all appropriate unit and headquarters' NCSs will be performed.

If CSS will be obtained through other CSS units on an area support basis, the OIC will coordinate his estimated fuel and resupply requirements with the brigade S4. This coordination will include where and when the support is required. Usually, needed fuel and supplies will be pre-positioned along the quartering party's route and these points manned by supporting CSS personnel. Ideally, these points will also become the refuel/resupply points for both the quartering party and the main body.

Command and Control

After the OIC has completed his planning, he will assemble the quartering party at a time and place of his choosing to orally brief the quartering party elements. This briefing should follow the standard five-paragraph field order format. Emphasis should be placed on actions at halts and critical areas, actions of the quartering party in the AA, contingency plans, and methods to request and receive CS and CSS. Medical evacuation procedures, actions on contact, and actions to take if separated from the quartering party will be covered in detail.

The OIC may require backbriefs from quartering party element leaders and may execute rehearsals of key actions. Rehearsals will almost always be conducted when the quartering party will operate under limited-visibility conditions. Rehearsals are vitally important when the rear area threat level is high and accompanying CS assets have no habitual association or functioning SOP.

The OIC may conduct a brief, informal PCI of the quartering party. This inspection allows the OIC to personally determine the readiness of the quartering party to execute its mission. The PCI also provides the OIC an opportunity to make connections of any noted deficiencies and to exercise personal leadership. PCI checks should emphasize vehicle and radio PMCS, weapons and ammunition, MOPP and chemical detection equipment, soldiers' personal equipment, contingency plans, and signals information. If allowed by the tactical situation, test firing of weapons and radio checks may be made.

Execution

Intelligence

The quartering party will send spot reports to the brigade S2 and receive intelligence summary updates from him. The quartering party will also contact adjacent units throughout its movement and occupation to determine the local current enemy situation. Information obtained by the quartering party in this manner will be passed to the brigade S2.

Maneuver

The quartering party will move by infiltration to the AA, generally along one route. If the quartering party is moving along the same route to be used by the brigade main body, the quartering party will execute a route reconnaissance during movement. If the results of this reconnaissance reveal that the route is impassable to elements of the brigade, the quartering party will report this immediately, then seek a bypass. Once a bypass is located, the new route through the bypass and then back to the original route, as well as the marking method for the bypass, will also be reported to the brigade. If required, the quartering party will execute a simultaneous time-distance check.

After arrival at the AA, the quartering party will clear the route, move to the general location selected for it during the map reconnaissance, and seek covered and concealed positions. The HHC and main CP representatives will move to their units' tentative locations and determine suitability of those areas, coordinating any proposed changes with the quartering party OIC. Reconnaissance of proposed locations by the OICs or other quartering party subunits may reveal that the area is unsuitable for brigade occupation. In that case, the brigade quartering party OIC will attempt to make adjustments to unit locations within the area assigned to the brigade by higher headquarters. If such adjustments will not correct the problem, the OIC will immediately notify the S3 or commander. Pending the commander's decision regarding occupation of the present AA or coordination for a new one, the quartering party's actions continue. If the TAC CP or an element of the main CP has accompanied the quartering party, it will move to the location reconnoitered by its representative and establish forward C2 for the brigade. If air defense assets have accompanied the quartering party, they will move to advantageous firing positions oriented on air avenues of approach. The HHC representative and the main CP representative will begin organizing their respective areas, selecting and marking positions for vehicles and support facilities. If designated, guides will move on order to a preselected checkpoint or RP to await main body march unit elements.

The OIC will ensure that the subordinate unit quartering parties know of the brigade quartering party's arrival and location. If the quartering party will not remain in the AA, it will not depart the AA until all subordinate unit quartering parties have contacted the brigade quartering party concerning the results of their reconnaissance and have identified requested changes to their units' tentative locations. Upon departure, the quartering party has the opportunity to conduct a reconnaissance and time-distance analysis of another brigade route during movement to rejoin the rest of the brigade.

Fire Support

The quartering party will not usually engage targets with indirect fire. Quartering party calls for fire in tactical AAs or while moving forward of the corps rear boundary are sent to the nearest headquarters which controls FA fires and with which prior coordination for processing quartering party calls for fire has been

made. Calls for fire cannot usually be processed by artillery units with the brigade main body because these units are either moving or preparing to move. In the corps and division rear, the procedure for requesting supporting fires may dictate contacting the appropriate RAOC.

Mobility, Countermobility, and Survivability

The quartering party will seldom require countermobility or survivability support. In some cases, mobility support may be required to repair or replace damaged bridging or roadways where no feasible bypass is available. The quartering party will not usually include assets capable of performing MCS missions. All requests for engineer support will be forwarded to the appropriate area support engineer unit headquarters with which prior coordination has been made. In some cases, engineer units supporting the brigade may accompany the quartering party to execute mobility operations at known obstacle locations when no bypass is known to exist. However, this will only occur when area support engineer assets are unavailable or unsuitable for the task.

If engineer support is requested and approved, the quartering party OIC will establish a contact point on the ground to meet the engineer unit leader. If the tactical situation permits, the OIC or 2IC will coordinate required support with the engineer unit and escort the unit to the work site. The OIC must ensure work accomplished by the engineers is capable of supporting any vehicle in the brigade and will not deteriorate with the passing of the number of vehicles in the brigade. The OIC will report to the brigade the initiation and completion of all engineer work, as well as the method used to mark the site, if any.

Air Defense

If air defense assets accompany the quartering party, they will typically consist of two or more Stinger systems. These systems may be employed in one of two ways based on the recommendation of the air defense element leader.

The first method is to have the Stingers move simultaneously with the quartering party on the same route. This method is usually used when likelihood of air attack is low or the quartering party will move at a high rate of speed. It is the least secure method.

The second technique is to have the Stingers move parallel to the quartering party's route, establishing temporary stationary firing positions to the flank of the quartering party. This technique establishes the greatest security; however, it is difficult to command and control and is quite slow. The OIC must ensure that air defense personnel know the current WCS and other applicable airspace control measures for the route of march.

Combat Service Support

CSS assets may accompany the quartering party. Resupply and maintenance operations for the quartering party using attached CSS assets are generally conducted at scheduled halts or in the new AA. The service station technique is most commonly used for resupply during temporary halts and the tailgate technique after occupation of the AA.

Resupply and maintenance support may be obtained from other CSS units operating on an area support basis after coordination by the brigade S4. If this technique is used, the OIC will obtain CSS status reports for all quartering party elements and consolidate them into one total. He will then contact the appropriate unit and detail quartering party requirements and the location and time that support is needed. Again, the OIC must anticipate the quartering party's requirements and allow enough lead time for the supporting unit to respond.

The OIC may decide to delay resupply until the arrival of the main body. In this case, he will take no action, and individual quartering party elements will coordinate their own resupply through their regular supply channels after the closure of the main body.

Maintenance recovery of quartering party vehicles will be through recovery by like vehicles using tow bars. In some cases, the quartering party may include dedicated wrecker/recovery assets. Unrecoverable vehicles will be left in place and reported to the brigade for later action by the main body trail party. The OIC will ensure that any abandoned vehicles are either secured by their crewmen or have all weapons, radios, and sensitive items removed.

Medical evacuation will be accomplished by the most expedient method using either ground or air evacuation. The decision to allow attached medical evacuation vehicles to evacuate quartering party personnel will likely prevent that vehicle from rejoining the quartering party until after the quartering party's closure in the AA.

Command and Control

The OIC exercises C2 during movement and in the AA through personal contact FM voice communications, hand-and-arm signals, and supervision of adherence to his orders and established TSOPs. He will position himself near the front of the infiltration column where he can best control the unit and maintain communications with all elements and the brigade. If another vehicle with a radio is in the quartering party, it should be placed at the tail of the infiltration column to inform the OIC of vehicles that are forced to leave the route of march.

During movement, the OIC will enter and leave the appropriate nets of supporting CS and CSS units whose SOI and VINSON secure information were provided by the brigade signal officer. He will maintain continuous communications with the brigade. If required to escort and establish a brigade FM RETRANS element the OIC will halt the quartering party at the proposed RETRANS site. The RETRANS element will begin emplacing its equipment. After the quartering party has ensured that it can maintain communication with the brigade main body, it will resume movement.

As with any road movement, the OIC will periodically call temporary halts to perform during-operation PMCS or to rest or exchange drivers. The OIC will base his decision on duration and distance of march, driver fatigue, visibility conditions, and rear area threat.

Battalion Quartering Party

General

In organizing for movement to and occupation of a tactical AA, the battalion will habitually employ a quartering party composed of battalion CP, battalion trains, and subordinate unit representatives. The quartering party marks vehicle and unit locations and then sends guides to the RP to await the arrival of the main body to lead their units to their respective locations. If the battalion will move at a significantly later time than the quartering party is dispatched to the new area, the quartering party may simply reconnoiter the new AA and mark vehicle and unit locations before returning to the battalion's current position. In this case, the quartering party would return to the AA again ahead of the main body to secure the area and provide guides for the battalion's occupation.

Planning

Intelligence

The battalion S2's actions in support of quartering party planning for the battalion are almost identical to those executed by the brigade S2. See Section I, of this chapter.

Maneuver

The maneuver planning considerations for the quartering party at battalion level are the same as those at brigade level. See Section 1, of this chapter. Composition of the quartering party will normally include an OIC/NCOIC, representatives from the battalion CP, battalion trains, and the battalion's subunits. Guides are routinely included for all quartering party elements.

The OIC/NCOIC must be an experienced junior officer or senior NCO. He must be able to accurately evaluate the adequacy of the AA, coordinate with the brigade quartering party, and make sound decisions about recommended changes to the battalion tentative plan initiated by the subunit quartering parties. The S3-Air, HHC XO, S1, or CSM are potential quartering party leaders.

Composition of maneuver company quartering parties is usually determined by the company commander but may be specified by the battalion. At the discretion of the HHC commander, HHC

representatives typically include NCOs from key support sections, such as communications, maintenance, or supply. An NCO from the mortar platoon is also included in the HHC quartering party. The battalion scout platoon will be represented in the quartering party if the platoon has not already been to the AA as the battalion reconnaissance party. A detailed discussion of the battalion reconnaissance party is in Appendix A, *Movement*.

The battalion TOC quartering party element will usually include a staff NCO or junior officer and a signal representative, normally the CESO. Together they will determine the new TOC location based on tactical requirements, such as cover and concealment and the line-of-sight signal requirements of FM radio. The number of personnel and vehicles in the quartering party usually justifies inclusion of maintenance and medical personnel and equipment from battalion HHC. A forward battalion CP element, such as the S2's or S3's M577, may move with the quartering party to establish C2 of the battalion when the remainder of the battalion CP displaces. If a forward CP element moves with the battalion quartering party, it acts as the TOC quartering party.

The battalion trains representative will usually be the S4 or S4 NCO. However, the BMO, HHC commander, or HHC XO may also act as the trains representative. The trains representative may also act as the quartering party OIC/NCOIC. When the battalion employs echeloned trains, a combat trains representative will accompany the quartering party and another quartering party will be formed for the field trains. This field trains quartering party will coordinate its activities with the FSB commander. The composition, deployment, and actions of the field trains quartering party will typically be established by unit SOP, which is in turn coordinated with the FSB commander. Additional information concerning the battalion trains is in Chapter 8, *Combat Service Support*.

Fire Support

The battalion will not normally plan for FS for the quartering party. If the battalion moves and occupies its AA as part of a brigade, the brigade will make all coordination for FS and provide the battalion FSO copies of appropriate target lists and FS overlays. If the battalion moves and occupies the AA without FS planning by its higher headquarters, it will make its own coordination for FS. Such coordination is similar to the coordination which would be made by the brigade. However, without a brigade movement which includes DS artillery, the battalion and the battalion quartering party will probably move without field artillery personnel who are actually assigned to the DS artillery unit. Therefore, the only FS for the battalion quartering party would be its organic mortars and that which is coordinated through other units in the area. Under these circumstances, all calls for fire would be initiated via FM voice. See the discussion of brigade coordination for FS during movement and in the AA in Section I, of this chapter.

Mobility, Countermobility, and Survivability

Planning MCS support for the battalion quartering party is identical to planning engineer support for the brigade quartering party. See Section I, of this chapter.

Air defense. Air defense units, even when assigned to the battalion, will not normally accompany the quartering party. Air defense protection for the quartering party is provided through incidental coverage by HIMAD/SHORAD units already in place in the quartering party's area.

Combat Service Support

CSS planning for the battalion quartering party is identical to that of the brigade quartering party. See Section I, of this chapter.

Command and Control

The OIC/NCOIC commands the quartering party. He reports directly to the TOC or forward CP element, whichever is providing C2 for the battalion at that time. If TSOP or seniority does not clearly establish a 2IC, he will appoint one. Ideally, the 2IC will come from the TOC or HHC element, not a company quartering party. Over extended distances FM RETRANS or early displacement of a TOC element along the battalion route may be required to maintain contact with both the quartering party and the remainder of the battalion during movement. The battalion signal officer will obtain necessary SOI information and VINSON fills to support the quartering party's movement. The quartering party may move under radio listening silence or other emission restrictive posture, especially during movement to tactical AAs.

Preparation

All preparation actions in the battalion quartering party and the actions of the battalion quartering party OIC are identical with the preparation of the brigade quartering party. See Section I of this chapter.

Execution

All execution actions of the battalion quartering party and quartering party OIC are identical to those of the brigade quartering party except maneuver. See Section I, of this chapter. The following paragraph discusses maneuver.

If the quartering party moves along a route to be used by the main body, and the main body has not yet sent a reconnaissance party forward, the quartering party conducts a route reconnaissance during its movement. In some circumstances, the reconnaissance party may move with the quartering party. In this case, the quartering party does not conduct a route reconnaissance. The quartering party may also execute a time-distance check of the battalion's route. Driving the march speed of the battalion's main body march units, the OIC/NCOIC will note the times and actual ground odometer distances between the CPs along the route. After moving through the RP, the OIC/NCOIC will report these times and distances to the TOC in a preestablished format. If movement of the battalion coincides with movement of the brigade, the quartering party OIC/NCOIC establishes contact with the brigade quartering party OIC.

Company Quartering Party

General

In organizing for movement to and occupation of a tactical AA, the company will habitually employ a quartering party composed of an OIC/NCOIC and platoon representatives. The quartering party marks vehicle locations and then sends guides to the RP to await the arrival of the main body to lead their vehicles to their respective locations. If there is sufficient time, the quartering party may simply reconnoiter the new AA and mark vehicle and unit locations before returning to the company's current position. In this case, the quartering party would return to the AA ahead of the company to secure the area and provide guides for the company's occupation.

Considerations for the company quartering party are similar to those for the battalion quartering party, except as noted below.

Planning

Intelligence

The company commander will conduct a map reconnaissance of the company's tentative AA to determine the characteristics of the area with respect to OCOKA. He will also receive information from the battalion S2 concerning the potential air and ground threat to the quartering party during its movement to and occupation of the AA. This assessment will assist the company commander in determining the required degree and type of security and the best method of transportation for the quartering party. The company commander will also obtain information about the route assigned to the company for its movement to the AA from the S2 and map reconnaissance. The company commander makes the S2 aware of any information he needs to begin tactical planning for his company.

Maneuver

The quartering party will typically move to the AA by infiltration with the rest of the battalion's quartering party. Using the same route that the main body will later use allows the quartering party to conduct a route reconnaissance and to make a time-distance check for the company's road march. Composition of the quartering party will normally include an OIC/NCOIC and platoon representatives. Guides are routinely included for all quartering party elements. The XO, 1SG, or a senior platoon leader is usually selected as the quartering party leader.

Composition of platoon quartering parties is usually determined by company TSOP. Each platoon usually sends one combat vehicle with a crew that includes an experienced NCO who can evaluate the platoon area and coordinate any changes with the company quartering party OIC/NCOIC. A combat trains representative may sometimes be included.

Depending on the time and distance to be traveled, the quartering party may need to stop for maintenance checks, rest, and fuel. The OIC/NCOIC must determine the quartering party's requirements for these and plan for temporary halts. Selected halt points should provide cover and concealment; shade; dry, firm ground conditions; and easy access to and from the route. Ideally, they should also be easy to identify from the route of march.

Fire Support

The battalion FSO will provide copies of appropriate target lists and FS overlays to the company FIST. If the company is moving without accompanying FS personnel, the company commander will coordinate these targets through the battalion S3.

Combat Service Support

During his planning, the OIC/NCOIC will determine the support requirements for the quartering party. His estimation of supply requirements must take into account distance to travel, length of time spent away from the main body, number of personnel and vehicles, and materials to mark vehicle positions. He will report these estimates to the battalion quartering party OIC. If the quartering party will move alone and will need to refuel during movement, he determines where the fuel stop will take place. Under limited visibility, he may consider flashlights, night vision devices, or chemical light sticks in addition to other needs. If the quartering party will travel alone over extended distances or if area CSS support is difficult to obtain, he must anticipate the need for fuel, maintenance, and medical support. If included, these additional vehicles will require fuel and maintenance support. If support for the quartering party will be obtained on an as-needed basis through area support, the OIC/NCOIC must ensure that he has the required signal information and VINSON coding for communication with supporting units.

Command and Control

The OIC/NCOIC commands the quartering party. Quartering party subelement leaders report to him. He exercises C2 through personal contact, adherence to known TSOPs, timely and thorough troop-leading procedures, and FM voice radio. He reports directly to the company commander. If the TSOP or seniority does not clearly establish a 2IC, he will appoint one. The quartering party may move under radio listening silence or other emission restrictive posture, especially during movement to tactical AAs.

Preparation

Intelligence

For movement to tactical AAs, the company commander will ensure that the quartering party OIC/NCOIC is aware of the most current enemy situation, probable enemy courses of action which may affect the AA or route, and the expected weather and light conditions during the quartering party's movement. This information will cover the route to be traveled by the quartering party and the AA itself.

Fire Support

The company quartering party OIC/NCOIC will be given all applicable target lists and FS overlays for the movement to and occupation of the AA by the battalion quartering party OIC. Elements of the company FIST will not usually accompany the unit's quartering party. If moving alone without FS personnel, the company commander will ensure that the quartering party has appropriate FS target lists/overlays, signal information, and VINSON fills to initiate tails for fire.

Execution

Maneuver

After arrival at the AA, the quartering party will clear the route and move to a covered and concealed position within the tentative AA. Platoon representatives move to their respective tentative areas identified during the map reconnaissance, execute their reconnaissance, determine locations for

their vehicles, and coordinate final positions and changes with the company quartering party OIC/NCOIC. After positions are finalized and the main body march units are near the RP, unit guides move to the RP and await the arrival of their units.

Command and Control

During movement with the battalion quartering party, the company quartering party is attached to the battalion quartering party.

Occupation of the Assembly Area

Units occupy AAs through the occupation actions of their subordinate units and the positioning of headquarters, CSS, and C2 assets. Units position themselves in AAs in accordance with their parent unit's tentative plan and whatever changes may have been coordinated to it. Units are typically guided into position by their quartering parties. Occupation procedures must be accomplished smoothly from the line of march without halting or bunching of units at the RP.

Units will usually establish mutes and separate SPs/RPs for march elements that proceed from the march column's route or RP toward the march units' AA positions. This technique clears the mute quickly, maintains march unit C2, and prevents bunching of units at the march column RP. March units may follow a similar procedure (see Figure 2-8).

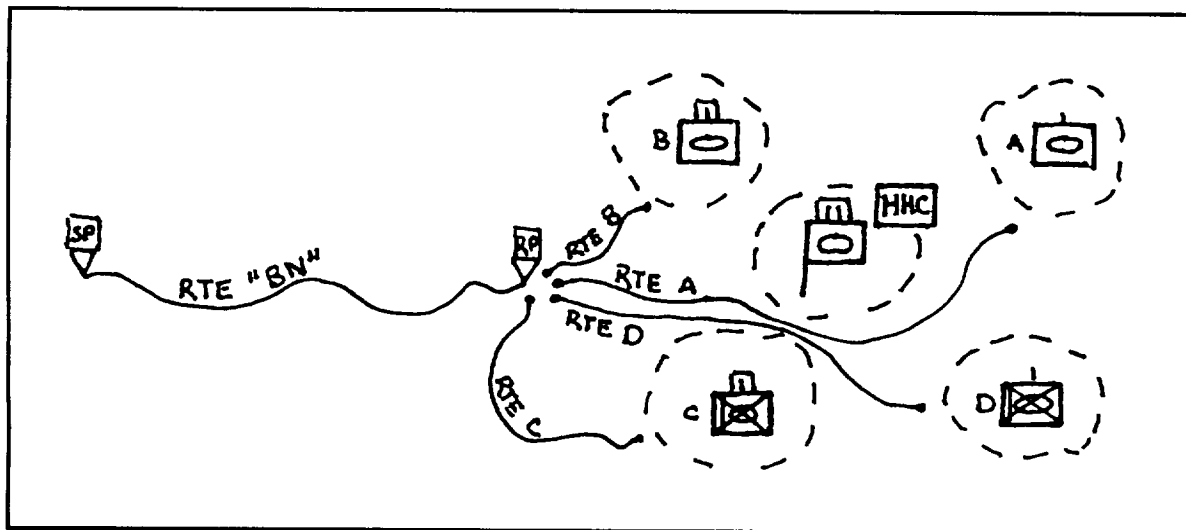


Figure 2-8 Control measures for occupation of an assembly area.

Brigade Occupation

Planning

Intelligence

The brigade S2 assists in the planning of the AA occupation by identifying enemy avenues of air and ground approach into the new AA and the degree and type of rear area threat to the brigade in its new location. He will also identify places in the AA where mobility may be poor due to drainage, vegetation, or slope. He will identify places in the AA where concealment is very good and also where it is poor. This information assists the commander/S3 in deciding what tentative locations to assign to brigade subunits based on those units' self-defense capability, size, mobility, and future missions. The S2 will also identify the security requirements for the brigade and begin planning the locations for emplacing GSRs and other sensor systems, if available. In coordination with the S3, he will make preliminary plans for reconnaissance and surveillance tasks to be assigned to subunits in the brigade.

Maneuver

The commander/S3 begins planning for AA occupation by choosing a method for occupation (whole brigade AA or separate subunit AAs) and tentative subunit locations based on METT-T. Special attention must be paid to the present locations and condition of units, which may influence their order of march to the AA, and to the anticipated future missions of units, which will influence their placement within the new AA. The ability of the brigade to move from the new AA and execute its assigned or anticipated future mission is the overriding consideration in planning. The S3 coordinates with the S2 to obtain the S2's recommendations concerning the brigade's reconnaissance and surveillance taskings. The FSB commander and/or the brigade S4 will recommend the location of the FSB/BSA to the commander/S3. The commander/S3 must consider the advice of the commanders/staff of subunits in selecting AA tentative locations. To be able to operate in the AA and later, certain subunits may have to meet specific positioning requirements, such as being close to water for decontamination or mess units or on hardstand for DS maintenance.

The commander must decide whether or not he wishes to conduct a personal reconnaissance of the AA prior to the brigade's occupation. A personal reconnaissance is clearly superior to map reconnaissance. However, based on his estimate of the situation the commander may choose to allow the brigade's quartering parties and the subunits' quartering/reconnaissance parties to execute this reconnaissance and base his unit positioning decisions on their input.

Based on METT-T, the commander/S3 may develop contingency plans which address the possibility of significant enemy contact in the AA. This contact may result from an enemy breakthrough of forward units, enemy commitment of OMGs, or enemy Level III incursions into the rear area. Depending on time available and the likelihood of enemy contact these contingency plans may be developed in great detail. These plans will typically include FS plans and alternate AAs or rally points if the brigade is forced out of its initial AA. Such contingency plans are coordinated with higher and adjacent units.

The results of all reconnaissance and the final coordinated subunit locations are consolidated at the brigade main CP, where the commander makes his decision. The commander expands his decision into an outline plan and the staff prepares and issues the brigade movement/OPORD.

Fire Support

FS for the occupation of the AA mirrors the planning and coordination done by the brigade FSO/FSE in support of the brigade quartering party. FS requirements are balanced against assets available from units already positioned near the new AA and the brigade's higher headquarters. Support shortfalls between requirements and availability are coordinated with either higher or adjacent units. Support may be available from supporting artillery units positioned with the brigade. FS planning must cover fires needed by subunits patrolling near the AA, fires on mounted and dismounted avenues of approach, fires on potential LZs/DZs near the AA, and fires to support the initial movement of the brigade away from the AA. FS planning will also include support for brigade contingency plans in case of enemy ground contact.

Mobility, Countermobility, and Survivability

The type and extent of engineer support required in the AA will depend on the anticipated length of stay, type and degree of enemy threat to the brigade, terrain in the AA, and the follow-on mission of the brigade. Unlike MCS support during movement of the brigade or support for the quartering party, which is typically provided on an area support basis by engineer units in the rear area, all MCS tasks in the AA are the responsibility of the brigade.

Based on the S2's analysis of the terrain in the AA and the enemy situation, the brigade engineer will begin planning for the possible employment of MCS support. If the anticipated requirements for engineer support exceed the capabilities of the engineer assets currently in support of the brigade, he will coordinate with the next higher headquarters for additional support.

AAs are selected to provide adequate ground mobility to all the elements in the brigade. Mobility support will rarely be necessary in administrative AAs. However, in some instances the construction of combat trails or the temporary emplacement of AVLBS may be required inside tactical AAs to support vehicle movement.

Countermobility operations are not conducted in support of administrative AAs except when an enemy maneuver unit actually threatens the brigade. In tactical AAs, countermobility operations are typically too

time- and material-intensive to be used practically. Moreover, the tactical situation will rarely require the emplacement of engineer obstacles to ensure the security of the brigade. In instances where the rear area threat is extremely high or enemy penetration of forward units is possible, the brigade engineer may plan for the employment of GEMSS or FASCAM along ground avenues of approach.

Survivability support is impractical in AAs. It takes too much time and effort and prevents the engineer unit involved from preparing for future operations. Employment of survivability support may be justified under active nuclear conditions on the integrated battlefield.

Air Defense

Air defense units will plan for the occupation of administrative AAs as any other unit since they will not usually be actively involved in the air defense of the brigade.

Air defense planning for the tactical AA focuses on the selection of firing positions for SHORAD assets that will allow the engagement of enemy aircraft along identified air avenues of approach. Depending on the commander's stated priority of protection, assets available, and brigade task organization, air defense units may locate with supported brigade subunits or in separate locations under brigade control. The ADA unit commander must consider the arrival sequence and future missions of ADA elements when recommending SHORAD locations in and/or around the AA. These locations and the coverage of air avenues provided by the SHORAD assets located there are coordinated with units adjacent to the new AA.

Combat Service Support

The FSB commander and the brigade S4 will recommend locations for the FSB/BSA. The HHC commander will plan the occupation of the HHC brigade support elements after the tentative main CP location is identified. The locations of all CSS support elements are based on the rear area threat, proximity to designated higher headquarters' MSRs, and the ability of the unit to provide the required support from that location.

Command and Control

Tentative locations for brigade C2 facilities will be determined from map reconnaissance by the OICs of TAC, rear, and main CPs based on METT-T. The overriding consideration for the selection of these locations will be the ability of the various CPs to communicate higher, lower, and laterally. Exact locations will be determined by the quartering party responsible for the CP involved after a ground reconnaissance. Ideally, this reconnaissance would include a communications check to precisely fix the site. Establishment of the main CP in the new AA should occur early in the occupation so subunit CPs can locate based on their requirement to communicate with the brigade TOC. Early establishment of the main CP also allows for timely initiation and continuation of tactical planning. It minimizes the need for extensive FM communications from units already in place to the main CP, which otherwise might still be moving some distance to the rear of the AA.

Liaison with units already in position near the new AA should be initiated well in advance of the brigade's arrival. Brigade LOS should be dispatched to the main CP of brigade-size units prior to the dispatch of the quartering party. These LOS can collect and report vital information concerning terrain in the area, enemy activity, and stationary unit locations and intentions. They can also coordinate CS and CSS for the brigade, including signal information.

Preparation

Intelligence

The brigade S2 will ensure that the reconnaissance and surveillance tasks which will be assigned to brigade subunits are included in the brigade WO, OPORD, or movement order. If intelligence assets will be employed in the AA under brigade control, the S2 will brief the appropriate intelligence unit leader concerning location, orientation, movement, PIR, reporting procedures, and friendly units adjacent to the proposed location. This information will also be reflected in the brigade OPORD or movement order.

Maneuver

The brigade prepares to occupy the AA by ensuring that each subordinate unit understands where it will be positioned in the AA, what security tasks the unit is responsible for in the AA, and how it is to move to

the AA. The best technique to employ to check these items is the backbrief. This backbrief must also include CS and CSS unit commanders. The backbrief may be followed by a brief, informal war-gaming of contingency plans. The brigade HHC commander will also backbrief his occupation plan to the brigade commander/S3.

Fire Support

The FS plan is disseminated with the brigade OPORD or movement order. Any specific FS requirements associated with brigade contingency plans will be war gamed simultaneously with the contingency plan. The brigade FSO will ensure that each subunit FSO fully understands the FS plan, including FS coordinating measures and procedures to obtain FS from outside the brigade.

Mobility, Countermobility, and Survivability

The brigade engineer will ensure that required engineer support is available or on hand within the brigade. He will also ensure that the planned arrival of engineer units at the AA based on the brigade movement plan will provide sufficient support as it becomes necessary. Identified engineer tasks are assigned to one or more engineer units and these tasks are backbriefed/rehearsed. In cases where a key engineer action must be integrated with the movement of another unit, the two units should conduct a joint backbrief/rehearsal. An example of such a key action would be emplacement of an AVLB across a creek that must be crossed by a company team to occupy its AA. The rehearsal would include moving the AVLB forward from its position near the center of the column, guiding it into position, laying the bridge, and subsequently positioning the launcher near the bridge site.

Air Defense

The air defense unit commander will confirm the selected SHORAD tiring positions in and around the AA with the brigade commander/S3 through the backbrief process. He will ensure that the planned arrival of ADA units at the AA based on the brigade movement plan provides for complete coverage of the brigade in accordance with the commander's priorities of protection. The ADA unit commander will in turn conduct his own troop-leading procedures and issue an OPORD to his subordinate leaders. He will ensure that his ADA positions and coverage of air avenues of approach into the AA are coordinated with units already positioned near the AA.

Combat Service Support

The FSB commander and his staff will execute troopleading procedures and prepare to occupy the FSB/BSA AA like other subunits of the brigade. They will backbrief the brigade commander/S3. If the BSA will be formed by the incorporation of the subordinate unit field trains after the arrival of the brigade, the FSB commander may coordinate for a backbrief and rehearsal with battalion CSS representatives to review this portion of the operation. The FSB commander must ensure that the phased arrival of FSB/BSA elements in the AA allows for the most rapid reestablishment of support possible.

Command and Control

Brigade CP representatives in the quartering party will finalize the exact locations for the rear, main, and TAC CPs. Under conditions of limited visibility or if final locations differ significantly from those identified during map reconnaissance, the senior CP representative will ensure that guides are posted near the RP to be used by the CP elements. Ideally, CP vehicle locations will be marked. This marking is typically specified in unit SOP. The senior CP representative may execute a backbrief/rehearsal with these guides.

Execution

Intelligence

Intelligence collection agencies that will operate in support of the brigade move rapidly from the RP to their designated positions and establish local security and camouflage, as needed. Intelligence collection agencies initiate operations in accordance with the collection plan. The S2 may initially remain in his CP vehicle to monitor and control the beginning portion of the collection effort. After intelligence operations have begun, he personally visits each site to ensure that the positioning, orientation, and operations of each element give maximum support to the brigade. If subordinate units in the brigade have been tasked with reconnaissance and surveillance missions in support of the collection plan, the S2 will ensure their operations support the brigade collection plan.

Maneuver

Brigade HHC and CP elements will clear the RP quickly and move to their designated positions. Guides will meet their respective elements at or near the RP and take them to their positions. Vehicles will move into the best cover and concealment in the area if their positions are not individually marked. Once their vehicles are in position, crewmen conduct appropriate maintenance checks, establish local security, and camouflage vehicles, as necessary. Simultaneously, the CPs provide C2 for the conclusion of the brigade's movement to and occupation of the AA. Brigade HHC support elements will move to locations near the main CP and organize themselves to provide needed CSS support to the brigade CPs.

Fire Support

Artillery units in support of the brigade move to and occupy AA positions like any other unit. Artillery units occupy assigned positions and prepare to support brigade contingency plans. They will occupy dispersed firing positions and establish FS communications nets. Although these artillery units are normally DS to the brigade, they may be tasked by the force artillery headquarters to fire in support of other units or rear battle contingency plans on an as-needed basis. Such arrangements will be specified in the artillery organization for combat portion of the higher headquarters OPORD. In this case, the artillery may locate away from the brigade or prepare firing positions away from the brigade for on-order occupation.

Mobility, Countermobility, and Survivability

Engineer units occupy AAs like any other unit. Engineer units may be required to perform mobility tasks in support of the occupation of other units in the tactical AA. Such support may include emplacement of AVLBs, the cutting of combat trails, or the destruction of minor obstacles. Generally, only those tasks which can be accomplished quickly from the march will be executed in support of other units' occupation. Tasks requiring more time or elaborate preparation must be completed prior to occupation by area support engineers or after occupation of the area by engineer units in support of the brigade. The brigade engineer may conduct a personal reconnaissance of engineer obstacle and FASCAM sites which support brigade contingency plans. This reconnaissance may be done with the brigade FSO, who will confirm FA targeting for the obstacle sites.

Air Defense

SHORAD units in support of the brigade will move rapidly from the RP to their designated positions and establish local security and camouflage, as necessary. They will monitor the command and ADA early warning nets. Once positions are established and communications are checked, ADA elements will defend the brigade from air attack in accordance with the WCS, engagement criteria, and the brigade commander's priorities of protection. These air defense units will also simultaneously prepare for the next mission.

Combat Service Support

CSS units occupy AAs like any other unit. The FSB/BSA will move from the RP in multiple march units and occupy positions established by their quartering parties. The FSB/BSA will provide its own local security. As CSS units arrive, they are incorporated into whatever security plan has been designated by the FSB commander and prepare to support the brigade. Because the brigade's subunits will be concentrating on maintenance and replenishment tasks which are too difficult or time-consuming to perform during combat operations, the initial demand for CSS will be quite high. The CSS elements in the BSA/FSB must anticipate this and not become so involved in security actions or encumbered with wire communications and camouflage netting that they are unresponsive to unit needs.

Command and Control

Once brigade CP elements have parked in their positions, the brigade will proceed with communications checks with higher, lower, and adjacent units. Communications checks on FS nets are also made. Once FM radio communications checks are complete, the brigade should minimize radio traffic. Radio communications on AM voice and PCM to division may also be established and checked. Generally, PCM communications will not be established unless the brigade will remain in the AA for approximately 12 to 24 hours or more. MSE will eventually replace PCM. MSE will negate the requirement to establish PCM communications because MSE provides constant communications without the setup time associated with PCM. Wire communications are seldom established at brigade level. Messengers and LOS from subordinate units to the brigade CPs may be employed. The use of messengers and LOs is usually established by unit SOP.

Under unusual circumstances, FM RETRANS may be necessary within the AA between the brigade and its subordinate units. If required, the brigade CESO and the signal platoon leader will establish the RETRANS site.

Battalion Occupation

Planning

Planning for the battalion's occupation of the AA is similar to that done at brigade level except for the following.

Intelligence

The battalion S2 takes similar actions to the brigade S2 to support planning for the occupation of the battalion AA. Additionally, the S2 will also identify security requirements for the battalion and begin formulating the battalion R&S plan for the AA. In coordination with the S3, he will begin preliminary plans for the assignment of patrolling and surveillance tasks to subordinate units, including the battalion scout platoon.

Combat Service Support

CSS positioning is recommended by the S4. The combat trains are typically positioned near the battalion TOC to allow wire communications between them. HHC support elements position themselves in relation to the battalion TOC and the mortar platoon. The battalion scout platoon is usually too far from the TOC to influence the position of the HHC support elements.

Preparation

Battalion preparation for occupation of the brigade AA mirrors the brigade's preparation except for CSS. The battalion S4 will confirm the locations for the battalion trains during the backbrief/rehearsal. Exact locations will be established by the CSS representative in the battalion quartering party. With echeloned trains, the exact positions for the battalion field trains will be determined by CSS representatives who accompany the FSB's quartering party. These quartering party representatives will ensure that guides are dispatched to the RP to assist their elements' movement to their positions. If the battalion is operating with echeloned trains or will form echeloned trains after arrival in the AA, the S4 will ensure that the battalion field trains movement and positioning in the BSA is coordinated with the FSB commander. The S4 must ensure that the area selected for the trains provides adequate cover and concealment to protect the trains and sufficient mobility to allow for the rapid movement of resupply vehicles in and out of the position.

Execution

The battalion's execution of occupation actions is similar to the brigade's except for the following.

Maneuver

The scout platoon, if not already positioned after serving as the battalion reconnaissance party, clears the RP and moves rapidly to its OP positions and begins operations in accordance with the battalion R&S plan.

Fire Support

The battalion heavy mortar platoon will clear the RP and move rapidly under the instructions of its guide to tiring positions. At these positions, the mortar platoon will orient on the battalion's most dangerous or likely contingency and begin laying the mortars while simultaneously establishing local security and camouflage as required. The mortar platoon will establish communications with the battalion TOC/FSO and lay wire to all guns.

Combat Service Support

When operating with echeloned trains, the battalion field trains move and occupy their positions in the BSA under the control of the FSB commander.

Command and control. The combat trains CP and the TOC will habitually establish wire communications between themselves. FM RETRANS will rarely be necessary in the battalion AA because of its fairly small

size. However, if required due to terrain masking or unusually great dispersion, the battalion CESO and communications platoon leader will set up and check the RETRANS site.

Company Occupation

Planning

Planning considerations for the company's occupation of the AA are similar to those of the battalion except for the following.

Intelligence

Based on information gained through map reconnaissance and from the S2, the company commander will determine the tentative platoon locations. His decisions are based on the platoons' weapons characteristics, mobility, and future missions. The commander will also assign security missions to the platoons, such as infantry patrols, PEWS emplacement, or OPs/LPs. He must also begin planning for any reconnaissance and surveillance tasks assigned to the company by the battalion.

Maneuver

The commander begins planning for occupation of the AA by analyzing the future mission of the company, enemy threat, terrain, and task organization of the company. Using the results of this analysis, a method of organizing the company AA will be selected. The ability of the company to move smoothly into the new AA and to execute its assigned anticipated future mission are the overriding considerations in AA planning.

Air Defense

Air defense units are virtually never assigned to the company. Rather, company units receive protection through incidental coverage and the battalion commander's priority of protection, which usually includes maneuver companies in the assets to be protected.

Preparation

The preparation of the company for occupation of the AA mirrors the preparation of the battalion except for the following.

Combat Service Support

The ISG must ensure that the area selected for the trains provides adequate cover and concealment to protect the trains and sufficient mobility to allow for the rapid movement of resupply vehicles in and out of the position. The ISG will confirm the locations of battalion LRPs with unit CSS personnel, including platoon sergeants.

Command and Control

The platoon representatives in the quartering party will select locations for the commander's and XO's vehicles and the FISTV if they will be located within their platoon position.

Execution

The execution of the company's occupation of the AA is similar to the battalion's except for the following.

Intelligence

If available, PEWS are emplaced and activated and LPs/OPs are manned. The company will initiate reconnaissance and surveillance tasks in accordance with the R&S plan, observing its sector of responsibility and reporting PIR as they are collected. The company will maintain absolute noise and light discipline.

Fire Support

The FISTV with the FIST team chief will move rapidly from the RP into its designated position. The FIST chief will ensure that he can overwatch the most dangerous or likely enemy avenue of approach from his primary position. He will also ensure that he can observe the FS targets for which his supported company is responsible from either his primary or alternate position. He will make FS communications checks.

Actions in the Assembly Area

All actions in the AA are focused on preparing the unit for future operations. Actions most commonly associated with AA activities include resupply, personnel replacement, maintenance, reorganization, rest, and planning future operations.

Administrative actions are initiated in the AA. These actions may include formalizing the reallocation of key personnel, promotions, legal actions, postal activities, and processing recommendations for awards and decorations. Religious services, especially memorial services for deceased personnel, are also conducted.

Maintenance activities will concentrate on deadline faults and those that degrade the equipment's ability to shoot, move, and communicate. Special attention should be paid to those maintenance tasks which are too time-consuming or difficult to perform during combat operations. Scheduled services may be executed. When time is short, critical repair and BDAR repair techniques may be employed.

Resupply actions are conducted in the AA to replenish items used in previous operations, assemble stocks for future operations, and replace damaged/contaminated supplies as required. When a unit moves into an AA after combat operations, it will require resupply of almost all classes, especially Classes III, V, VIII, and IX. When the unit moves to an AA prior to combat, Class III may be the only item which requires resupply. In this case, Class III resupply may be provided short of the AA during the road march or after closing the AA. Refueling during the move to the AA is easier and faster than refueling after arrival in the AA. Specific procedures for refueling are in Chapter 8, *Combat Service Support* and Appendix A, *Movement*.

The matrix in Table 2-1 indicates where specific CSS information may be found in Chapter 8.

Table 2-1. Location of combat service support information.

	BRIGADE	BATTALION	COMPANY
CSS Planning	8-5 to 8-6	8-18 to 8-21	8-41 to 8-43
Maintenance	8-7	8-32 to 8-36	8-49 to 8-50
Repair Parts	8-7	8-31	8-44
Medical Opns	8-8	8-38 to 8-40	8-48 & 8-49
Personnel Svcs	8-9 to 8-11	8-37 to 8-40	—
Wpns System Replacement	8-11 to 8-12	8-41	—
Resupply CL V	8-13 to 8-15	8-22 to 8-25 8-30	8-44 to 8-48
Resupply CLIII	8-13 to 8-15	8-22 to 8-25 8-29 & 8-30	8-43 to 8-48
LOGPAC Opns	—	8-22 to 8-25	8-42, 8-44 to 8-47
Field Svcs	—	8-36 to 8-37	—
Trains Opns	—	8-27 & 8-28 8-21 & 8-22	8-43

NOTE: Entries in the above table are page numbers in Chapter 8, *Combat Service Support*. Brigade entries are from Section I; battalion entries, from Section II; and company entries, from Section III.

Planning and preparing for future operations are conducted simultaneously with maintenance and administrative activities. Planning includes development and issuance of combat orders and coordination with higher, lower, and adjacent units. Preparation habitually includes backbriefs and rehearsals. Preparation may also include individual or small unit training and weapons zeroing and calibration. Training will be required if the unit is issued new or modified equipment while in the AA. Small unit training will be necessary if large numbers of replacement personnel are introduced into the unit, especially when significant numbers of key leaders are replaced. Such training will probably center on mastering drills and SOPs used by the unit. If the unit has just left combat, AARs are conducted to verify or refine unit SOPs. AARs may also capture, record, and disseminate hard-learned lessons from combat in an effort to institutionalize successful techniques throughout the command.

Throughout unit AA procedures, the XO performs an absolutely vital role in preparing the unit for combat. As the 2IC of the unit and chief of staff, he serves as a link between the commander and staff, ensuring that orders, requests, and priorities of the commander are acted on promptly and completely. Together with the primary staff and the CSM, he aggressively reduces bottlenecks and expedites actions in the AA. His unique position as 2IC and chief of staff makes him the focal point of operational planning and preparation for combat. The XO's specific duties and responsibilities are determined by the commander. A review of his CSS responsibilities is in Chapter 8. His other staff responsibilities are addressed in Chapter 1, *Command, Control, and Communication*.

Brigade Actions in the Assembly Area

Planning

Intelligence

Planning for intelligence actions in the AA begins with the S2's identification of the information requirements of the brigade. This needed information may be grouped into two categories: information needed to provide security for the command while in the AA, and information required to initiate staff planning and troop-leading procedures for the brigade's next mission.

The S2 will gather and update all needed information throughout the brigade's deployment. However, some information may only be available or obtainable after the unit arrives in the AA. To obtain this information, the S2 will develop a collection plan to be implemented after the occupation of the AA. This plan will incorporate intelligence assets which are retained under brigade control, liaison with adjacent units, information from higher and lower units, and reconnaissance and surveillance tasks assigned to subordinate units. In operations where friendly units are already in contact with the enemy near the brigade's area of interest, the brigade S2 may coordinate the inclusion of his PIR in the collection plan of the units in contact.

Maneuver

The brigade commander must prioritize the actions to be taken by subordinate units in the AA and allocate scarce resources to accomplish those tasks. Only resources which are limited are prioritized by the commander. The commander assigns priorities based on his estimate of the situation, which is summed up in the factors of METT-T. Since occupation of the AA is done in preparation for future combat, the commander's METT-T analysis must consider not only the current and projected status of the unit but also the anticipated combat mission of the brigade.

The commander will receive reports and information concerning the status of various elements of the brigade from subunit commanders and his own staff. This input assists him in determining what must be done to preserve and enhance the combat power of the brigade. His assessment of the brigade's mission points out how much and what types of combat power are required for the successful accomplishment of the brigade's mission. After completing this assessment of the difference between the brigade's present combat power and the combat power required to accomplish the brigade's future mission, the commander can begin to allocate resources within the brigade. Time as a resource is usually very limited and therefore often dictates which actions are possible and which are impossible to accomplish between occupation of the AA and the commitment of the brigade to combat. The commander must understand that most CSS decisions and assigned priorities have little immediate impact on the brigade's status. Rather, the impact of CSS decisions

is felt some 8 to 10 hours later. The commander considers what the brigade needs now as well as what the brigade will need tomorrow. With these considerations in mind, the commander decides what will be done, when, and in what priority. His decision will typically embrace all types of CSS activity, reconnaissance and security operations, subunit combat preparations, and administrative activities. These decisions by the commander become the outline plan for actions in the AA.

Once he has decided which actions will be accomplished, the commander must determine how these actions will be checked and expedited. Most subunit actions will be subjected to informal inspections by the commander of that unit. However, the brigade commander may choose to inspect those areas or units of particular concern to him. Alternatively, he may designate one or more staff members to check actions within their area of expertise.

These informal checks serve several purposes. First, they obviously allow the brigade commander personally, or through his staff, to check to ensure that actions are being taken in accordance with his decisions and applicable SOPs or standards. Also, they allow the brigade commander the opportunity to physically determine the readiness of the brigade from a subjective view point. The brigade commander's knowledge of and experience with soldiers allows him to accurately assess the intangible elements of combat power, such as cohesion, morale, and esprit, that are not reflected in formatted reports and briefings. This process of checking also enables the commander to exercise personal leadership, something which he cannot easily or normally do when the brigade is in combat and dispersed over a wide area. Personal leadership here means showing the flag, talking with soldiers, and demonstrating a sincere and lasting concern for the welfare of the men under his command. The presence of the commander and his staff at the site where AA activities are taking place allows them to take positive action to expedite actions and fix problems.

The commander and his staff must also anticipate the need to conduct personal reconnaissance for the brigade's next mission after the occupation of the AA. Initial guidance concerning the restrictions on leaders' reconnaissance parties may be included in the higher headquarters WO to the brigade. If such guidance is not contained in the warning order, the brigade will determine what restrictions, if any, exist by coordination with units currently operating in the area the brigade wishes to reconnoiter. The control of staff reconnaissance efforts and the systematic collection of the information gained through reconnaissance will usually be specified in unit SOPs. Based on these restrictions and applicable unit SOPs the brigade staff and commander will develop a reconnaissance plan.

The summation of what will be done and how it will be checked is incorporated into the brigade order, which moves the unit into the new AA. Decisions concerning the reconnaissance effort by the commander and staff will be briefed informally to the staff.

The brigade commander/S3 must also develop ground combat contingency plans for the brigade based on the S2's estimate of the likelihood of significant enemy contact in the AA. Depending on the time available for planning, resources available, and the relative threat to the brigade, these plans may be developed in great detail. Contingency plans typically include FS and alternate AAs or rally point if the brigade or one of its subordinate units are forced out of the initial AA. Special attention must be given to the defense of vital CSS and CS assets which are difficult to replace. While in the AA, the brigade may be assigned a role in the higher headquarters rear area defense plan. The brigade's role may, for example, include dismounted infantry airmobile operations or the commitment of battalion- or company-size maneuver forces. If the brigade has rear area missions assigned to it by its higher headquarters, brigade contingency planning must fully support such missions. All contingency plans are incorporated in the brigade's OPORD or movement order.

Fire Support

FS units located with the brigade may be called on to support brigade contingency plans or to support another unit's rear battle contingency plan. The requirement to support another unit's rear battle plan will be directed by the force artillery headquarters and included in the division or corps FS annex. The required FS planning and coordination will be done by FS personnel from the other supported unit. The FA supporting the brigade must plan to occupy firing positions in the brigade AA to support the other unit's FS plan.

FA with the brigade will initially plan to support the brigade's contingency plans. After coordination with the commander/S3 and FSCoord, the brigade FSO will develop an FS plan to provide close support to the brigade for all contingency plans. FS targeting will concentrate on mounted/dismounted avenues of approach

and LZs/DZs near the AA. Fires may also be planned to support the brigade's next movement away from the AA. FS plans should be developed early to allow all FS agencies time to prepare and rehearse their portions. The FSO's approved FS plan is incorporated in the brigade OPORD or movement order. In top-down FS planning, this brigade FS plan becomes the basis for all subordinate unit FS planning. During the planning phase, the brigade FSCOORD/FSO also acts as focal point for subordinate unit requests for changes, additions, and deletions from the brigade FS plan. The FSCOORD/FSO receives requests, consolidates them, eliminates conflicts between them, approves or denies targets based on guidance and authority of the brigade commander, and refers other targets to the brigade S3/commander for decision. The FSCOORD informs requesting units of the results of this staff action; any changes to the brigade FS plan are transmitted to all subordinate units.

Mobility, Countermobility, and Survivability

After they accomplish those tasks directly related to mobility support of the actual occupation of the AA, it is unlikely that the subunits of the brigade will require MCS support. Instead, the focus of MCS planning is on support of brigade contingency operations. The brigade engineer will coordinate with the commander/S3 to determine the type and quantity of support required to support the various brigade contingency plans. Shortfalls between requirements and assets on hand will be turned into requests for additional support from the brigade's higher headquarters.

The majority of MCS tasks in support of brigade contingencies will be countermobility. Obstacles will rarely be emplaced before an actual threat to the brigade materializes. This is because the physical emplacement of obstacles is time- and material-intensive. Moreover, while an engineer unit is emplacing an obstacle system, it cannot effectively prepare for the next mission of the brigade. The typical obstacle plan for the AA includes dynamic obstacles such as GEMSS, VOLCANO, or FASCAM.

If the brigade will use GEMSS in support of contingency plans, the engineer unit commander will be briefed by the brigade engineer, who will outline the requirements for support. Coordination will also be made with the unit which will overwatch and/or call for the obstacle to be emplaced. The brigade engineer must ensure that the engineer unit's position in the AA allows rapid movement of the GEMSS vehicles to the obstacle sites. Use of FASCAM will be coordinated with the brigade FSO, the FA unit commander, and the unit which will call for and overwatch the obstacle. The result of all this coordination and planning will be included in the brigade OPORD or movement order.

Air Defense

Air defense planning for actions in the AA is identical to air defense planning during occupation of the AA. The only planning the air defense unit commander needs to accomplish is matting to known or expected changes in the task organization of the ADA assets or in the commander's priority of protection. In either case, the air defense commander plans to redistribute air defense assets to achieve coverage of the brigade in accordance with the commander's priority of protection.

Combat Service Support

CSS operations in the AA are critical to sustaining the combat power of the brigade. CSS planning is centered around the commander's decision concerning which CSS actions will be accomplished in the AA and the relative priority/sequencing of those actions. The commander's decision is based primarily on the information and recommendations provided to him by the S4. The S4 communicates the commander's decision to the FSB commander who will execute the CSS actions dictated by that decision. The FSB commander's planning to execute the brigade commander's support concept is the heart of brigade CSS planning in the AA. The S4 continues to update the brigade and FSB commanders throughout the staff planning process. His staff coordination brings together the needs of the brigade and the resources of the FSB. The staff coordination, reporting, and support decisions are all reflected in the brigade OPORD or movement order.

Command and Control

C2 actions in the AA consist of the initiation/continuation of staff planning and troop-leading procedures focused on the brigade's next mission. The brigade commander and staff must simultaneously conclude the brigade's assembly at its new location and develop coordinated plans and orders for the execution of the brigade's next mission.

Preparation

Intelligence

The ultimate action of the S2 in the AA is the production and dissemination of intelligence products to support the brigade's next mission. After initiating the collection plan developed during his initial planning, he will begin work on the future operation's situation and event templates. Information from his collection plan as well as templates supplied from higher headquarters are combined to produce usable intelligence products for the brigade. Most of these intermediate products, as well as the decision support template, will be constantly refined and updated. All intelligence changes, refinements, and updates are passed to units higher, lower, and adjacent. As these products are refined, the S2 must reevaluate his collection plan and the commander's PIR for the next mission. In many cases, the collection plan will need to be altered to focus on changed PIRs as the intelligence process continues to confirm or deny enemy courses of action. Simultaneously, the brigade S2 must continue to monitor the security of the brigade and enemy events in the local area.

Maneuver

Actions to be taken in the AA are either identified in the brigade order, orally briefed to subordinate leaders, or left as implied tasks for subordinate units to accomplish. Under unusual circumstances, the brigade commander may wish to rehearse these actions. More commonly, he may conduct a talk-through with subunit commanders. These actions will probably include brigade-specific contingency plans and whatever higher headquarters rear battle responsibilities the brigade may have.

If the commander elects to conduct personal or leaders' reconnaissance, arrangements are finalized for transportation, communications, and establishing contact with units already in the reconnaissance area. Such arrangements are usually coordinated by the brigade XO. Before departing the brigade AA, the commander briefs the XO on his itinerary, personnel who will accompany him, actions to be completed during his absence, and actions to be taken if he does not return.

The staff may be tasked to assist the commander in performing informal checks on actions executed in the AA. If so, the brigade XO coordinates and controls the flow of staff members in and out of the CPs to ensure that staff planning and coordination are not impaired.

Fire support

FS preparation for actions in the AA parallels the FS preparation for occupation of the AA. The FSO may participate in reconnaissance of FASCAM target locations and FA targets on other obstacle locations with the brigade engineer or engineer unit commander. Firing batteries may rehearse movement to alternate firing positions, particularly those in support of brigade and rear battle contingency plans. The FSO/FSCoord will conduct liaison with other FS agencies adjacent to the AA to exchange FS and signal information. Targets are typically established as known points through multiple polar plots of target locations from GLDs or FISTVs. In rare cases, targets may be registered with live ammunition. If FPFs are allocated, they are registered unless the tactical situation dictates otherwise. Illumination targets will be registered and adjusted. The FSO will receive and maintain subordinate battalion mortar platoon targeting information.

Mobility, Countermobility, and Survivability

Engineer units in the AA will prepare to execute MCS tasks assigned by the brigade commander. Nearly all engineer work will be associated with brigade contingencies. Engineer tasks not associated with contingency missions will be prioritized by the brigade engineer in accordance with the brigade commander's guidance and intent. These noncontingency tasks will be done as engineer assets become available. Engineer support of contingency missions will typically be rehearsed with the unit which will control the placement of and provide overwatch for the obstacle. Engineer units will practice movement to obstacle work sites in all conditions of visibility and MOPP to determine appropriate timings for inclusion in the commander's decision support template. Signal coordination with supported units involved in brigade contingencies will be made. Engineers routinely accomplish reconnaissance of obstacle sites with the brigade FSO.

Air Defense

Air defense preparation for actions in the AA mirrors actions accomplished by ADA units for the occupation of the AA. Air defense units continuously monitor their assigned sectors of responsibility. The air defense unit leader must pay special attention to potential crew inattention caused by boredom by rotating

crews or platoons as frequently as the tactical situation allows. Constant communications are maintained with the higher headquarters ADA unit and the brigade CPs. In any case, the ADA unit commander must ensure the brigade is protected in accordance with the commander's priorities of protection and that SHORAD elements are allotted enough time to prepare for the next mission.

Combat Service Support

The brigade S4 will continue to monitor subunit status and update the commander with significant changes as they occur. The S4 will coordinate with subunit S4s and the FSB commander to ensure that all parties understand the support concept and that all sustainment tasks identified by the brigade commander can be accomplished. FSB units will take all actions necessary to establish required points for supply point distribution to brigade subunit field trains. If throughput supply is required, the FSB will coordinate the movement, pickup/dropoff, and return of the supply convoys from higher headquarters.

Command and Control

The brigade XO will ensure that the appropriate staff officers are available for staff planning in spite of other demands on their time in the AA. Communications with higher, lower, and adjacent units will be maintained. Contingency plans are reviewed and changed, if necessary, as subunits and brigade staff members conduct reconnaissance of contingency areas and rehearse contingency plans. All changes and accompanying graphic control measures are provided to all units. Contact and coordination points are established between units.

Execution

Intelligence

Intelligence units continue to execute their portion of the brigade collection plan. All intelligence information assembled by the S2 from his own collection plan and from subordinate, higher, and adjacent units is analyzed and evaluated. Pertinent intelligence information is transmitted to higher, lower, and adjacent units. Once the decision support template is disseminated, the S2 continues to update and refine the template. Simultaneously, the S2 will begin the IPB process for areas beyond the brigade's current area of interest based on his own intuition and whatever guidance he may receive from the commander/S3. The S2 will continue to monitor the intelligence activities of brigade units, especially those of intelligence assets under brigade control. All intelligence units execute actions in preparation for the next mission.

Maneuver

On order, the brigade may execute its own contingency plans or its portion of the contingency plans of higher headquarters. This execution is the same as for any other similar mission. After execution of such contingency missions, the brigade resumes preparation for its next mission as quickly as possible. Any changes to the brigade's plans dictated by the result of the execution of the contingency mission are incorporated into the current plan, briefed, and rehearsed, as required. In extraordinary circumstances, the brigade may receive a mission change from its higher headquarters after the completion of a contingency mission. In this case, the brigade will begin staff planning and troop-leading procedure for its new mission immediately.

If the brigade commander has elected to conduct a personal or leaders' reconnaissance, he will brief the brigade XO. This briefing will include estimated departure and return times, who is going to accompany the commander, reconnaissance itinerary, how to contact the commander, what to accomplish while the commander is absent, and what actions to take if the commander does not return by a specified time. The commander will maintain communications with the brigade if possible and establish contact with units he passes through or stops at. After his return, he shares his observations with the staff and issues any additional guidance based on the results of his reconnaissance. This information and guidance is included in the brigade plans, and any changes to the current plan are communicated to the brigade's subunits.

The staff and commander visit units and make informal checks on the progress of the brigade toward preparing for the next mission. Immediate action is taken to expedite the preparation of units consistent with the commander's priorities and intent.

Fire Support

FA units of the brigade fire as requested in support of the brigade. After firing, units may need to reposition to escape counterbattery fires. The brigade S3 must anticipate this requirement and establish alternate AAs for FA units or initially assign them a large enough area that batteries may be repositioned without moving the unit AA. The commander may consider changing ammunition resupply priorities for the FA if it has expended a significant number of rounds on contingency missions. All FS units execute actions to prepare for the next mission.

Mobility, Countermobility, and Survivability

Engineer units in the brigade execute MCS missions in support of brigade contingencies on order. After execution of such missions, the commander should consider placing the engineer units in a higher priority for resupply. If engineer units are not called on to support contingency operations, they will continue to execute MCS missions in the AA while simultaneously preparing for the next mission.

Air Defense

Air defense units continue to cover assigned sectors of responsibility to provide air defense protection coverage to the brigade in accordance with the commander's priority of protection. If air defense units engage targets, the commander may consider increasing the priority of resupply for the air defense assets. In any case, air defense units continue to prepare for the next mission.

Combat Service Support

The FSB will execute the coordinated resupply, maintenance, and medical plan developed by the brigade. The brigade S4 will monitor the status of brigade units and the actions of the FSB to ensure the commander's decisions are being implemented and expedited. As problems or slowdowns arise that he cannot overcome, the S4 alerts the commander and makes appropriate recommendations concerning unit and activity priorities. The S1 monitors the status of personnel fill and evacuation within the brigade. He exercises staff supervision over personnel and administrative actions. Personnel problems that he cannot overcome are brought to the attention of the commander with the S1's recommendations. The brigade XO supervises both the S1 and S4 in the execution of their responsibilities.

Although CSS units and personnel will be pushed to the limit to meet the requirements of the brigade, they must be allocated enough time to prepare themselves for the next mission. Logistics vehicles will require maintenance, and support personnel will need rest.

Command and Control

The brigade commander and staff execute staff planning and troop-leading procedures to prepare the brigade for its next mission and to produce and disseminate a feasible, coherent tactical plan which will accomplish the brigade's mission within the framework of the higher commander's intent. Communications and liaison with higher, tower, and adjacent units are maintained. Additional planning and coordination for contingency plans may be conducted. Brigade CP elements are afforded time and resources to prepare for the next mission.

Battalion Actions in the Assembly Area**General**

The general considerations for battalion actions in the AA are similar to those at brigade level.

Planning

Planning for battalion actions in the AA is identical to brigade planning except for the following.

Fire Support

Usually, the FA with the brigade will initially plan to support brigade and battalion contingency plans. After coordination with the commander/S3 and the brigade FSO, the battalion FSO will review the battalion's

support requirements and compare them with the brigade FS plan. He will also review all company team requests for additional FS. The FSO consolidates these requests, eliminates duplication, and fills what requests he can. Target requests he cannot fulfill are passed to the battalion commander/S3 for decision. The FSO will request any additional targets needed by the battalion through the brigade FSO. FA fires may be augmented by mortar fires. If requested FA targets are denied, mortars may be assigned these targets in lieu of FA within the limits of the mortars' range. Illumination missions are typically planned for mortar firing because of the 4.2-inch mortar's superior illumination capability. The FSO keeps the commander and S3 informed of the status of all aspects of the brigade FS plan, especially changes resulting from their requests or the requests of other units in the brigade.

Combat Service Support

The commander's decisions concerning CSS actions in the AA are based primarily on the information and recommendations provided to him by the S4. The S4 then coordinates with the HHC commander in the field trains and the BMO in the combat trains to execute the CSS actions dictated by that decision. The S4's planning and coordination to execute the battalion commander's support concept is the heart of battalion CSS planning in the AA. The S4 continues to update the battalion commander and staff throughout the planning process. His staff coordination brings together the needs of the battalion with the resources of the battalion trains and the FSB.

Preparation

The battalion's preparation for actions in the AA mirror those of the brigade except for the following.

Fire Support

The FSO may participate in reconnaissance of FASCAM target locations and FA targets on other obstacle locations with the battalion's engineer unit commander. The battalion heavy mortar platoon may rehearse movement to alternate firing positions, particularly those in support of battalion contingency plans.

Combat Service Support

The S4 will continue to monitor subunit statuses and update the commander with significant changes as they occur. The S4 will coordinate with subunits to ensure all parties understand the support concept and that all sustainment tasks identified by the battalion commander can be accomplished. HHC will take all actions necessary to establish required points for supply point distribution to battalion subunits. If throughput supply is required, the S4/support platoon leader will coordinate the movement, pickup/dropoff, and return of the supply convoys with the field trains.

Execution

The battalion's execution of actions in the AA is identical to that of the brigade except for FS. FA fires and mortar fires are requested as needed by battalion units. Mortar fires are executed as for any other mission. The commander may consider changing ammunition resupply priorities for the mortar platoon if they have expended a significant number of rounds on contingency missions.

Company Actions in the Assembly Area

Planning

Company planning for actions in the AA mirrors planning at battalion level except for intelligence. The company commander's information requirements are passed to the battalion S2, who consolidates all requests and incorporates them into the battalion R&S plan and staff coordination with other units. This plan provides a degree of security to the company since it is designed to enhance the security of the battalion through systematic surveillance. The R&S plan may require the company to perform certain reconnaissance or surveillance tasks. Even if not tasked to do so by the R&S plan, the company habitually employs LPs/OPs for local security.

Preparation

Company preparation for actions in the AA is similar to battalion preparation except for intelligence. The company may be tasked to execute R&S tasks within the battalion R&S plan. The company commander briefs the company's portion of the R&S plan to the unit. In some cases, he may wish to rehearse the unit in some collection tasks, especially if they involve enemy contact. He will also direct platoons to establish local security. Platoons will usually backbrief their security plans.

Execution

The company's execution of actions in the AA is similar to the battalion's execution except for the following.

Combat service support

The XO, 1SG, and platoon leaders will execute the coordinated resupply, maintenance, and administrative support plan developed by the commander. The XO and 1SG will monitor the status of the platoons and the actions of the CSS assets supporting the company to ensure the commander's decisions are being implemented and expedited. As problems or slowdowns arise that cannot be overcome, the XO or 1SG alerts the commander and makes appropriate recommendations concerning unit and activity priorities. The 1SG monitors the status of personnel actions within the company. He coordinates personnel and administrative actions with the S1 and PSNCO. Problems in personnel actions which the 1SG cannot remedy are brought to the attention of the commander together with the 1SG's recommendations.

Command and control

The company commander will execute troop-leading procedures to prepare the unit for its next mission and to produce and disseminate a feasible, coherent tactical plan which will accomplish the company's mission within the framework of the battalion commander's intent.

Precombat Inspections

A PCI is conducted by a unit commander or leader to determine the force's readiness to execute its assigned tactical missions. These inspections may be formal or informal and may be announced or unannounced. Formal inspections are always announced. All leaders and commanders make some type of PCI of their unit.

Formal PCIs are the meticulous inspection by the commander of all areas within the unit. Formal inspections consume an extraordinary amount of time and preclude working inspections since troops are standing down waiting to be inspected after all combat preparations are complete. Units in combat will rarely have the luxury of time required for a formal precombat inspection. During these preparations, tank commanders, squad leaders, platoon leaders, and platoon sergeants will routinely make the same exacting, rigorous inspections of their men and equipment that would be repeated by the commander. Therefore, formal PCIs are seldom conducted during combat operations, including during AA occupation.

Informal PCIs are the commander's inspection of particular areas, activities, or units of special interest or concern to him. The informal PCI resembles a series of deliberate spot checks of key items. The areas inspected and the method and depth of the inspection may vary from unit to unit or even from vehicle to vehicle at the commander's discretion. The commander's experience, in-depth knowledge of his unit and its equipment and estimation of the current status of the subelements under his command will dictate the particular details of the inspection. For example, the commander may spend more time and look in greater depth at units newly task organized into his command or units whose officer replacements are new to combat. Units which experience habitual shortcomings will deserve more of his time. He may designate one or more staff members or the XO to check certain items. At company level, the commander may use the XO, 1SG, or master gunner for this purpose.

The informal PCI serves several purposes. First, it allows the commander to ensure either personally, or through his subordinates, that actions are being taken in accordance with his decisions and applicable TSOPs or standards. Also, it allows the commander to physically determine the readiness

of the unit from a subjective viewpoint. The commander's personal knowledge and experience with soldiers allows him to accurately assess the intangible elements of combat power such as cohesion, morale, and esprit that are not reflected in formatted reports and briefings. This process of checking also enables the commander to exercise personal leadership, something he cannot easily or normally do when the unit is in combat and dispersed over a wide area. Personal leadership here means showing the flag, talking with soldiers, demonstrating a sincere and lasting concern for the welfare of the men under his command, and infusing his confidence and spirit into the unit. Finally, in the informal PCI, the commander and his staff or other subordinates are physically at the site where AA activities are taking place—it is a working inspection. This allows them to take positive action to expedite actions, fix problems, and set standards as the need arises, not after the fact.

To be most efficient and effective, PCIs must be planned. Planning the PCI does not imply formal inspections or rigid adherence to schedules. PCI planning is the summation of the commander's estimate and decision concerning what will be checked, who will check it, when it will be checked, and in what sequence it will be checked.

Generally, the PCI will cover those points that could mean the difference between mission success or failure and those points that serve as indicators of maintenance, readiness, or morale trends within the unit. Ideally, given enough time, everything in the unit would be checked. However, with the general scarcity of time in combat and the other competing demands on leaders' time during combat preparation, the commander must prioritize what will be checked.

The number and competence of subordinate leaders or staff members available to assist the commander in his inspections also influence what will be checked. Obviously, with more individuals to do the checking, more can be checked. Lacking sufficient time and without the same level of expertise in certain technical matters as subordinates or staff members, the commander will habitually delegate some checks to his subordinates. Such delegation ensures adequate coverage of key items and aligns the experts with their specialties. It also frees the commander to devote his time to inspecting vital areas, to spend more time with soldiers, to become more fully involved in mop-leading procedures, or to conduct personal reconnaissance and coordination. The delegation and execution of PCI tasks must not interfere with troop-leading procedures by removing too many subordinate leaders and staff members from tactical planning. Brigade and battalion commanders should avoid allowing subordinate leaders from trailing behind them in ever-growing numbers during the inspection, as is common in peacetime.

When, and in what sequence specific items will be checked, is keyed to both what is being checked and who is checking. The sequence and duration of AA activities is typically known to the command. Ideally, subordinate units should be inspected when they are relatively inactive or stationary. For example, an inspection of company B which coincides with the company's Level III rehearsal may not yield the results the battalion commander desires. On the other hand, some inspections are oriented on activities, not units. For example, if the battalion S4 wants to ensure that the battalion maintenance platoon is providing adequate support to the mechanized infantry company, he must arrive for his spot check while the maintenance platoon is working with the unit. However, when time is truly short, leaders and staff members must inspect as the opportunity arises, even if it is not the best time to do so. The execution of combat preparations must never be delayed or artificially sequenced to fit the PCI time planning. The surest way to avoid this is to make all PCIs unannounced.

Brigade Precombat Inspection

The brigade commander is limited in his ability to inspect the brigade due to lack of time and lack of detailed technical knowledge concerning all units and activities within the brigade. Time is probably the most limiting aspect of these restrictions. The physical dispersion of the units within the brigade magnifies the criticality of time since movement between units consumes much of what little time is available to the commander. The brigade commander must overcome these limitations by prioritizing his inspections and making full use of his staff.

In prioritizing what to inspect, the brigade commander focuses on units, not equipment. The brigade staff may be assigned inspection of units or activities within their respective areas of expertise. The brigade XO, as 2IC, may assist the commander in inspecting units, but he will probably be required to devote his entire

efforts to staff coordination and planning, especially when time is scarce. In selecting units for his own inspection, the brigade commander is guided by his knowledge of the brigade's units, judgment, experience, and time available. He may invest more time and effort in those units whose combat performance is key to the upcoming operation or those which will constitute the brigade's main effort.

Although the brigade commander can inspect anything in the brigade that he wants to, his visits to the battalion TOCs will probably be his most useful and illuminating inspections. At the TOC, the brigade commander can observe the battalion's staff planning and coordination and speak with staff members. His impression of the efficiency, cohesion, and competence of the staff is probably indicative of the battalion as a whole. This is because the planning and preparation for tactical operations is a clear predictor of battlefield success. Moreover, a visit to the TOC allows the brigade commander to determine whether or not his instructions, intent, and priorities are being carried out. To and from the battalion TOC, the commander should make a sincere effort to meet and talk with soldiers. This too is an inspection; together with his impression of the TOC, it allows the commander to assess the battalion's intangible elements of combat power.

Battalion Precombat Inspection

Like the brigade commander, the battalion commander is restricted in what he can inspect. However, the battalion commander has less travel time between units and has fewer different types of units and equipment to contend with. The battalion commander has a distinct advantage in that most companies in the battalion are usually those assigned to his battalion. The constant relationship between the battalion commander and the companies and platoons under his command allows him to make more rapid assessments of unit strengths and weaknesses. This more detailed knowledge, coupled with his constant personal contact with officers and enlisted soldiers, permits the battalion commander to quickly determine what to inspect. Like the brigade commander, he frequently delegates inspection tasks to his staff, XO, or SGM.

The battalion commander's inspection is a balance between units, equipment, and men. He inspects the companies and platoons under his command by inspecting personnel and equipment and observing AA activities, including rehearsals. The battalion commander physically spot checks selected equipment and vehicles in the battalion. Because soldiers are directly connected to these pieces of equipment and vehicles, this is also a personnel inspection. Like the brigade commander, the battalion commander concentrates on those units and officers that warrant the time and effort invested. The battalion commander should attempt to inspect each company and special platoon in the battalion, including attachments. The battalion commander must also inspect his combat vehicle. The battalion commander should make a special effort to inspect, visit, and rehearse with the company he will maneuver with in combat.

Company Precombat Inspection

Ideally, the company commander inspects every vehicle, major weapon system, and soldier in his unit, including attachments and CS assets that will maneuver with the company. His inspection is as thorough and painstaking as time allows. Lack of time may force the commander to inspect fewer items than he would like. The XO, ISG, and master gunner may assist the commander in checking those items which he does not have the time to adequately inspect himself. Subordinate leaders will also inspect their areas of responsibility. However, no matter what other inspections take place or who conducts them, the commander will still inspect each vehicle and soldier in the unit. Regardless of time available, his inspection must be a hands-on physical inspection. A cursory troop-the-line cheerleading approach to this inspection is totally unsatisfactory: it will neither set the proper tone nor adequately prepare the unit for the experience of combat. The commander's intimate knowledge of the men and individual vehicles and equipment under his command allows him to zero in on specific leaders and pieces of equipment whose strengths and weaknesses he knows in detail.

The company commander should inspect by platoons, one vehicle at a time, with the platoon leader. He inspects his own, the XO's, and the ISG's vehicles. He may inspect a certain item on each vehicle, such as boresight or fluid levels, and/or he may vary inspected items and check two or three items from each category of drivetrain, track/suspension weapons, communications, and NBC. The commander must also inspect individual equipment and weapons. Deficiencies are corrected immediately.

The commander must set and enforce the standards of the company. The commander employs every leadership tool at his disposal to encourage and invigorate the spirit, morale, and confidence of the men under his command. Without the company commander's personal direction and leadership, the standards of performance and professionalism would otherwise be set by inexperienced junior officers.

Assembly Area Security

Security comprises measures taken by a military unit to protect itself against surprise, observation, detection, interference, espionage, sabotage, or annoyance which may impair its effectiveness. It is also the condition that exists from establishment and effective maintenance of these measures. Security enhances freedom of action by reducing friendly vulnerability to hostile acts, interference, or surprise. Security is essential to the protection and conservation of combat power. Security may be achieved through the establishment and maintenance of protective measures or through deception operations designed to confuse and dissipate enemy attempts to interfere with the force being secured. Effective security prevents the enemy from gaining an unexpected advantage over friendly forces.

Forces in administrative AAs are provided a degree of security through their distance from the line of contact and having other friendly units between them and the enemy. Host nation security forces and COMMZ rear battle contingency plans may also provide protection or security to the force. Air defense is provided by US and host nation HIMAD assets positioned in the COMMZ and corps rear as well as SHORAD/HIMAD coverage of air avenues of approach closer to the line of contact. Units occupying administrative AAs conduct physical security activities such as guarding supplies and equipment and controlling access to unit areas. Units in administrative AAs do not routinely employ other security measures such as OPs/LPs, patrols, radar surveillance, or active employment of unit air defense assets. However, if the rear area threat is Level II or III, the unit may be required to employ these additional security measures. Levels of rear area threat are discussed in Appendix D, *Rear Operations*.

Forces in tactical AAs are provided a degree of security by their separation from the line of contact and by the presence of other units between them and the enemy. In corps and division rear areas, security may be provided through rear battle contingency plans. If the AA is well forward, security may be provided through the proximity to other combat or CS units. Air defense of units in tactical AAs is provided by SHORAD ADA assets allocated to the force and through incidental coverage provided by adjacent SHORAD assets. Depending on the location of the AA, HIMAD air defense assets located in the corps rear or forward in the division area may provide additional air defense protection. In keeping with their mission and the tactical situation, units in tactical AAs employ active security measures, including reconnaissance and patrolling, visual and electronic surveillance of ground and air avenues of approach, and establishment of OPs/LPs. Units in tactical AAs must be prepared to defend themselves against ground and air attacks.

Regardless of the security that may be provided by other units or agencies, the commander takes whatever actions or precautions he deems necessary to secure his command.

Brigade Assembly Area Security

Security for the brigade, in addition to the general provisions noted above, is provided by the positioning of subordinate units, OPSEC, and the effective execution of the brigade R&S plan.

Combat battalions are ideally positioned to provide them observation or interdiction of major routes and avenues of approach into the brigade area. Positioning of these units with respect to one another should allow them to tie in their fires, observation, and patrolling with one another. When some routes or avenues of approach cannot be observed from battalion AAs, the battalions maintain surveillance of these areas through electronic means, patrolling, positioning of battalion scout platoons, or outposting of subordinate companies. The brigade develops an FS plan which targets routes and avenues into the AA and key terrain which may offer enemy units observation or fires into the AA.

OPSEC includes active and passive measures which attempt to deny the enemy information about friendly forces. Units within the brigade practice noise and light discipline, employ effective camouflage, and eliminate or reduce radio traffic. Other electronic transmissions such as jammers and radar are also restricted.

Units may construct and employ unidirectional antennas. Movement of civilians and refugees near AAs is strictly controlled to prevent enemy sympathizers or covert agents from obtaining information about the brigade. Unit markings and uniform patches may be removed in some cases to retain unit anonymity. Unit rehearsals are conducted in areas which are not subject to enemy observation if possible. Extensive movements and resupply are conducted under limited visibility when possible. OPSEC measures may be varied because of higher headquarters deception efforts. For example, noise and light discipline may be deliberately violated and false radio transmissions broadcast indiscriminately to act as a display of a different unit at that location.

The brigade R&S plan directs the employment of intelligence collection assets under brigade control and assigns intelligence and security tasks to subordinate units. The brigade prepares an R&S plan in support of AA occupation. Whatever intelligence assets remain under brigade control will be assigned intelligence collection tasks.

Battalion Assembly Area Security

Security for the battalion is achieved in much the same way as for the brigade—through the positioning of subordinate units, OPSEC, and the effective execution of the R&S plan.

The battalion positions companies with respect to avenues of approach and access routes as the brigade positions battalions. Companies tie in their fires, observation, and patrolling with one another. This is much simpler for the battalion because the companies typically occupy a portion of a battalion perimeter and are immediately adjacent to another company. Companies exchange sector sketches, fire plans, and patrolling plans with adjacent units. The battalion scout platoon may be positioned in three ways. It may be placed in a screen astride the most likely or dangerous avenue of approach. It may be required to establish several temporary LPs/OPs and conduct patrols between them to provide a thin screen line which surrounds the entire AA. It may also be positioned to observe an area that cannot be seen by other units within the AA. Companies may also be repositioned to observe these areas. GSRs allocated from brigade may either be retained under battalion control or, more typically, attached to the scout platoon.

The battalion practices the same OPSEC measures as does the brigade. Additionally, the battalion relies heavily on messenger and land-line telephone communications within the AA.

The battalion R&S plan directs the employment of intelligence assets under battalion control and assigns intelligence and security tasks to subordinate units. Companies typically provide security patrols to their front and establish LPs/OPs in accordance with the R&S plan. The battalion scout platoon conducts reconnaissance and security tasks under the R&S plan. Patrols may be established to maintain contact between units when companies occupy separate AAs.

Company Assembly Area Security

Security for the company is achieved through the positioning of subordinate units, OPSEC, and local security measures. The effective execution of the battalion R&S plan also provides a degree of security for the company.

The company positions platoons with respect to avenues of approach and access routes as the battalion positions companies. Platoons prepare sector sketches and range cards which are consolidated at company level. The commander prepares the company's fire plan from the platoon sector sketches. This ties in the platoons' fires. The company and its leftmost and rightmost platoons will tie in their fires and observation with their sister units to the right and left. Companies exchange sector sketches, fire plans, and patrolling plans with adjacent units. It is imperative that the company commander personally verify the information contained on the platoon sketches and range cards. The commander personally inspects and approves or changes the positioning and fields of fire of each combat vehicle, weapon system, and dismounted fighting positions. He may invest more time and effort in those units whose combat performance is key to the upcoming operation or those that will constitute the brigade's main effort.

Platoons will rarely be able to establish LPs/OPs in addition to those directed by the company commander. Company LPs/OPs are typically positioned to observe avenues of approach which cannot be seen by platoons

in the AA. For example, an LP/OP positioned in rugged, heavily wooded terrain to the unit's flank is more likely to provide additional information to the commander than would an LP/OP located in fairly flat, open terrain in front of a platoon. Platoons may employ PEWS to augment LPs/OPs. Patrolling is usually not conducted except as directed by the battalion R&S plan because it detracts from combat preparation. The company practices the same OPSEC measures as does the battalion.

Additionally, the company habitually hot-loops platoons and, typically, the company as well. Radio communications within the company in the AA are avoided.

Departure from the Assembly Area

The planning considerations for occupying the AA are based largely on the anticipated future missions of units. Units are positioned in the AA so they can depart the AA en route to their assigned tactical missions without countermarching or moving through another unit. For example, suppose the battalion staff knows that team A will lead the battalion's movement to the LD. Team A would ideally be positioned near the SP with routes that lead straight to it and without another unit between it and the SP.

Sometimes the future employment of subunits will not be accurately known when the occupation of the AA is planned. In this case, units may be poorly positioned to lead the parent unit to the SP. Rather than sending this unit through other formations or allowing it to maneuver at its own discretion to the SP, the higher headquarters assigns the unit a separate route to the SP which takes it away from and around other units.

Units departing the AA must hit the SP at the correct interval and speed. To achieve this, the SP must be placed sufficiently far from the AA to allow units to maneuver out of their positions and configure themselves for the road march prior to reaching the SP. The SP for a battalion movement should be 2 to 3 km from the AA to permit companies to attain proper speed and interval before crossing it. Ideally, the lead march unit can visually identify the SP from the AA. Establishing correct march order, interval, and speed must be done en route to the SP because units which line up in preparing to move often block the maneuver of other units. Moreover, with only one unit moving at a time, the chance of units intermingling and becoming lost and confused is near zero.

Unit by unit movement from the AA without lining up is extremely difficult, especially under limited visibility and radio listening silence. Contact between departing units is maintained by LOS who return to their parent units to initiate movement at the correct time. At battalion level, the LO comes from the S3 section and uses a utility vehicle for movement to and from the leading battalion on which his parent battalion is keying its movement. At company level, the LO may be either mounted in a company HMMWV or on foot. Ideally, he would come from the platoon which will lead the company and returns to initiate the company's movement.

SECTION II. REHEARSALS

General

A rehearsal is the act or process of practicing an action in preparation for the actual performance of that action. Rehearsing key combat actions allows participants to become familiar with the operation and to translate the relatively dry recitation of the tactical plan into visual impression. This visual impression assists them in orienting themselves to both their environment and to other units during the execution of the operation. Moreover, the repetition of combat tasks during the rehearsal leaves a lasting mental picture of the sequence of key actions within the operation. Rehearsals also provide a forum for subordinate units and leaders to analyze the tactical plan to ascertain its feasibility, common sense, and the adequacy of its C2 measures before it is too late. To be effectively and efficiently employed in combat, rehearsals need to become habitual in training. All units at every level should routinely train and practice a variety of rehearsal techniques. Local SOPs should identify appropriate rehearsal techniques and standards for their execution.

Time is probably the most precious resource available to commanders and units. Rehearsals take time. The time required for rehearsal varies with the complexity of the task to be rehearsed, the type of rehearsal, and the level of participation. For this reason, the emphasis on rehearsals should be at the lowest level possible, using the most thorough technique possible given the time available.

Procedures

Types of Rehearsals

Rehearsals may be classed by the technique employed and by who participates. One convention is to identify techniques with numbers and participation with letters. The following describes use of this convention.

Techniques

Level III. Level III includes full-scale dress rehearsals involving the use of real time mounted and dismounted maneuver over actual or similar terrain. Level III rehearsals are obviously the most resource-intensive and potentially remove key leaders from their units for extended periods of time. Level III rehearsals are desirable but rarely feasible at brigade or battalion level.

Level II. Level II includes scaled rehearsals using selected personnel, usually key leaders, mounted in wheeled or tracked vehicles over similar terrain. Level II rehearsals cover less area and are less resource-intensive than Level III rehearsals. Level II rehearsals are possible at all levels of command but may not cover the entire operation. They would instead focus on just a few key actions such as hasty river crossing or linkup operations. A scale of 100 meters equals 1 kilometer is recommended.

Level I. Level I includes very small-scale rehearsals that do not involve mounted or dismounted maneuver. Examples of Level I rehearsals include map war-gaming, sand table talk-throughs, and local area scale-model walk-throughs. Level I rehearsals may cover the entire operation or may center on key actions. A walk-through scale of 2 meters equals 1 kilometer is recommended. Level I walk-throughs of the entire operation often follow subordinate units' Level II or III rehearsals of critical actions. All levels of command routinely use Level I rehearsals.

Personnel Participation

The following lists the four types of personnel participation at battalion level. Participation at brigade and company levels are similar, but not identical. Table 2-2 shows the combinations of personnel participation at each level of command.

Table 2-2. Personnel participation by rehearsal type.

	TYPE A	TYPE B	TYPE C	TYPE D
COMMANDER	ALL COMMANDS			
XO	ALL COMMANDS		NA	NA
S3	BRIGADE AND BATTALION			
FSO/FIST	ALL COMMANDS			
ALO	BRIGADE AND BATTALION			
SUB-UNIT CDRs	ALL COMMANDS			
PRIMARY STAFF	BDE, BN	NA	NA	NA
SPECIAL STAFF	BDE, BN	NA	NA	NA
SCOUT PLT LDR	BN			NA
MORTAR PLT LDR	BN			NA
SPT PLT LDR	BN	NA	NA	NA
CBT SPT UNIT CDRs	ALL COMMANDS AS REQUIRED			NA

Type A. Type A rehearsals include the commander, S3, S2, FSO/FIST, ALO, XO, primary staff, BMO, subordinate commanders with their FSO/FIST, specialty platoon leaders, and CS unit commanders. Type A rehearsals are not usually conducted at brigade level because the size of the group is too cumbersome for anything other than Level III rehearsals.

Type B. Type B rehearsals include the commander, XO, S3, S2, FSO/FIST, ALO, subordinate commanders with their FSOs/FISTs, mortar and scout platoon leaders, and CS unit commanders.

Type C. Type C rehearsals include the commander, S3, S2, FSO/FIST, ALO, subordinate commanders, mortar and scout platoon leaders, and CS unit commanders, as required by the mission. For example, if the mission involves deliberate breach of a complex obstacle, the engineer unit commander would be present, but the ADA unit commander might not.

Type D. Type D rehearsals include the commander, S3, S2, FSO/FIST, ALO, and subordinate commanders.

Application

Any combination of number/letter codes may be used to tell subordinates which type of rehearsal will be conducted and who will attend. Portions of the operation may receive more detailed rehearsal with more players, while the rehearsal of other portions is less involved. This information may be included in the coordinating instructions portion of the OPORD or briefed orally at the conclusion of the orders briefing. (For example, the order may specify “River crossing rehearsal type II-B, at 1245 hours vicinity TOC. Entire operation rehearsal type I-C walk-through at 1330 hours, vicinity EF 45332345.”) Note that the more general rehearsal comes after the rehearsal and subsequent fine tuning of the critical action of the river crossing. This prioritizes the river crossing in the event that time runs out and allows for the inclusion of whatever changes occur as a result of the river crossing rehearsal.

Although this technique may be used at any level from company to brigade, it is generally not employed at company level. At company level, the number of participants is typically so small that the company commander can often simply tell his subordinates who should be where, when to be there, with what equipment, and with what assignments.

Special Rehearsals

Although the majority of rehearsals planned and conducted by maneuver units are rehearsals of combat actions by subordinate maneuver units, rehearsals of special tasks or special functional groups are sometimes desirable.

Some examples of special rehearsals include command group, TOC shift, decontamination, R&S plan, and engineer reserve demolition target turnover. The decision concerning which special rehearsals to conduct, if any, is the commanders. Special rehearsals may be as formal or informal as necessity dictates and time allows.

Special rehearsals do not fit neatly into the type and level classifications presented above. How extensive the rehearsal should be and who should participate are dependent on time available, task complexity, and unit training. (For example, the TOC shift rehearsal is probably nothing more than a talk-through of key information and actions likely to be executed by the TOC, set against the framework of the S2's event template.) Rehearsing decontamination may be a Level III, full-scale, type A rehearsal on actual terrain when a certain unit must cross a known contaminated area. The battalion S2 may conduct a Level II, type D rehearsal of the patrolling portion of the battalion R&S plan with the scout platoon.

Special rehearsals do not replace other rehearsals. Rather, they augment, supplement, or reinforce other maneuver rehearsals. Special rehearsals can be conducted at any time during the troop-leading procedures, just like any other rehearsal.

Conduct of Rehearsals

Planning

Rehearsal planning consists primarily of decision making concerning what to rehearse, how to rehearse, whom to rehearse, and when to rehearse. These decisions are based on time available, training status of troops, complexity of the operation, and unit familiarity with rehearsal techniques and TSOPs.

Ideally, the entire operation is rehearsed from start to finish. This is seldom possible due to time constraints, nor is it necessary if units are reasonably competent in most battle tasks. Instead, rehearsals focus on selected critical tasks necessary for mission accomplishment. Critical tasks identified by the S3/commander during troop-leading procedures are a good point to start selecting tasks to be rehearsed. The commander/S3 prioritizes these tasks based on criticality, complexity, and relative troop training status. Obviously, tasks that are vital to the mission, very complicated, and with which the troops are totally unfamiliar would receive top priority for rehearsal. If the prioritized list of tasks is very long, the commander/S3 may subjectively eliminate certain lower priority tasks from further consideration for rehearsal. This subjective determination of what to include or exclude is based primarily on time available for rehearsals.

For example, suppose a battalion TF will conduct movement from an AA, forward passage of lines, and a deliberate attack against a dug-in MRC. The battalion commander and S3 may identify the passage of lines, breach of the initial obstacle belt, defeat of the combat security outpost, seizure of the initial company objective, capture of the enemy position, and defeat of the MRR counterattack as critical tasks. Optimally each of these would be rehearsed. However, the commander must prioritize these actions based on time available (for example, eight hours), training status of subordinate units (uniformly good, but have not breached an obstacle in two years), commander's intent (the battalion must be in a position to defeat the MRR counterattack), and task complexity (forward passage of lines at night with 0 percent probability of incapacitation through an allied unit with no clear obstacle plan and guides who cannot speak English). In this example, he might prioritize them in order as: first, passage of lines; second, obstacle breach; and third, defeat of the counterattack. If time remains, he might rehearse other tasks that did not initially receive highest priority.

Although only a small number of tactical events may be actually rehearsed, these rehearsals are generally followed by a Level I rehearsal of the entire operation. This later Level I rehearsal allows participants of the other single task rehearsals to place their rehearsals within the context of the operation as a whole.

The determination of which rehearsal technique to employ to rehearse selected tasks is extremely important. Each level of rehearsal has an associated cost in terms of time and resources. Time is by far the greatest consideration. The rehearsal will take time, as will preparation and multiple iterations. As units are rehearsed in given tasks, they will require several runs to develop proficiency. Coupled with AARs after each run and possible adjustments to the plan, the rehearsal of even the most straightforward combat tasks becomes very time- and resource-intensive. Level I rehearsals are the norm at brigade, while subordinate battalions and companies execute more detailed rehearsals. This is because the units which will actually execute the critical tasks in question are the companies and platoons.

The decisions concerning which tasks to rehearse and which rehearsal technique to use leads to considerations of who should participate. Certain degrees of participation are more appropriate to certain levels of rehearsals than others. Types B and C participation is most appropriate to Level I rehearsals. Type A participation is most commonly associated with Level III rehearsals. Participation should be closely matched to the level of rehearsal to ensure maximum benefit is gained from the rehearsal. Too many idle people watching instead of participating or lack of participation by key personnel detracts from the quality and benefits of the rehearsal.

Rehearsals must be executed at the right time and in the right sequence to maximize their potential value. Ideally, subordinate units should have developed at least a tentative plan prior to their participation in a rehearsal of their higher headquarters operation. Without a tentative plan, feedback on the higher headquarters plan is very limited and the actions rehearsed may not resemble the final plan of the subordinate unit. A rehearsal at brigade and battalion is actually the rehearsal of actions by subordinate units. If the subordinate units do not have a tactical plan, there is very little to rehearse.

Depending on the level of rehearsal conducted, time must be allocated for preparation. A good rule of thumb is to conduct rehearsals along the lines of the one-third/two-thirds rule. Rehearsals should be scheduled for when the subordinate units are prepared to conduct rehearsals of their own. Rehearsal sequencing has two considerations: the crawl-walk-run approach to rehearsals and the nesting of simultaneous complementary tasks. In the crawl-walk-run approach, units conduct less intense, small-scale, or half-speed rehearsals to prepare for subsequent iterations that are closer to full dress rehearsal. Similarly, units may execute Level III rehearsals of small-unit tasks in preparation for a Level I walk rehearsal conducted by their higher headquarters. Nesting of simultaneous

complementary tasks involves breaking down highly complex tasks into subtasks which are rehearsed separately, then later combined into a rehearsal of the entire complex task. For example, a unit with engineer support will execute a deliberate breach of a complex obstacle. With nesting, the maneuver unit might conduct a Level II rehearsal of its assault force and support force while the engineer unit does the same for its breaching force. Later, these three forces would conduct a Level III rehearsal of the entire breaching operation.

All of these various rehearsals must be synchronized to produce the optimum effect on unit execution. Rehearsal requirements at different levels of command must not be so numerous nor so closely spaced together that subordinate units are not afforded time for their rehearsals nor require their commanders to be in two different places at the same time. Movement time between rehearsal sites and available hours of daylight must also be considered.

Rehearsals will typically be confined to a small, select number of combat tasks. The most realistic and demanding rehearsals will be executed at the lowest levels of command. Lack of time will frequently preclude rehearsals at brigade and battalion level, but the brigade or battalion commander may direct subordinate commanders to conduct rehearsals of specific events and to report any modifications to the plan based on rehearsal results.

The commander's decisions concerning rehearsals are included in the OPORD, briefed at the conclusion of the order, and/or included in the WO. Extremely detailed and complicated rehearsal schemes, such as night Level III-A, might require a separate annex within the OPORD.

Preparation

General. Regardless of which method or level of rehearsal is to be conducted, a single person or staff section must be responsible for the manual preparation of the site, supporting overlay, and other materials. Typically, the S3 section at battalion and brigade levels has this responsibility. At company level, the CO or XO will usually be responsible for rehearsal preparation.

Levels II and III. Preparation for Level II and Level III rehearsals consists of selecting a suitable piece of terrain, preparing overlays, and establishing provisions for necessary CSS.

Rehearsal terrain is selected for use based on map and ground reconnaissance. The selected terrain must match as closely as possible the actual terrain found in the AO and be available for the units' use. Usage is not a problem if the terrain is within the unit AO, but coordination will be required for use of terrain outside that assigned to the rehearsing unit. Terrain management is a significant handicap to large-scale, realistic rehearsals, especially in a combat environment. The density of units on the battlefield will make finding adequate pieces of terrain for Level III rehearsals almost impossible for offensive operations. Defensive operations present no obstacle to terrain management since the rehearsing unit is maneuvering within its AO. Obviously, the larger the rehearsing unit and the larger the state of the rehearsal, the more difficult it is to locate and use suitable pieces of terrain. Whatever terrain is finally decided on must simulate as nearly as possible the actual terrain that will be used during the operation. Key elements of similarity should include vegetation, visibility, and prominent terrain features. Optimally, the full-scale rehearsal terrain is the actual AO, but this is possible only for defensive and retrograde operations.

Scaled Level II rehearsals will also require the production of scaled overlays for use by participants. This overlay aligns with a 1:50,000 map but shows scaled-down graphic control measures for use during the rehearsal. Scaled overlays also indicate the rehearsal identity of certain key terrain features. For example, the rehearsal overlay may identify Highway 261 on the map as the Donau River for purposes of the rehearsal. Once a suitable piece of terrain is selected, it may still require minor modification to more accurately portray the actual AO. For example, a shallow cut with an engineer dozer blade may simulate a river, or a pile of empty ammo crates can be a town. Throw a tarp over the crates and they become a hill. Camouflage nets may be used as forests. The difficulty of these additions to the existing terrain is influenced by the scale selected for the rehearsal. The smaller the scale, the easier the adjustments. Selection of terrain features to portray or highlight might be influenced by the visibility conditions which will be present during the operation. For example, if the operation will take place at night, close-in, highly visible terrain features should be portrayed rather than more prominent but more distant features that will not be visible during the operation.

Full-scale Level III rehearsals require CSS and extensive planning to be executed correctly. In many ways, the depth and detail of this planning and CSS coordination will mirror the depth and detail devoted to peacetime FTXs. Depending on the size of the unit rehearsing and the proximity of the rehearsal terrain, units may need to plan and execute tactical road marches to move to the rehearsal site. Coordination must be made for food, water, pyrotechnic devices, and medical support for participants. Illumination devices or chemical lights may be required for night rehearsals. The headquarters conducting the rehearsal will routinely provide these items and make necessary coordination. If participants must supply some item on their own, this will be highlighted in the briefing/annex which explains the rehearsal.

Level I. Level I rehearsals, other than map or terrain sketch talk-throughs, generally require as much preparation time as Level II or Level III rehearsals. This is because the extensive use of field expedient materials and training aids will usually be required to build a reasonable facsimile of the AO on what is really a small piece of fairly uniform terrain. Almost anything can be used to build the terrain model—rocks, brush, empty cans, and crates. The only limiting factors in material selection and construction are time, scale, and imagination. Again, scale has a great deal of impact on the difficulties involved in building the model. Operational graphics may be overlaid on the model using engineer tape, branches, lumber, and so forth. Walk-throughs may be accompanied by painted, color-coded 5-gallon cans to represent other units, both friendly and enemy.

Terrain models. Given sufficient predeployment preparation time, units may assemble sand-table kits containing various materials for the building of small state terrain models. TSC armor vehicle identification kit models or commercially available replicas may be included in these kits. Narrow engineer tape, various sizes and shapes of wooden blocks, spray paint, and sandbags may also be included. Sandbags may be crumpled to simulate vegetation or filled with dirt and rocks to portray terrain features. This kit is typically carried in the TOC, where one individual maintains it and is responsible for the construction of the terrain model. At company level, it might be carried in the combat trains, or a less elaborate version may be carried in the commander's vehicle. In lieu of a kit, the steel side-skirts of the M1, M2, or M3 can be used with colored chalk drawings of terrain features and small-state vehicle models or unit symbols glued to magnets.

Execution

Before rehearsal. Once the personnel specified in the rehearsal instructions are assembled at the rehearsal site, the commander or S3 will brief the participants and afterward lead the rehearsal. This briefing will include the following points.

Introduction. The rehearsal leader will introduce himself and all other key participants as appropriate.

Overview. The rehearsal leader will brief the participants about his briefing topics, what is going to be rehearsed, and in what sequence. He will brief a general time line and a fixed not-later-than ending time. He will explain how, by whom, and when AARs will take place and how changes will be incorporated into the existing plan. He will explain in detail any restrictions such as use of pyrotechnics, light discipline, weapons firing, or radio transmissions. He will ensure that all participants understand whatever safety precautions are in force. Last, he will emphasize what the expected results of the rehearsal are and what standards of task execution will be achieved. He gives subordinate leaders a chance to share the results of tactical planning or rehearsals they may have already conducted. If the subordinate unit recommends a change to the existing plan, the commander/S3 acts on the recommendation prior to beginning the rehearsal.

Orientation. The rehearsal leader orients the participants to the terrain or scale model being used. He ensures scaled overlays are distributed, if appropriate. The rehearsal leader identifies north on the terrain model or scaled terrain. He points out objects and terrain features that represent actual terrain features. For example, he may say, "The large tarp-covered pile of crates at 2 o'clock at about 75 meters represents Hill 624. The red 5-gallon cans near the military crest simulate the three motorized rifle platoon positions located there." He explains whatever graphic control symbols, obstacles, or FS targets are represented. For example: "The 7.62-mm ammunition cans with the white crosses represent coordination points between units. The 120-mm tank gun round bases represent the GEMSS minefield. The crosses of engineer tape spray-painted red are artillery and mortar targets." He will always conclude the orientation with a call for questions.

During rehearsal. After the briefing, the rehearsal begins in accordance with the rehearsal plan briefed by the rehearsal leader. The commander or S3 observes and critiques all portions of the rehearsal. Critiques will

center on meeting the commander's intent and coordination between units. The internal execution of tasks within the rehearsal are frequently left to the judgment and discretion of the subordinate unit commander. Periodic AARs are conducted by leaders at all levels to ensure tasks are rehearsed to acceptable levels of competence and that substandard performance is not reinforced. AARs also provide an opportunity to incorporate lessons learned into the existing plan or into subsequent rehearsals. The rehearsal leader must emphasize integration of FS, events which trigger different contingency actions, and actions on contact. If units in reserve are rehearsed, those units should rehearse all of their most likely contingencies. Rehearsals continue until units are competent or maximum time available is expired. The commander may extend the allocated time but should refrain from shortening it. Succeeding iterations of the rehearsal may employ additional complexity and realism as the commander sees fit.

After rehearsal. At the conclusion of the rehearsal, the commander will reassemble the participants to review the lessons learned during the rehearsal and any modifications to the existing plan. This meeting also allows the commander to issue any last-minute instructions or reminders and to reiterate his intent. Any changes made to the existing plan are incorporated in subordinate unit orders and plans. Such changes are also briefed to any key leader or unit which did not originally participate in the rehearsal.

SECTION III. DECEPTION

General

Deception consists of actions undertaken to mislead enemy forces and cause them to do something counter to their best interests. Deception includes manipulating, distorting, or falsifying information available to the enemy to ensure the security of real friendly plans, operations, and activities. Used correctly, deception is a powerful combat multiplier which causes the enemy to mass forces and fires at indecisive places and times. This creates vulnerabilities elsewhere that can be exploited by friendly units. Consideration of the employment of deception operations is an integral part of tactical planning at all levels of command.

Units may participate in deception operations of a higher headquarters or may conduct their own deception actions. As an actor in a higher headquarters' deception plan, units may be directed to engage in any type of battlefield activity consistent with the deception story. Units acting in the higher headquarters deception story will not usually conduct their own independent deception activities. Independent deception operations are not typically conducted at brigade level and below because these echelons generally lack the resources necessary to support both an effective separate deception action and a real mission simultaneously. However, in some situations, brigade and lower units may plan and execute such deception operations.

These lower echelon deception actions are characterized by the minimum expenditure of resources, limited duration, simplicity, and immediate tactical effect on the enemy's actions. The lower the echelon of command, however, the less resources can be brought to bear on the deception effort and the less effective the deception will be. In all cases, deception operations are coordinated with higher, lower, and adjacent units to ensure that deception actions by one unit will not negate or expose those of another unit. Uncoordinated deception activities can inadvertently reveal actual operations or destroy the effectiveness of elaborate, resource-intensive deception operations of a higher headquarters.

The decision on whether or not to execute deception operations is the commander's, based on his command estimate. When making his estimate, the commander considers the enemy's susceptibility to deception, the existence of an opportunity to deceive, resources and time available for deception, and the cost and risks associated with specific deception actions. The commander will also consider whatever deception plan is being executed by his higher headquarters to ensure his actions are complementary to this effort and not contradictory. Deception operations will not be conducted if they do not directly contribute to the success of the main effort or if they dilute the main effort to the point of placing it in jeopardy by diverting resources to the deception.

Deception Decision Factors

General

Enemy Susceptibility

At brigade and battalion levels, the S2 will make the staff estimate of the enemy's susceptibility to deception based on his knowledge of the enemy intelligence collectors arrayed against the unit. The S2 will also consider the success of past deception operations against the enemy and the nature of the enemy's tactical reaction to that deception. A key consideration is how quickly the enemy reacted to the deception. The success of the deception will rely on the enemy's ability to detect the deception story indicators, coupled with his inability to perceive the real operation the deception is attempting to conceal. Selective counterreconnaissance operations may be required to deny enemy intelligence information concerning real activities.

Deception Opportunity

An opportunity to deceive exists when more than one tactically sound and feasible course of action is open to accomplish the unit's mission. These other courses of action must be apparent to the enemy so they will be incorporated into the enemy's estimate process. This lays the groundwork for weaving a deception story that attempts to portray a course of action that was not adopted as the friendly unit's chosen course of action. For example, a friendly unit will attack using an avenue of approach along its eastern boundary. If an equally viable course of action used an avenue of approach in the center of the unit's zone, the opportunity exists to employ deception to portray this center avenue as the one to be used by the unit.

Resources Available

There is an associated cost in time and resources with any deception operation. The longer, more realistic, and more elaborate the deception, the greater the cost. Tactical deception often requires the diversion of combat power from the main effort. Time is a critical consideration. Sufficient time must be allotted not only to prepare the deception, but also to allow the deception indicators to be observed, reported, and acted on by the enemy unit that is the target of the deception. The lower the target audience, the easier and cheaper it is to deceive; lower echelons have shorter decision cycles and lack the sophisticated multispectral intelligence-gathering capability found at higher echelons of command. Convincing an enemy battalion commander that your attack is coming from the west might involve nothing more than a few rounds of artillery and a smoke screen. Convincing an enemy division commander of the same idea is an entirely different matter.

Cost and Risk

Any expenditure of resources on deception denies the main effort the added combat power it might gain from those same resources. The commander must carefully weigh the resource cost of deception against the surprise and security gained for the main effort. At brigade level and below, the amount and types of resources required to achieve the deception desired can seldom be spared from the main effort. A second risk is that of inadvertently revesting the real operation through the enemy's penetration of the deception story with aggressive reconnaissance. While shorter periods of deception make discovery less likely, the commander still runs the risk of premature disclosure of the main effort. Perhaps the greatest risk in deception operations is they may fail to produce the desired action or inaction on the part of the enemy. A deception operation may be well planned and flawlessly executed, but the enemy commander may stubbornly refuse to be fooled. He may feel the deception to be false, or he may believe the deception to be "real" but see no need to alter his plans to account for it. This failure to produce desired results may be mitigated through contingency planning that anticipates the failure of the deception effort. If the commander decides to deceive the enemy, he must identify the deception objective, the intended audience of the deception, and the deception story.

Deception Objective

The deception objective is the desired outcome of the deception effort. It is typically expressed in terms of enemy action or inaction by a specific enemy unit at a specific time and place. In friendly offensive operations, the objective is typically the commitment of the reserve in an area other than the main effort or the failure to commit the reserve at a decisive time and place. In defensive operations, the objective is usually to force the enemy to commit his second echelon against friendly strength and lure the enemy into a position of disadvantage.

The deception objective is clearly limited by the resources available and the commander's willingness to expend them. Objective must be tempered with capability. For example, suppose the deception objective is to cause the enemy regiment to incorrectly employ its reserve against the brigade's supporting attack. This would probably require the enemy regimental and division commanders to concur that the brigade supporting attack was both the friendly main effort and in danger of overrunning the defending regiment's first defensive echelon. The latter condition would require the brigade supporting attack to destroy a defending enemy battalion. However, it would consume the entire resources of the brigade to destroy one battalion. Obviously, the brigade, if it lacks significant augmentation or combat multipliers, is incapable of achieving this deception objective with a supporting attack. In this case, the brigade commander must opt for a less ambitious deception objective if his deception effort is to succeed.

Brigade and lower deception objectives are frequently limited to causing the enemy to delay or incorrectly identify the friendly main effort or to delay the enemy commander's decisions during the battle by presenting him with an ambiguous tactical situation. The delay thus imposed on enemy action can be decisive in favor of the friendly unit.

Deception Target

Once the commander has selected an achievable deception objective that supports the unit's operation, he consults with the S2 to determine which enemy commander would typically be the decision maker for the objective action or failure to act. This enemy commander then becomes the target audience whom the deception effort is designed to influence.

Enemy commanders receive information during battle much the same way ours would, depending on the echelon of command in question. The S2 will identify the intelligence collectors available to the target audience so that appropriate, observable indicators can be selected for the deception effort. The deception techniques chosen for employment are linked to the collection capabilities of the target audience. Over the brief course of an operation at brigade level or below, the enemy commander likely to be selected as the target audience obtains virtually all of his information through the visual observation and reporting of units in contact. Therefore, deception efforts focus on creating a false visual impression of the battlefield and allowing this false impression to be reported.

Deception Story

The deception story is the sum total of the false information presented to the enemy commander which will lead him to make an erroneous estimate of the situation. The story must portray a believable and tactically feasible intent or capability that aligns with a possible, but not selected, friendly course of action. The deception story must be plausible and capable of causing the enemy to select the course of action reflected in the deception objective.

Because the deception techniques typically employed below division level are visual, the deception story for these echelons of command usually centers around friendly dispositions and current activities. However, any information visually acquired by the enemy may be woven into the deception story.

Deception Tasks

Once the commander has decided to execute deception operations, he assigns deception tasks to subordinate units in accordance with his decisions and estimates of the deception objective, target audience, resources available for deception, and risks involved. Deception tasks include feints, displays, ruses, and demonstrations.

Feints

A feint is a limited objective attack which gains contact with the enemy to give the appearance of the main attack. Feints are the most common deception operation. Feints may vary in size from raids to supporting attacks. Regardless of size, the feint must contribute to the success of the main attack and also deceive the enemy. Not all supporting attacks are feints. A supporting attack is a feint when it is presented to the

enemy as the main attack. Because a feint entails the actual engagement of combat units and the expenditure of other resources, especially FA ammunition, units below division level are generally incapable of conducting a feint which is not the actual supporting attack. Company level units are seldom capable of conducting both an actual attack and a feint. They either attack or feint at the direction of their parent battalion.

Feints may be conducted before, during, or after the main attack. Conducted before the main attack they may cause the enemy to reveal his dispositions and intentions by the movement of his reserves and the firing of primary direct and indirect weapon systems. Information gained from the enemy's reaction is used to focus the main attack against weaknesses created or discovered in enemy dispositions and to provide more precise targeting for FA preparation and counterbattery fires. The timing of feints before the main attack is critical. For example, suppose the deception objective is displacement of the enemy reserve. In this case, the feint must take place well ahead of the main attack to allow the enemy enough time to decide to move the reserve and then to physically move it. However, if the feint is executed too much ahead of the main attack the enemy reserve may crush the feint or gain sufficient time to resume its original positions for use against the main attack.

Feints conducted simultaneously with the main attack cause the enemy to fight in two directions and prevent early identification of the main effort. Ideally, the enemy will perceive the feint as the main attack and employ his reserves and the bulk of his FS assets against it. This dilution of the enemy's combat power against the main attack ensures additional success for the main attack. At the least, a feint conducted during the main attack will delay the enemy's identification of the main attack and the subsequent employment of his reserves until it is too late to seriously damage the main attack.

Feints conducted after the main attack may serve to fix the enemy's uncommitted reserves by creating uncertainty in the mind of the enemy commander as to which attack is truly the main attack. While the enemy waits for additional information, the main attack consolidates and reorganizes on its objectives.

The location of the feint is as important as its timing. The area selected for the feint must be sufficiently far from the area of the main effort that it does not interfere with the main attack. Enemy reaction to the feint must not inadvertently improve his position with respect to the main attack. For example, suppose the deception objective of the feint was to force the shifting of the enemy reserve. If the enemy reserve shifts to counter the feint and positions itself astride the main attack's avenue of approach, the feint fails to support the main attack.

In some situations, the employment of a series of feints is more useful than a single deception event. Recurring feints in one area may establish a pattern of friendly activity that lulls the enemy into underestimating a main attack launched later in the same area. Several small-scale raids against enemy combat security outposts may convince the enemy that the area of increased activity will be the location of the main attack, causing him to redeploy accordingly.

Feints and demonstrations in support of one unit's main attack may be made by another unit after coordination between the two units. These deception actions by the unit already in contact on the LD/LC is especially useful to the unit making the main attack because it does not divert resources from the attacking unit. This support is either directed by the common superior commander or coordinated between the two units.

Displays

A display is a static presentation intended for observation by enemy collection systems, including radar, photography, IR imaging, and the human eye. Displays may be used to simulate weapons and installations, to disguise the characteristic appearance of a military object, to portray the existence of a unit that does not really exist, or to indicate a different type or size of unit than which actually exists at a given battlefield location. Displays are most commonly associated with the deception efforts of echelons above division because of the time and resources required for the construction and maintenance of effective multispectral displays. However, simple displays of limited duration may be used effectively by brigade and lower units. The planning and execution of displays are limited only by the time and resources the commander is willing to expend and by his imagination.

Offense

Vehicle dust and movement, false radio transmissions, and apparent breaches in light discipline may be used behind the LD/LC to give the appearance of units massing for offensive operations in an area away from the main attack's avenue of approach. When used in conjunction with false artillery preparations, increased patrolling activity, or obscuration smoke, such displays are even more effective. Such activity lends additional credibility to a feint or demonstration conducted later in the same area. Units may simulate defensive preparations by hammering pickets into the ground, operating engineer earthmoving equipment, and shoveling sand and dirt.

Defense

Preparation of dummy fighting positions and obstacles, deceptive radio traffic, and rehearsal of false plans may be used to present an erroneous picture of unit dispositions and plans. These deception efforts are especially effective when coupled with good camouflage of actual positions and obstacles, sound radio discipline, selective counterreconnaissance, and careful use of multispectral decoys.

Ruses

A ruse is the deliberate placement of false information into the hands of the enemy. It is simple trickery. Ruses are commonly associated with the operational and strategic levels of war and the employment of "James Bond" covert agents. However, limited opportunities exist for the tactical employment of ruses.

In employing ruses, extreme care must be taken to ensure that actual information is not somehow compromised by the false information provided to the enemy while at the same time appearing to be genuine. The manner in which the false information falls into the enemy's hands must be plausible. Because of their extreme potential for inadvertently revealing actual friendly plans, ruses are always coordinated with the next higher headquarters. Company level units seldom employ ruses.

False information which would require translation by the enemy into its own language, such as an OPOD, is unsuitable as a ruse below division level. The time necessary for forwarding this type of false information up the chain of command, translating it, and transmitting it back down to the enemy unit that obtained the information, precludes any near-term advantage to the friendly unit. The operation the false information was designed to support is over before the enemy can even read it.

Ruses at brigade level and below are probably limited to little more than planting false maps and overlays where the enemy can find them. As pictures of the operation or friendly dispositions, they need no interpretation. In offensive operations, these could be dropped during enemy contact by a reconnaissance or combat patrol. In defensive or retrograde operations, they might be dropped near an abandoned command vehicle.

Demonstrations

A demonstration is a show of force intended to deceive the enemy in an area where a decision is not sought. In most respects, the demonstration is similar to a feint. Unlike a feint, the demonstration avoids enemy contact. Without enemy contact, the demonstration cannot act as a supporting attack and lacks the realism of the feint. Demonstrations are also similar to displays in that they are intended for enemy observation. Unlike displays, demonstrations will employ some actual tactical units.

Demonstrations have two major advantages as deception operations. Units which participate in a demonstration are available for subsequent employment without the degradation of combat power which normally results from contact during a feint. Displays and demonstrations can be used simultaneously to complement one another. Demonstrating units can use decoys, false radio transmissions, and wide lateral dispersion to portray a larger, more heavily supported unit than is actually present.

The realism and effectiveness of demonstrations are proportional to the amount of resources invested in the demonstration. The most effective demonstrations are nearly as resource-intensive as feints. Demonstrations can consume significant resources yet do not contribute directly to the near-term success of the brigade's mission. Therefore, demonstrations are not usually executed at brigade level except as part of a higher headquarters deception plan.

The brigade can effectively employ the demonstration in some circumstances. This is impossible when time and distance factors allow the demonstration force to deceive the enemy for an extended period and the lack of contact with the enemy is realistic. For example, in a brigade movement to contact, the brigade may wish to move with three battalions in column. The brigade commander wishes to deceive the enemy concerning the disposition of the brigade. In this case, the brigade may conduct a demonstration with a reinforced company team on a separate parallel axis to portray two battalions abreast leading the brigade. Until physical enemy contact is made, this demonstration may deceive the enemy as to brigade deployment. In the defense, the brigade may deploy two company teams forward to build false defensive positions to portray either a misleading FEBA trace or a different defensive course of action. These teams would withdraw under cover of darkness or upon contact with enemy units. In the deliberate attack, when enemy units are templated at some distance from the LD, the brigade may maneuver one or more companies along a separate axis from the main effort to portray an attacking battalion.

SECTION IV. RECONNAISSANCE AND SURVEILLANCE

Reconnaissance and surveillance is any mission undertaken to obtain information by visual observation or other detection methods about the activities and resources of an enemy or about the physical characteristics of a particular area. Successful R&S is the collection of timely, accurate information about the enemy and the terrain in the AO; it is essential to mission accomplishment. Without effective R&S, the unit blunders into defending enemy units or is surprised by an attacker. Either situation makes battlefield success unlikely.

Brigade Reconnaissance

Resources

Although the divisional heavy brigade has no dedicated organic reconnaissance unit, many intelligence resources are available to the brigade. The brigade gains most of its intelligence information from reports and information from higher and lower units. The brigade's higher headquarters will pass processed intelligence information of all types to the brigade S2. Some information concerning enemy FS activities and units is passed separately to the brigade FSO. The brigade ALO may receive in-flight reports from CAS mission pilots about enemy activities near the CAS target area, especially enemy ADA. If flying in support of the brigade, Army aviation units will also report intelligence information to the brigade. The subordinate units of the brigade send intelligence to the brigade S2 via the brigade OI net. This information consists of processed spot reports from units in contact. Any brigade subunit may be tasked to perform an R&S mission and report its findings directly to the brigade.

The division's task organization may allocate MI units to the brigade to collect signals intelligence in support of the brigade. If GSRs are part of the MI unit, they are typically suballocated to subordinate maneuver battalions. However, GSRs may sometimes be retained under brigade control. In very rare cases, the MI unit task organization may include interrogation assets, which would allow the brigade to gain information from questioning EPWs.

Tactical air reconnaissance missions may be requested by the brigade. However, these assets will typically be employed by the division or corps well beyond the brigade's area of interest.

If higher headquarters reconnaissance units are operating near the brigade, the brigade may eavesdrop on their nets to collect information. The brigade may also eavesdrop on units in contact with the enemy or those moving through an area to be traversed by the brigade. The brigade may dispatch LOs to these or other units to collect information in addition to their other duties.

In some circumstances, the brigade may be able to coordinate the inclusion of its intelligence requirements with the R&S activities of another unit, such as a unit on the LD/LC which the brigade will pass through to conduct offensive operations.

Prior to commitment to combat, the brigade commander or staff members may conduct a personal reconnaissance of the brigade's AO. Such reconnaissance may include key subordinate leaders.

In some situations, local inhabitants in the area of interest may provide information. Naturally, accuracy, completeness, and reliability of such information may be questionable. Enemy information may be wildly inaccurate or so general as to be useless. Excellent terrain information is frequently available from local residents and is especially useful when maps are out of date or when weather conditions may have influenced soil conditions and mobility.

Procedures

Actions to gain intelligence information in support of the brigade's operations begin with the deployment of the brigade and never stop. Even when the brigade is deployed in an inactive area or positioned in the rear, the S2 constantly obtains, interprets, and disseminates intelligence information. Throughout this process, the S2 essentially answers three questions: "What do I know?"; "What more do I need to know?"; and "How will I find out what I need to know?"

This intelligence activity is reflected in the IPB process. As the S2 follows the IPB process, he assembles information that he does know and identifies pertinent information about the enemy or terrain that he does not know. Known information initially comes primarily from the brigade's higher headquarters. Depending on the courses of action developed by the staff within the context of the operation as a whole.

The determination of which rehearsal technique to employ to rehearse selected tasks is extremely important. Each level of rehearsal has an associated cost in terms of time and resources. Time is by far the greatest consideration. The rehearsal itself takes time, as do preparation and multiple iterations. Units are rehearsed to proficiency in given tasks and the development of proficiency will probably take several iterations observed by the brigade's subunits. The S2 submits this consolidated list to the brigade commander as the recommended PIR for the brigade. The brigade commander may accept, add, change, or delete whatever he wishes from this list. Once it is approved, answering the questions posed by the PIR becomes the focus of the brigade S2's intelligence-gathering activity. However, the S2 will simultaneously continue to gather information in an effort to confirm or deny information in the IPB products he develops. Pertinent missing information not included in the approved PIR list is classed as OIR.

Simply stated, PIR are those missing pieces of information that the commander needs to make coherent, timely decisions during the course of the battle. The selection and structure of PIR are extremely important because the commander needs exactly the right information to make his decisions and the reconnaissance activities of subordinate units are driven largely by PIR. The selected PIR must be absolutely relevant to the brigade's operations and the commander's decisions. The brigade's PIR will also include indicators which support the division's PIR. For example, if the division PIR was, "Will the enemy commit the ITB?" and the ITB was the only enemy unit equipped with T-80 tanks, the brigade version of PIR might include, "Has the enemy used T-80 tanks? If so, where, when, and in what strength?" PIR include the brigade commander's requirements and division PIR indicators; they must be oriented on something that the brigade's subordinate units can actually observe and report. Along these lines, brigade-to-battalion PIR that ask "When and where will the enemy commit the second echelon division?" are absolutely useless. PIR like this one come from passing the buck of the higher PIR directly to the lower echelon without trying to identify observable indicators. Subordinate battalions receiving this sort of PIR have no choice but to ignore them or focus on their own indicators.

The PIR have answered the question: "What more do I need to know?" Now the S2 must determine how best to obtain this information. The S2 compares the information requirements with the capabilities and limitations of the resources available. This comparison assists him in matching collection tasks with an appropriate collector. To do this correctly, the S2 must know what to look for, when to look for it, and where to look for it. Information requirements generally fall into three categories: those the S2 can fill on his own with brigade assets, those which can best be filled by a higher or adjacent unit, and those delegated for collection by the subordinate units of the brigade.

Required information which can be collected by assets under brigade control are translated into orders for those assets. These orders may direct a specific effort or may be couched in more general terms of priorities for collection and reporting. Collection tasks may change over the course of an operation, by phase, for example. If brigade assets must collocate with another unit to execute their mission, the requirements for coordination are also specified in the brigade's orders.

Information selected for collection by another unit is easier to collect based either on relative proximity to where the information will be collected or on availability of suitable equipment with another unit. This needed information is drafted as a request and forwarded to the appropriate unit. For example, information about the location and movements of an enemy unit 20 km beyond the FLOT may be impossible for the brigade to obtain but may be easily collected by the division's MI battalion. Likewise information about enemy units moving against the brigade's flanks is most easily collected by friendly units already positioned to the flank of the brigade.

Brigade subunits may be tasked to collect information in two ways. The first is indirect collection. Units will routinely receive the brigade PIR in the coordinating instructions of the brigade OPORD. This PIR list may be translated into implied tasks during mission analysis, but this is no guarantee that the subordinate unit will deliberately set out to obtain this information. For example, the brigade PIR for an offensive mission includes: "Are permanent bridges intact over the Flossen River?" If a maneuver battalion's AO includes two possible bridge sites, but its tactical plan takes the battalion near only one of them, the battalion will probably not observe the second site. A second very effective technique is to direct a unit to execute an R&S operation to collect needed information. Such a directive would commonly appear in the brigade's OPORD as tasks to maneuver units. Using the example above, the battalion may be directed, "Phase I: Execute area reconnaissance of CP 5 and CP 6 to determine whether bridges are intact. Classify intact bridges. Report intact bridges as PIR. This second technique will clearly obtain the needed information for the brigade, when and how the brigade desires it.

A technique similar to delegation of specific R&S tasks is employment of entire units in reconnaissance roles. In this case, the reconnaissance mission is the primary effort of the unit, not a secondary task. This technique is not usually employed. Assigning an entire battalion to a reconnaissance mission is typically too great an effort to support the brigade. The use of a company under brigade control makes both logistics and C2 difficult.

Battalion Reconnaissance

Resources and procedures for battalion intelligence activities are parallel to those at brigade level, except that the battalion has an organic scout platoon as an additional reconnaissance resource.

The battalion scout platoon is the battalion commander's best reconnaissance asset. However, to be used to maximum advantage and survive its first mission, the scout platoon requires some specific guidance and support that only the battalion commander can supply.

Fret, the scout platoon needs a detailed list of exactly what it is being tasked to find out and a clear priority for its collection. The battalion PIR alone will not suffice. This prioritized list is most commonly associated with the IPB process and answers the question, "If the scout platoon can find and report only one piece of information, what do I want it to be?" The successive answers to this question are reflected in the instructions to the scouts. These instructions are specific tasks. Telling the scout platoon leader, "Execute zone reconnaissance forward of the TF beginning at 0435 hours," is clearly inferior to, "Execute zone reconnaissance forward of the TF beginning at 0435 hours. Collect and report the following in priority. Phase I: Number 1, confirm or deny enemy AT minefield at FT 456239; Number 2, determine enemy unit type and dispositions on hill 413, including tank positions" This allows the scout platoon leader to collect vital information first and focuses his efforts.

Next the scout platoon must be given enough time to get the job done right. If sufficient time is not allocated to its reconnaissance, the scout platoon is forced to conduct an entirely mounted reconnaissance at fairly high speed. In this situation, the scout platoon usually gains contact by being shot off the road. Good reconnaissance techniques include mounted movement and dismounted reconnaissance. It takes a long time to drive through an area using maximum cover and concealment and stopping frequently either to listen or to get down and walk to vantage points to look around. Darkness, fear, and an occasional detour around enemy outposts make the time even longer. Moreover, information gained by reconnaissance is supposed to be used in the planning process, or at least during the operation, to choose between courses of action; therefore, the scout platoon must be sent out on the reconnaissance mission early enough in the planning process that the commander can react to the information provided.

Finally, the scout platoon must be allocated other resources to conduct effective reconnaissance. Operating separately from the TF, the scout platoon may be given a medical vehicle, Stinger system, or tow bars for self-recovery. The scout platoon needs an FS plan specifically designed for its reconnaissance mission, generally not the same one for the battalion's mission. If the scouts will remain forward of the TF before an offensive operation, they can adjust the FA preparation but should be encircled by FS no-fire areas. Engineer NCOs or an engineer squad will typically accompany the scout platoon to evaluate bridges and roadways and to reconnoiter enemy obstacles to devise effective mobility operations.

Company Reconnaissance

Although the company does not have a dedicated reconnaissance asset like the battalion scout platoon, many other intelligence resources are available to the company. Regardless of the resource employed, the objective of company reconnaissance is to collect the information (PIR) needed by the commander during the operation.

The company gains most of its intelligence from reports and information from subordinate units and from the battalion S2. The battalion S2 will pass processed intelligence information of all types to the company. The company commander can gain additional information by monitoring the battalion command net, since unit spot reports are sent on that net. The commander also gains information from his own observation of the battlefield and his leaders' reconnaissance.

In some situations, the battalion may collocate GSRs with the company. Hasty face-to-face coordination with the GSR operator will allow the company to receive his observations simultaneously with the S2.

If other units are operating near the company, the commander, XO, or ISG may eavesdrop on their nets to collect information. The company may also eavesdrop on units in contact with the enemy or those moving through an area to be traversed by the company.

Any company maneuver subunit may be tasked to perform separate reconnaissance missions. Mechanized infantry is commonly used for this purpose when the intelligence needs of the company cannot be met by simple observation or through information passed from battalion to company. An infantry patrol is a highly effective, but seldom used, reconnaissance asset in the company team.

The company can collect information from its platoons in essentially two ways: as an aside during the course of any operation, or deliberately when tasked to perform a reconnaissance mission. A second possible technique is to direct a platoon to execute a reconnaissance operation to collect needed information. Such a directive may appear as tasks to maneuver units in the OPOD or, more commonly, as a FRAGO during an operation. However, the company commander is usually in the business of obtaining his own information through personal observation. In this case, the PIR act as a supplement to the commander's reconnaissance, ensuring vital information is not neglected simply because the commander himself did not observe it.

SECTION V. COUNTERRECONNAISSANCE

Counterreconnaissance is any operation undertaken to deny the enemy intelligence information concerning friendly units through the active attack and defeat of enemy reconnaissance and EW units. It is the sum of actions taken at all echelons to counter enemy reconnaissance and surveillance efforts throughout the depth of the AO. It contains both active and passive elements and includes combat action to destroy or repel enemy reconnaissance units. Counterreconnaissance is one aspect of security.

The enemy will conduct vigorous, thorough, and vigilant reconnaissance throughout the friendly AO. Enemy efforts will include dedicated reconnaissance units, EW assets, FA target locating radar, and ad hoc temporary reconnaissance groupings of maneuver units. While air reconnaissance assets are available to the enemy, air reconnaissance is typically directed against friendly units and assets many kilometers from the FLOT.

The destruction or defeat of the enemy's reconnaissance efforts provides security for friendly forces and surprises the enemy once contact is made with the main body. Stripping away enemy ground reconnaissance

and denying the enemy information through other collection systems allows friendly commanders to operate inside the decision cycle of an enemy who is then operating blindly. The enemy commander's inability to see the battlefield will eventually desynchronize his actions and render his command vulnerable to resolute, aggressive action by friendly forces.

Brigade Counterreconnaissance

The brigade identifies, locates, and defeats enemy reconnaissance efforts through a combination of EW, FS, and the actions of its assigned ground combat units.

The brigade does not plan and execute counterreconnaissance as a unit. Rather, the brigade provides the information and resources necessary for its subordinate battalions to plan and execute counterreconnaissance operations. In unusual circumstances, the brigade commander may wish to exercise a degree of C2 over the battalions' counterreconnaissance efforts.

The first task of counterreconnaissance is to identify the reconnaissance threat facing the brigade and predict its employment. This prediction relies on information from higher headquarters, analysis of enemy doctrine, and the possible influence of higher headquarters' and adjacent units' operations on the enemy reconnaissance threat. This analysis by the S2 paints a picture of the enemy's reconnaissance course of action. Many times, the S2 will be unable to determine anything more than the type and quantity of reconnaissance assets likely to be deployed against the brigade.

The second task of counterreconnaissance is to identify assets available to the brigade to conduct and support counterreconnaissance. The brigade will be unable to actively conduct counterreconnaissance against enemy resources arrayed in depth, such as radars or EW units, unless the division task organization has allocated appropriate MI units to the brigade. Acquisition assets available to the brigade will be GSRs and IEW support teams. GSRs may be retained at brigade or, more commonly, suballocated to maneuver battalions. Without significant acquisition means, the brigade's counterreeconnaissance assets are reduced to simply the assigned maneuver battalions.

Battalion Counterreconnaissance

The battalion commander designates and controls the battalion's counterreconnaissance battle in accordance with his METT-T analysis. Generally, the battalion counterreconnaissance fight is conducted by the scout platoon augmented with GSRs and maneuver units. The battalion plans and conducts counterreconnaissance as a unit. The brigade provides the information and CS resources necessary for the battalion to plan and execute counterreconnaissance operations.

The first task of counterreconnaissance is to identify the reconnaissance threat facing the battalion and predict its employment. This prediction relies on information from the brigade, analysis of enemy doctrine, and the possible influence of the brigade's and adjacent units' operations on the enemy reconnaissance threat. This analysis by the S2 paints a picture of the enemy's reconnaissance course of action. Many times, the S2 will be unable to determine anything more than the type and quantity of reconnaissance assets likely to be deployed against the battalion.

The second task of counterreconnaissance is to identify assets available to the battalion to conduct and support counterreconnaissance. The battalion will be unable to actively conduct counterreconnaissance against enemy resources arrayed in depth, such as radars or EW units. Instead, the battalion focuses its counterreconnaissance efforts against enemy ground reconnaissance units. The battalion has its organic mortar and scout platoons, maneuver companies, and possibly CS assets allocated by the brigade. CS assets useful in counterreconnaissance include FA and FA priority targets, combat engineers, and GSRs.

The last counterreconnaissance task is to identify, locate, and destroy enemy ground reconnaissance. The TF will generally deploy two elements forward of the TF under one commander to execute counterreconnaissance. One element establishes a thin two-layered screen line forward of the battalion to identify, locate, and shadow the enemy reconnaissance vehicles. The second element performs a guard mission and accomplishes the destruction of enemy reconnaissance units acquired by the screen line through a combination of hasty

attacks and ambushes. The scout platoon is typically the screening force. Depending on the size of the overall counterreconnaissance effort, anything from a platoon to a company may be employed as the guard force. The magnitude of the counterreconnaissance force will indicate the appropriate grade for its commander. The company commander of the guard force is the usual commander for the counterreconnaissance battle.

Both the screen and guard forces may employ obstacles and indirect fires in support of counterreconnaissance. Camouflaged, low-density nuisance minefields are highly effective in the counterreconnaissance fight. Such minefield maximize surprise, have minimum impact on MBA obstacle preparation, confuse the enemy, and provide early warning and identification of enemy approach. Off-road AT mines and dummy minefields may also be used. Either a FIST-V attached to the scouts or a COLT team deployed nearer the FEBA can employ Copperhead FA munitions to selectively and surreptitiously destroy enemy reconnaissance vehicles. These vehicles can naturally employ other FA munitions with more precision, a requirement when indirect fires will impact near friendly forces. In cases where FA is not readily available to the TF for counterreconnaissance, the battalion heavy mortar platoon may deploy forward to support the screen and guard forces. GSRs maybe deployed either with the scouts, to enable them to pickup enemy reconnaissance farther out, or deeper in the counterreconnaissance sector, almost at the FEBA, to maintain contact with enemy vehicles. Positioning GSRs near the FEBA also allows the GSRs to vector guard force units onto enemy contacts under limited visibility or if contact is lost by the screen line. Locating the GSRs depends largely on ten-sin since they are a line-of-sight system.

The commander's decisions on the size and deployment of the counterreconnaissance force is dependent on METT-T and the counterreconnaissance efforts of units farther forward, such as the division reconnaissance squadron.

Company Counterreconnaissance

Companies do not normally execute independent counterreconnaissance operations. Rather, they act as the guard force in the battalion counterreconnaissance battle. The company commander, tasked to provide the guard force and/or C2 for the counterreconnaissance fight, plans and executes this mission as he would any other. Rehearsals of movement front small tactical AAs and hide positions to ambush and BPs are a necessity. These rehearsals typically include the scout platoon and whatever FS assets are being employed.

Chapter 3

OFFENSIVE OPERATIONS

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SECTION I. BRIGADE OFFENSIVE OPERATIONS**Threat Defensive Doctrine****How the Threat Defends***Principles*

For Soviet-style armies, as with all armies, the purpose of the defense is to inflict maximum casualties, to hold the defended area, and to create favorable conditions for the resumption of the offensive.

Defensive Concepts

Stability. Achieved by defense in depth, closely coordinated fire and obstacle plans, and strong mobile reserve.

Security. Provided by combat security forces which give early warning, prevent enemy reconnaissance of the main defensive position, force the enemy to deploy prematurely, inflict maximum casualties, and coordinate long-range fire on enemy formations.

Use of key terrain. Includes a fire and obstacle plan which restricts the enemy's freedom of maneuver and canalizes its forces into prepared killing grounds.

Dispersion. Allows maximum protection from nuclear and chemical weapons by positioning troops on a wide front and in great depth.

All-around defense. Prepared alternate and supplementary positions provide 360-degree defensive capabilities. Battalion strongpoints, echeloned in depth with extensive barriers and fire planning, provide the backbone of the regimental defense.

Defense in depth. Echeloned battalion strongpoints absorb the momentum of the attack and provide time for mobile reserves in the counterattack.

Antitank defense. Provided by the liberal allocation of antitank weapons down to all levels, and the formation of strong antitank reserves at battalion level.

Coordinated fires. Planned to destroy the attacker approaching the defended area, in front of the FEBA, on the flanks, and in prepared killing zones within the defended area. Nuclear strikes are planned by division and higher units against the enemy's nuclear weapons, major reserves, and C2 posts.

Mobile counterattack forces. Required to launch counterattacks. Commanders from battalion level up maintain reserves for this purpose.

Command

In a Soviet-like Army, position and branch are more important than rank. It is not unheard of for a commander to be junior to his chief of staff and/or one or more subordinate commanders. A major commanding a regiment could have lieutenant colonels as his deputies. Moreover, the combined arms commander commands attachments, regardless of whether or not the commander of the attached unit is superior in rank. Should an artillery or tank battalion commanded by a major or lieutenant colonel be attached to an MRB commanded by a captain, the MRB commander would command both battalions.

Chain of Command

To reconstitute a destroyed command element, a first attempt is to utilize the unit's available assets. Should the battalion commander be incapacitated, he would normally be succeeded by his chief of staff or the first MRC commander (who is normally the senior company commander).

Staff

The battalion chief of staff, the deputy commander for technical affairs, and the heads of the various rear service elements communicate with their counterparts at regiment, thus relieving the battalion commander of many administrative and supply details allowing him to concentrate on implementing regimental tactical orders.

Combined Arms Operations

MRRs, MRDs, and tank divisions are units with excellent mixes of motorized rifle, artillery tank, and engineer troops. Combined arms concepts and how they affect the MRB are described below:

Tanks. A tank unit is usually attached to or in support of an MRB. Tanks are normally placed in support, which allows the commander to maintain control over his subunits. Such an arrangement facilitates massing of platoon and company fires on particular objectives. However, tank platoons may be decentralized and placed under the operational control of the MRC commanders.

Artillery. To achieve desired FS effect, the RAGs, DAGs, and AAGs are formed. An artillery grouping is temporary in nature and consists of two or more artillery battalions. It may be created from other artillery assets pushed up to the regiment from follow-on elements. This is done to retain the indirect firepower in the lead battalions while providing the firepower weight of a RAG. The artillery battalion or battery will either

be supporting or attached. If attached, the artillery will fire for the MRB commander. If it is supporting, its first priority is to the regimental artillery commander.

The battalion commander's control over his organic mortars and attached artillery may vary with the phases of the operation. Artillery fire planning is centrally coordinated with flexibility built in to allow for close support of maneuver elements.

Engineer. As with our Army, two types of Soviet-like armies have engineers: technical engineers and sappers or combat engineers. The technical engineers are organic to army and front, and perform sustainment engineering type tasks. The sappers are found in a combat engineer battalion and company which are organic to a division and regiment, respectively. They conduct mobility, countermobility, survivability and reconnaissance missions for their maneuver unit.

Air support. Direct air support to an MRB commander would be a rarity, since the MRD commander normally directs supporting air assets through air liaison staffs. FACs could, however, be assigned to a regiment defending as the division's main effort. This is not to say that Soviet-style tactical air assets would not be used to support or interdict the attacker in the MRB's area of interest. Soviet-style high-performance and helicopter gunships often support in this manner. However, the MRB commander has no direct organic communication with high-performance aircraft or helicopter.

The Motorized Rifle Regiment

Although the MRB has considerable firepower, it lacks sufficient organic combat and combat support elements for many types of operations. For this reason it operates as part of the MRR. Since the MRB is normally reinforced or supported by regiment and sometimes by division, the organization and equipment of the MRR is described in this section.

Conduct of a Motorized Rifle Battalion Defense

Characteristics of the Battalion Defensive Area

A Soviet-style battalion defends an area which is a sector defined by left and right boundaries, by a forward edge, and by the positions of service and support units in the rear. In front of this sector, it deploys combat outposts. Within this area, it constructs primary and alternate company strongpoints; a battalion reserve position; main and secondary fixed and mobile positions for artillery, mortars, tanks, and other FS assets, each with designated lines and sectors of fire; air defense firing positions; a battalion CR an LSA; barriers and obstacles; deployment lines for the second echelon's counterattack; and paths or routes to and between positions for maneuver, resupply, and evacuation. A defending battalion also constructs false (deceptive) positions, both within and outside the defensive area. Each battalion normally will construct at least one false company position, and each company at least one false platoon position.

A combat outpost, usually a reinforced platoon positioned forward of the battalion, provides security to the battalion. It prevents enemy reconnaissance from reaching the main position, and provides defending companies early warning of a surprise attack. The battalion headquarters is responsible for FS of this platoon. The defensive area's forward edge is characterized by terrain that permits good observation and fires, especially long-range antitank fires. The first trench line is sited to take advantage of natural antitank obstacles and to facilitate barrier construction.

Within the defensive area, the battalion is normally arrayed in two echelons dispersed so that a single enemy tactical nuclear weapon cannot destroy more than one company. For the same reason, within the first-echelon companies, platoon positions may be several hundred meters apart. The mission of the first echelon is to inflict maximum casualties and materiel losses on the attacking force, hold important positions or objectives, delay the movement of the enemy, and create favorable conditions for his defeat by nuclear and conventional fires and by counterattacks of the second echelon.

The mission of second-echelon companies is to conduct a counterattack, or when that is not feasible, defeat the attacking enemy by fire from an occupied strongpoint position or line. If the enemy has used nuclear weapons to breach first echelon positions, the second echelon may fill these breaches or replace first

echelon units. The second echelon may also have the mission to destroy or hinder enemy airborne or air assault troops inserted behind the first echelon positions.

Attached tank or MRCs are normally parcelled out to defending company strongpoints, but the mortar battery and the AGS-17 (automatic grenade launcher) platoon (BTR-equipped battalion only) remain immediately subordinated to the battalion commander. The antitank platoon normally deploys intact under the control of the battalion commander on the most likely armor avenue of approach, or in a position to assist the commitment of the second echelon. The battalion commander normally retains control of the air defense platoon.

System of Fire

One of the most crucial elements of a battalion defensive area is its system of fire. Simply stated, the system of fire is the combination of planned fires of all assigned and attached weapon systems organized for the defeat of the enemy. Elements of the system of fire include regions, sectors, and lines of massed, concentrated and barrier fire; zones of dense multilayered fires of all weapons on the approaches to the defense, in front of the forward edge, on the flanks, and in depth; and maneuver by fire. The system of fire is integrated into the commander's plan for the battle, and takes into consideration the natural and planned engineer obstacles.

Figures 3-1 and 3-2 depict MRBs, BTR-equipped and BMP-equipped, respectively. Figure 3-3 depicts an MRB in the defense. The following paragraphs describe the MRB in the defense as depicted in Figure 3-3.

Each company prepares a system of fire to defeat enemy tanks by constructing primary and alternate tank firing positions in each platoon strongpoint, with fire concentrations for each tank platoon. The 4th and 5th MRCs also employ roving tanks. Designated BMPs serve as maneuverable antitank weapons, together with battalion antitank assets and attack helicopters. The maneuverability of these weapon systems provides a basis for their survivability, and serves to confuse the enemy as to their precise location. Both first-echelon companies also plan antitank ambushes at their forward security positions, on their flanks, and within their company strongpoints.

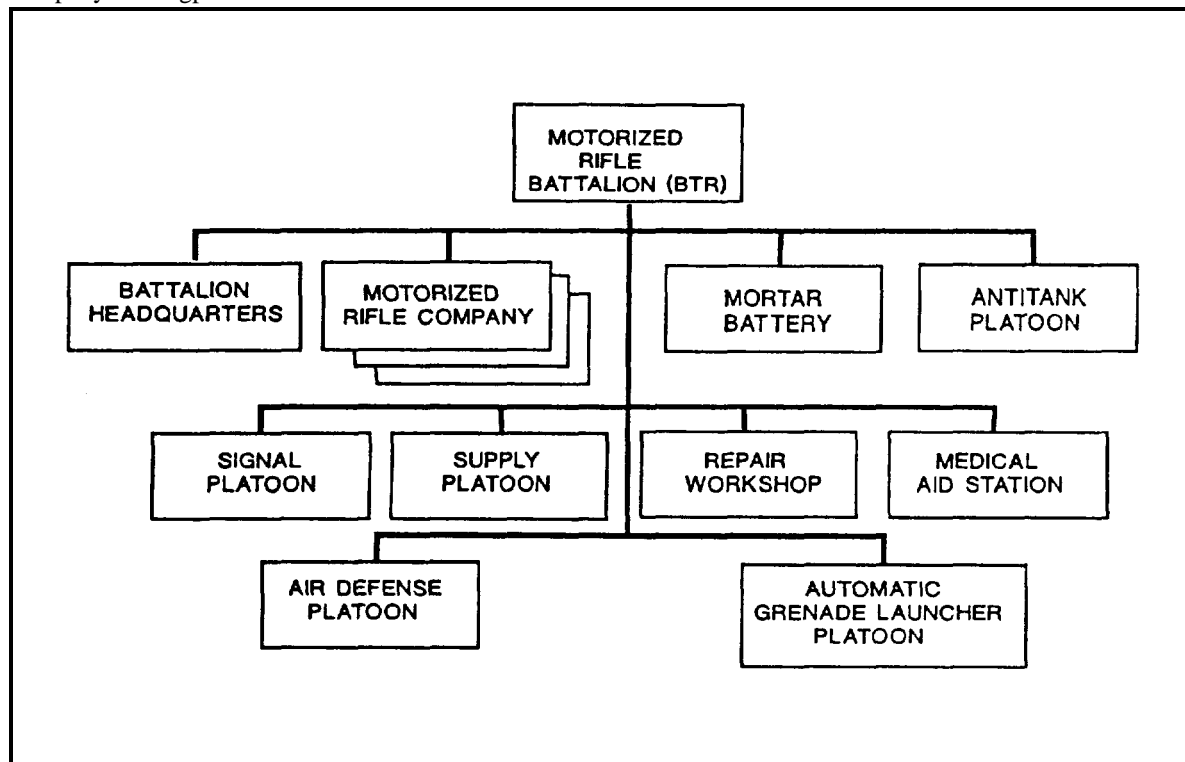


Figure 3-1. Organization of a motorized rifle battalion (BTR-equipped).

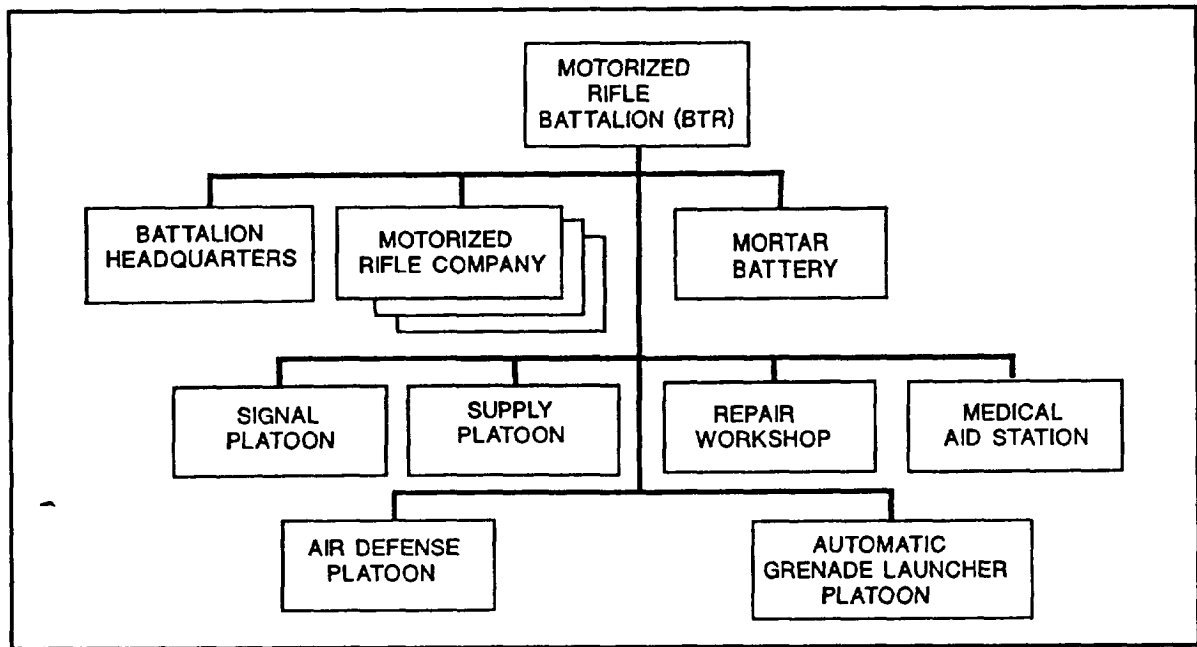


Figure 3-2. Organization of a motorized rifle battalion (BMP-equipped).

MRC weapons are organized to deliver interlocking and flanking fires, with designated sectors of concentrated fire for specific platoons and companies. Light and heavy on-call or "duty" machine guns are placed in false platoon positions on the flanks of the real positions, along with an RPG launcher in the position on the right flank of the battalion. The AGS-17 platoons deploy in the company strongpoints, split between the forward edge and the depth of the positions. Some BTRs occupy positions on reverse slopes, with their machine guns laid to eliver interlocking fires on the approaches to the forward edge.

The artillery battalion and the MRB's mortar battery provide indirect FS The artillery battalion deploys some distance to the rear of the MRB, as indicated by the break in the sketch (see Figure 3-3). The artillery battalion commander, however, collocates with the MRB commander at the latter's CP. The mortar battery's primary position is just to the rear of 4th MRC, with two 3-gun alternate positions, one in the false position along the forward edge between the 4th and 6th MRCs, and the other in the 5th MRC strongpoint.

The artillery battalion commander plans indirect fires on likely enemy avenues of approach and deployment lines, on sectors between company strongpoints, and on the flanks and in the depths of the company and battalion positions. The artillery fire plan includes an illumination plan for night combat actions. The defending battalion also plans to employ combat helicopters in its system of fire, with primary firing positions on the battalion's flanks.

Engineer Preparations

A second important element of a battalion's defensive position is its engineer preparation. Engineer work facilitates the actions of the defender, and at the same time hinders the actions of the attacker. The first engineer priority for a Soviet defending battalion not in contact with the enemy is to prepare firing positions for individual and crew-served weapons, tanks, BMPs, antitank weapons, and other weapon systems. It clears fields of observation and fire, constructs command OPs and medical points, erects obstacles and barriers in front of and between strongpoints, prepares movement routes to deployment lines for counterattacks and firing lines, and establishes water supply points.

The second engineer priority is to develop fighting positions for rifle squads, tanks, BMPs, and other weapon systems in secondary or temporary firing positions; complete the construction of CPs and medical points; construct covered dugouts for each squad or crew; erect cover for weapons, equipment, ammunition, and other materiel; and create additional obstacles in front of and between strongpoints. The final step in the

engineer preparation is to conceal everything. Although local materials are used as available, a broad inventory of devices will be used to deceive the enemy's human and technical reconnaissance efforts.

Units use locally procured items rather than prepared construction materials. The first and second trench lines are continuous, and the third is almost continuous. The unit cuts trails for tanks and APCs to move to threatened sectors within the position. These trails are made to resemble antitank ditches when viewed from the enemy side.

Reveted shelter increases the survivability of each rifle squad. Platoon and company commanders have CP shelters, and even the battalion support elements are dug-in. An MRB which skillfully exploits the defensive characteristics of average terrain has a survivability rate of 40 percent. By dedicating four-fifths of the manpower of the battalion to engineer tasks while the other one-fifth stands guard, in 4 to 6 hours the survivability rate further increases to 62 percent. After two to three days of preparation, 85 percent of the battalion can be protected in covered shelters, and vehicles can protect remaining personnel. This level of engineer preparation will enable 80 percent of defending forces to survive three nuclear strikes of 1 kiloton each.

The defensive position in Figure 3-3 includes five false (deceptive) platoon-sized positions—three along the forward edge and two in the depth of the battalion position. The large number of trenches, paths, firing positions, false positions, and shelters in the battalion position serve multiple purposes. They harden the defense and make it more dynamic, their quantity confuses the enemy as to which are actual and which are false, and they enable the defender to achieve surprise by the speed with which he can maneuver within his own position to the threatened sector.

The other major aspect of engineer support to the defense is the construction of countermobility obstacles in front of and within the battalion position. Minefield are especially important in this regard. As Figure 3-3 shows, mixed minefield are constructed across the battalion front. Within the defensive position, a line is designated for the construction of a hasty minefield in front of 5th MRC positions. Other engineer obstacles include barbed wire entanglements and antitank obstacles in front of the battalion position, and a 0.7-kilometer-long antitank ditch within the position between the two forward company strongpoints.

These obstacles are closely tied in to the system of fire. On one armor avenue of approach, for example, engineers buried hundreds of kilograms of explosives in the soil. At the twist of a firing handle, tons of earth could be churned up into an antitank obstacle. The area around this obstacle then becomes a killing ground for antitank fires.

Reconnaissance

While the Soviet-like force is preparing its defensive position, a battalion commander conducts reconnaissance to determine the enemy situation. He is particularly concerned with the enemy's preparations for attack, main avenues of approach, and time of attack. Other reconnaissance tasks include the location of enemy reserves and their direction of movement, and the positions of artillery and other weapon systems. The commander employs a wide range of human and technical reconnaissance systems. If he is not in contact with the enemy force when he begins construction of his defensive position, he deploys a combat reconnaissance patrol. This patrol is an MRS from one of the platoons of the 5th MRC, which establishes an ambush on the southern slopes of HILL NORTHERN. If in contact with the enemy, a battalion commander employs all available means of observation, and in addition, may detail a small part of his force to make contact with the enemy.

Preparation of the Defense

There are several necessary and sequential steps in the preparation of a defense, beginning with the receipt of the order. The commander must organize the battle by gathering information, evaluating the situation, making a decision, establishing tasks for organic and attached units, organizing coordination and systems of fire, and planning logistic support and C2. After his battalion occupies the defensive position and begins construction of strongpoints and engineer obstacles, the commander exercises continuous control to ensure that tasks are performed as ordered.

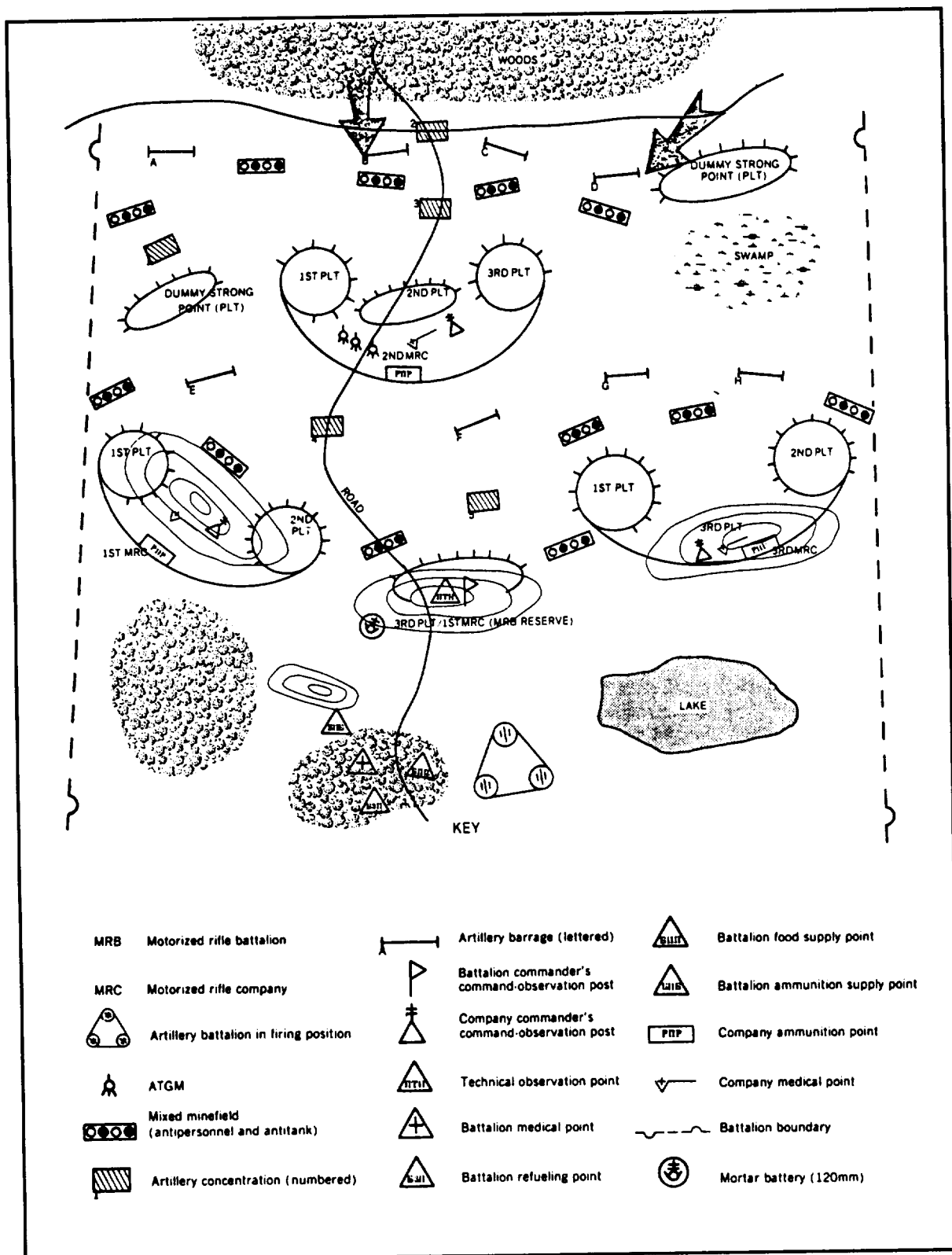


Figure 3-3. Layout of an MRB in the defense.

The battalion commander walks the terrain with subordinate commanders and passes down his detailed instructions in the form of an oral order. The battalion commander's order is more task oriented than mission oriented. For example, for first echelon companies, it specifies the following: attachments, strongpoint locations, and axis of concentration of main effort; the mission required to defeat the attack and destroy the enemy penetrating the position: traces of the forward edge and trench lines; all control measures for fire concentrations in front of and around the company position; how and with what forces to support the flanks and space between positions; who is responsible for them; and who is supporting.

The battalion commander provides similar detailed instructions to the second echelon company, the attached artillery battalion and mortar battery, the grenade launcher platoon, the antitank platoon, those elements subordinate to the battalion headquarters, and the unit designated for combat security (the platoon guarding the battalion from a position well forward along the main avenue of approach).

The battalion commander conducts coordination at the same time he issues his order for the defense. This is another set of important detailed instructions to specific units of the battalion. It includes such information as target lists for all indirect- and direct-fire weapons, control measures for fire and/or movement, time schedules for all events, measures for defeat of air assaults and fixed- or rotary-wing attacks, actions on enemy use of chemical or nuclear weapons, and signals for communications and mutual recognition. Of course, similar coordination must be conducted with adjacent battalions.

After the battalion commander has issued his order, subordinate commanders return to their units and accomplish all tasks necessary to prepare for battle.

Conduct of the Defense

As soon as the battalion occupies a defensive area, designated tank, BMP, and other weapon systems take up positions. The crews of these so-called "duty" weapon systems continue to stand watch while the remainder of the unit prepare the position, vehicles, or weapons. In Figure 3-3, 20 percent of the defending battalion is set aside for duty, while the other 80 percent begins work. Preparation of the position continues in this manner until work is complete, or the attack begins.

An attack is expected to be preceded by reconnaissance that is conducted by a force ranging in size from reinforced company to reinforced battalion. During this prebattle reconnaissance, which may include a limited ground attack, the enemy attempts to discern the organization of the defense. If possible, only the duty weapons in the false positions engage and defeat the enemy reconnaissance. After repulsing this reconnaissance, Soviet-like units that have disclosed their positions may relocate to alternate positions. If the enemy reconnaissance penetrates the defensive position, the battalion commander takes whatever measures are necessary to destroy the penetration, including the commitment of his second echelon.

Troops take cover in their dugouts and covered trenches, and crews take cover in their fighting vehicles when the attacker's artillery preparation begins. Selected crews man their weapons stations to prevent the enemy from using the artillery preparation to breach engineer obstacles. If the preparation includes nuclear or chemical ordnance, the commander uses all his forces to close gaps created in his position, while he and his staff reestablish C3.

The emergence of troops from their shelters and their reoccupation of firing positions are critical junctures in the battle. This must be done before the enemy long-range direct-fire system (tanks and antitank guided missiles) comes into range of Soviet-style positions, so crews are prepared to engage them at maximum range with indirect fire. As the attacking force moves toward the defensive position, the defensive battalion commander concentrates his battalion's fires against the most threatened sector, targeting armored vehicles when they enter the obstacle system. If enemy infantry are dismounted, an effort is made to strip them away from the armored vehicles.

When enemy soldiers come within 30 to 40 meters of the forward positions, MR troops engage them with grenades and point-blank fire. The battalion makes every effort to defeat the attack in front of the forward edge of the defensive position. If, however, the enemy penetrates into the defense, the commander strengthens the flanks of the penetration, stops the forward movement of the penetrating force, and then destroys it with a combination of fires and maneuver. If necessary, the defensive commander uses his second echelon or reserve to launch counterattacks.

After defeating the enemy's attack, the battalion commander reestablishes his position, replenishes his ammunition stocks, rebuilds destroyed fortifications and obstacles, repairs or replaces damaged equipment and evacuates his casualties. If his defense succeeds, but the enemy penetrates to his right or left flank, the battalion prepares for all-around defense. It might also, on regimental order, attack into the flank or rear of the bypassing enemy force. If the enemy's superiority is sufficiently weakened by his defeat, the Soviet-style force may change to the offense.

The defense in Figure 3-3 follows along the lines of the discussion above. Portrayed by 760 targets, of which 20 percent are moving, the enemy attacks in several lines against the 4th and 6th MRCs. The 4th MRC is reinforced in the area of the antitank ditch by soldiers of the 5th MRC and engineers with explosives, and there destroys the enemy which falls into the fire sack. The defending force hits over 70 percent of all targets, and fulfills all tactical noms with high marks.

Conduct of a Tank Battalion Defense

Subordination

In both tank and MR divisions, the tank battalion is subordinate to a regiment. In some MRDs, there is also an independent tank battalion subordinate to the division commander.

Organization

In a tank battalion organic to a tank regiment there are 31 tanks (10 per company plus 1 for the battalion commander). In the tank battalion of an MRR there are 31 tanks (10 per company plus 1 for the battalion commander). Battalions are also equipped with an armored recovery vehicle, an armored scout car, and an ambulance. Each battalion also has nine mine-clearing plows. Soldiers are equipped with personal weapons. Handheld surface-to-air missiles and tank-mounted antiaircraft machine guns are found in varying numbers in each type of battalion (see Figure 3-4).

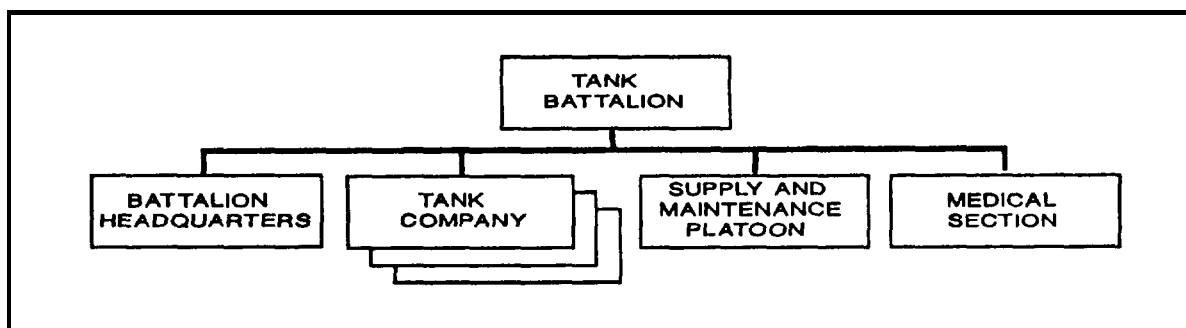


Figure 3-4. Tank battalion of a tank regiment.

Command

Usually a major or a captain commands a Soviet-style tank battalion. Companies are commanded by captains or senior lieutenants and platoons by lieutenants, a rank roughly equivalent to warrant officer. A commander below battalion level has little latitude in the way he executes his mission except when his unit is employed as a reconnaissance group or a march security detachment. The battalion headquarters is divided into a CP and a support group.

Battalion Command Post

The battalion CP is mounted in an APC. It is controlled by the battalion chief of staff, normally a captain or senior lieutenant. The CP is manned by the operations officer, communications chief, an NBC specialist radio operators, and clerks. The battalion commander is mounted in a tank for combat operations. Communications are maintained by the CP with the battalion and regimental commanders. The NBC warning net is also maintained in the CP. A second APC is sometimes held in the battalion with radios on listening watch on the same nets as the CP, but without a radio or CBR warning net. The battalion CP collates and disseminates tactical intelligence and prepares operation orders under the battalion commander's guidance.

Battalion Support Group

This group consists of the deputy battalion commander for technical affairs, the medical section and the supply and maintenance platoon. When the battalion is on the march, the support group supplies the necessary ammunition, fuel and lubricants by direct delivery in halt areas. When in action, the tanks are resupplied in their forward positions. The support group establishes a technical observation point in order to locate damaged tanks. A repair and evacuation group then carries out on-the-spot repairs or evacuates a damaged tank. Medical teams recover the wounded, administer first aid, and evacuate them to regimental aid posts for treatment or movement to the rear. The battalion's support resources are augmented from the regiment as required.

Control

The battalion commander controls the battalion by radio, visual, and audio signals in the employment of well-rehearsed tactical formations and drills. Terrain is identified by reference points. Maps are extremely detailed and treated as classified documents. Except in the assault, tank units are usually led by commanders.

Radio

Radio nets are controlled at battalion level when possible. Commanders from the MR, artillery, and air defense units attached to a tank battalion join the battalion command net. Companies transmit FS requests to the battalion commander, not directly to the support unit. This reduces the time available for artillery to engage targets of opportunity.

Radio Security

Radio transmission security in the Soviet-style ground forces is strict. Orders normally are given by battalion and company commanders of tank and attached units, and are acknowledged by subordinate commanders. Code words or numbers are used for reference points. Although they have common frequencies, it does not appear to be the custom for tanks to transmit information on targets of opportunity directly to either the infantry or the artillery (see Figure 3-5).

Orders

The battalion commander issues his operation order orally, by written instructions, or by radio. The preferred method is oral. The battalion mission is usually defined by the regimental commander, with details of FS allocated and a time schedule set.

Reinforcement

During defensive operations, a tank battalion is normally reinforced by the following units:

- An MRC.
- An engineer platoon.
- An artillery battalion and mortar unit to support the battalion by fire.
- Chemical specialists to monitor the NBC hazard.

Deployment

During defensive operations, a tank battalion usually deploys in one echelon. Normally, a reserve the size of one platoon is constituted. Regiments deploy combat security detachments 15 to 16 kilometers forward of the main defensive position to break up probing attacks. Platoon-sized reconnaissance patrols are dispatched up to 500 meters in front of the battalions and exposed flanks. Two or three defensive emplacements are dug for each tank; this is done either by engineers or by a combat tank fitted with a dozer blade. A tank with a dozer blade attachment can dig between two and four emplacements an hour. Minefields, wire, and demolitions are used to direct the enemy into killing zones. Mines are laid in clusters of 50 to 100.

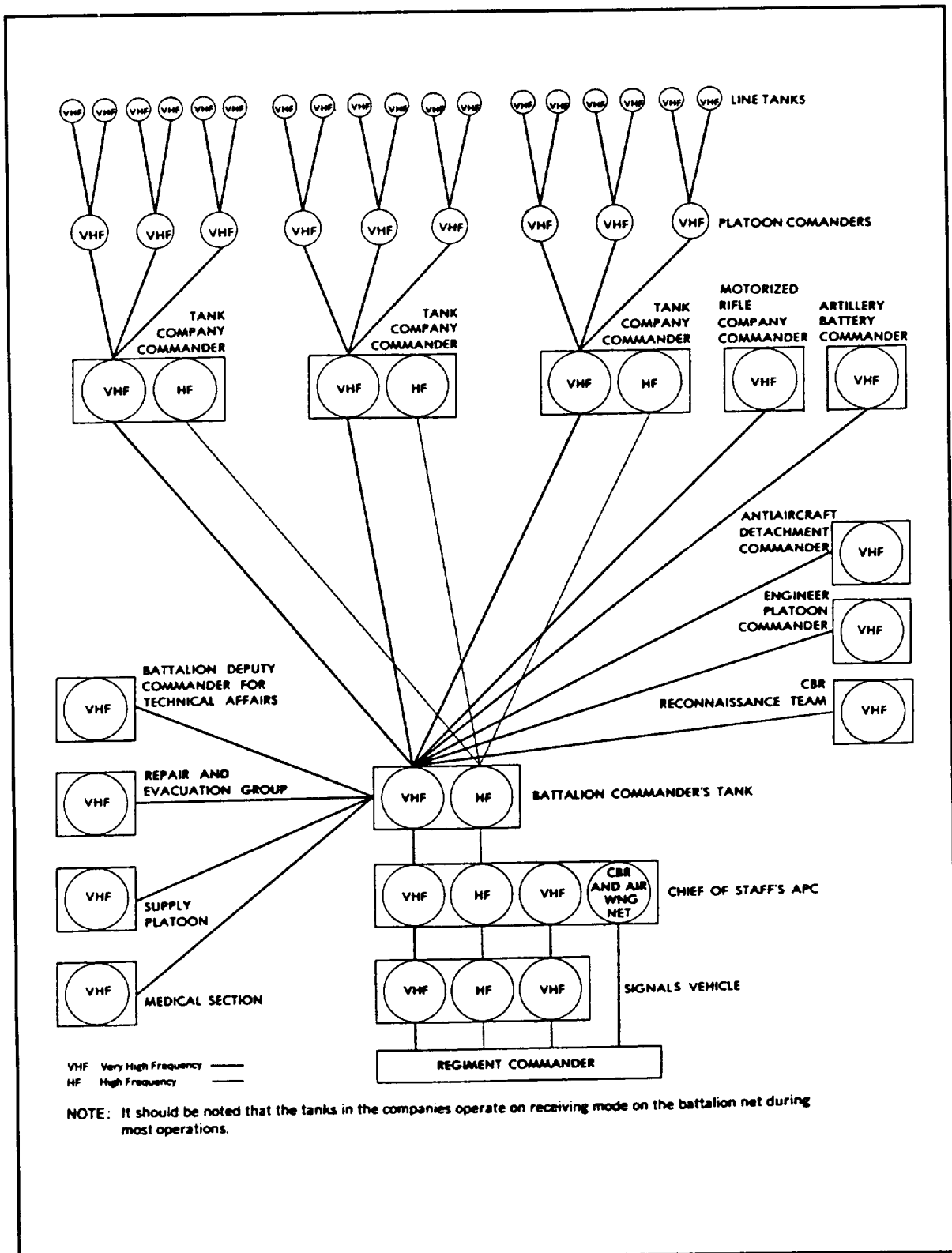


Figure 3-5. Representative command net of a reinforced tank battalion.

Defensive Positions

The basis for a tank battalion defensive position is the antitank fire plan. A commander lays out his defense so that tanks have overlapping areas of observation at 1,000 meters without turning the turret. Mathematical analyses are used to arrive at the following frontages depths, and intervals as ideal:

- Platoon 150 meters between tanks
 300 meters frontage
 No depth
- Ž Company 300 meters between platoons
 1,000 meters frontage
 500 meters depth
- Battalion 1,000 meters to 1,500 meters between companies
 5 kilometers frontage
 3 kilometers depth

Tanks are positioned on reverse slopes when possible, and have one or two alternate positions. The intervals between subunits are covered by indirect fire means. Local protection for tanks is given by motorized infantry dug in up to 200 meters in front of tank positions. The BMPs and APCs of the MR units are also positioned on reverse slopes. Each platoon and company position is designed as a strongpoint with all-around defense. The battalion position is setup so that strongpoints are in mutual support.

Defense Organization

The drill for organizing a defensive position is affected by both the tactical situation and the availability of time. A defense taken up in contact with the enemy is initially linear tanks remain in the positions they were in when the offensive lost its impetus (see Figure 3-6). Such a defense is developed as time and enemy action allows. Reinforcement occurs as soon as possible, and positions are adjusted until the situation is stabilized This may take up to 10 or 12 hours

Reconnaissance and Orders

After being given his mission, the battalion commander moves quickly to his assigned area with the commanders of attached units. Task organization and fire coordination are decided on. Reconnaissance is carried out. If time is short, the battalion chief of staff positions the second echelon and the reserves. During the reconnaissance, the following questions are resolved and orders are given for—

- Ž Attachments of MR units to tank companies.
- Ž Location of company and platoon strongpoints.
- Zones of concentrated tank fire.
- Positions of combat reconnaissance patrols and flank security units.
- Fields of fire.
- Indirect FS missions.
- Orders initiating direct and indirect fires.
- Actions to be taken against air attack.
- Priorities for engineers.
- Ž Protection from nuclear strikes.
- Ž Designation of counterattack mutes and lines of deployment.
- Defense points to the front and flanks.

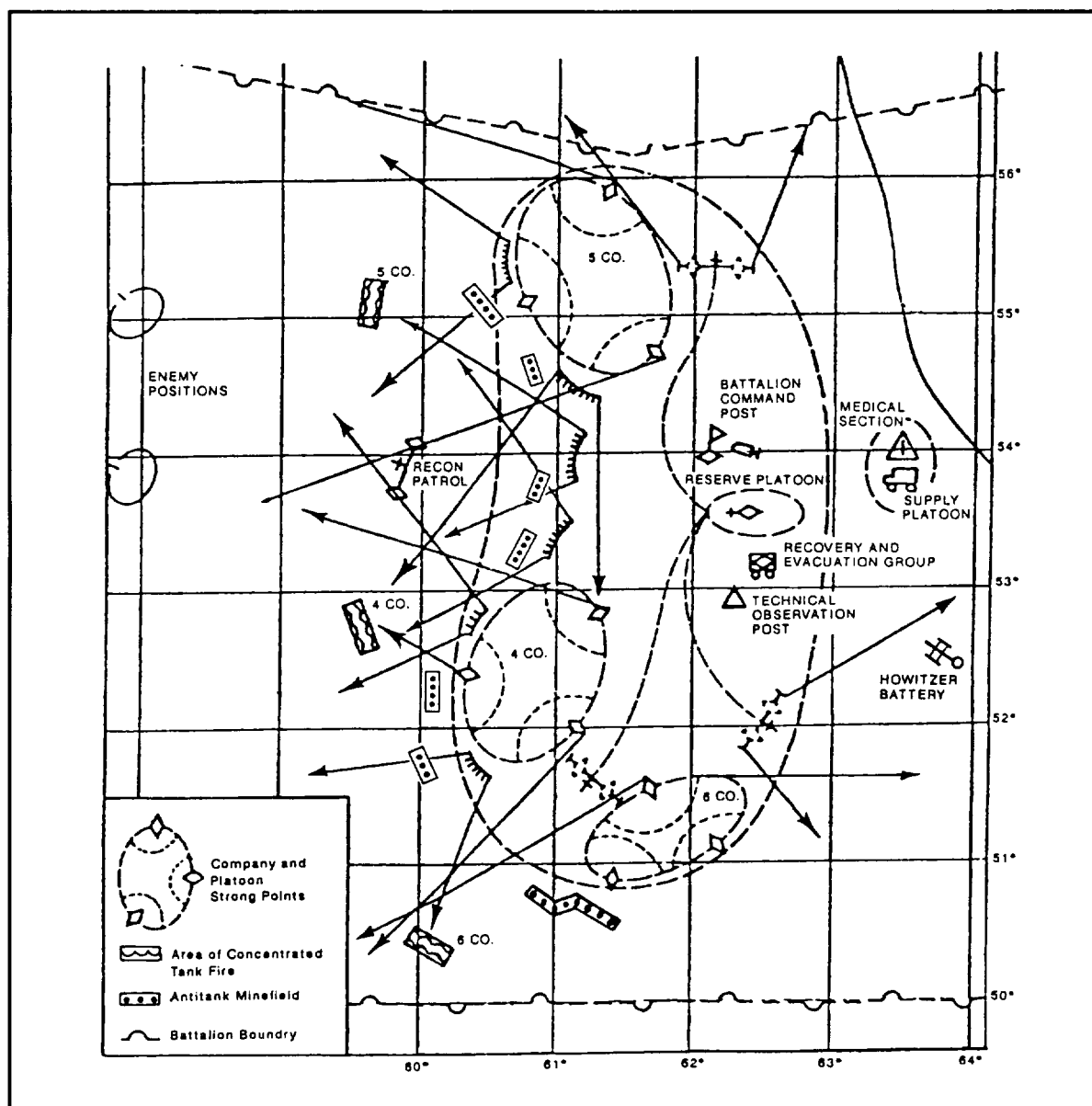


Figure 3-6. Reinforced tank battalion defensive deployment.

Administrative Planning.

After the commander's reconnaissance and issuance of orders, the deputy for technical affairs—

Ž Positions the technical OP.

Ž Organizes the recovery and repair of damaged equipment.

- Arranges evacuation of second-line tank casualties to workshops in the rear.

Ž Locates the supply platoon and plans the resupply of ammunition.

The deputy for technical affairs also arranges the combat administration of the battalion for the move forward into the defensive position.

Conduct of the Defense

A defender will expect to face both nuclear and conventional artillery fire before ground attack. After such preparatory fire, the tank battalion commander restores the integrity of the position by relocating his tanks and communications equipment as necessary. To preserve the security of tank firing positions, combat security detachments repulse enemy probing attacks. Smoke may be used to obscure strongpoints and to silhouette an assaulting enemy. Combat security detachments act as artillery FOs for as long as possible before breaking contact. As the enemy closes, the tanks concentrate fire on targets in previously designated areas. Artillery and machine gun fires are used to try to separate the enemy infantry from their armor.

Infantry Supporting Fire

Infantry FS, especially against enemy APCs, is given by the BMPs of attached MR units. Each infantry company is also equipped with handheld antitank weapons which, together with their ATGMs, add significantly to the combat power of company and platoon strongpoints.

Counterpenetration

The tank battalion commander must use his resources to mount counterpenetration operations against enemy elements that succeed in breaking into the battalion's defensive perimeter. The enemy penetration is reduced by artillery fire, tank fire, and attached APCs. The battalion reserve maneuvers along previously reconnoitered routes to bring maximum direct fire to bear.

Counterattack

Counterattacks are organized by a higher commander to dislodge an enemy from within the perimeters of a tank battalion defensive position. Counterattacks may be supported by the tank battalion either by fire or by assigning subunits to accompany assaulting forces. The regimental commander orders the delivery of counterattacks by subunits of the second echelon battalion on routes reconnoitered beforehand.

Service Support in Combat

During combat, ammunition forward resupply is carried out when required under cover of smoke or artillery fire. POL is resupplied during lulls in the battle. Damaged equipment is removed by a recovery and evacuation group to a position where it can be prepared to move back for repair under its own power. According to doctrine, the wounded in damaged tanks are removed for evacuation once the vehicle has been relocated to a covered position. During combat, the deputy commander for technical affairs makes a daily assessment of equipment conditions, repair and recovery status, and issues orders for routine servicing.

Second Echelon Defense

A tank battalion that is used in a regiment's second echelon of defense has the following missions:

- Provide depth to the regiment's defense.
- Provide a counterpenetration force for use inside the regiment's defensive perimeter.
- Provide a counterattack force for use in the first echelon battalion's defensive perimeter.
- Provide an exploitation force to pursue an enemy whose attack fails.

The last three missions require considerable time on reconnaissance. The defensive position of a second echelon battalion is laid out in the same manner as that of a first echelon unit. As a second echelon battalion assumes the defense out of contact with the enemy, the position is capable of being developed extensively by engineers. Second echelon battalions establish communications with the regimental headquarters and first echelon units. During combat, the battalion commander monitors the battle and collects and collates tactical intelligence. The second echelon commander is free to maneuver his tanks within his battalion defensive perimeter to face a threat to a particular flank. If the battalion is required to counterattack, the commander sends out a combat reconnaissance patrol before moving into the assault on prearranged routes.

Movement to Contact/Actions on Contact

Planning

Intelligence

The enemy situation is normally vague or unknown when a unit is given a movement-to-contact mission. The S2 must carefully analyze the terrain and plan for the worst threat case, as the commander will not want to underestimate the enemy. Potential threat defensive locations, OPs, EAs, and obstacles are among those items that must be identified early and incorporated into the R&S plan. This would lead the S2 into developing a situation template of the possible enemy locations based on all available information. Information from higher headquarters should be requested, particularly with respect to PIR, because the division has more intelligence-gathering assets and has the capability to look deep. The S2, in conjunction with the S3, develops an R&S plan for the security force element to use as it conducts its screening or guard mission.

Maneuver

The primary considerations in planning a movement to contact are the determination of action that is anticipated during the movement and the requirements for maneuver and FS when contact is made. This will drive the organization of the brigade for the mission.

Security forces for a brigade movement to contact may consist of the advance, flank, and rear guards. When a brigade is moving as part of a division movement to contact, it can provide elements to reinforce or augment the division covering force, and provide and control either right or left flank guard and/or rear guard.

The security force. The security force, when assigned a guard mission, develops the situation and prevents the unnecessary or premature deployment of the main body. Its missions may include destroying enemy reconnaissance, securing key terrain, or containing enemy forces. The security force operates well forward of the main body. When portions of a brigade augment the divisional cavalry squadron, a highly mobile force such as TF scouts or a company team may be sent forward to augment the divisional cavalry squadron. In this case, a tank company should be prepared to tight for information and support or reinforce the cavalry troops or other security force units.

A security force may operate under brigade, division or corps control. Figure 3-7 shows a division movement to contact. When the division advances through restrictive terrain or across an unusually broad front, brigade commanders may command their own security forces. When controlled at division level, the security force performs a zone reconnaissance across the entire division front. The basic unit best suited to this mission is the divisional cavalry squadron, but the commander may augment the divisional cavalry or give the mission to another maneuver unit after considering the factors of METT-T. If the brigade is in control of its own security force, the brigade commander must task organize his security force in accordance with the factors of METT-T.

When planning for the security force, the commander is presented with conditions, such as, there has been no enemy contact, the enemy has broken contact, or the enemy situation is vague. The commander must move his forces toward an objective until it is reached or there is enemy contact. To maintain flexibility of maneuver after contact, he must put forward the minimum force possible. The two missions best suited to execute security of a movement to contact are screen or guard. A security force can only execute a guard mission when it has sufficient combat power. The main factors that determine which mission is used are the enemy situation, the terrain, and the amount of risk assumed by the commander. His risk is keyed to the amount of time the security force gives the commander to maneuver his other elements.

The advance guard. The advanced guard is normally furnished and controlled by the leading element of the main body. It is organized to tight through small concentrations of enemy forces identified by the covering force or to make sure the main body can deploy uninterrupted into attack formations. Necessary combat support, such as engineers and artillery, is integrated into the advance guard. Reconnaissance assets and surveillance systems are used to assist the advance guard in detecting the enemy before actual combat.

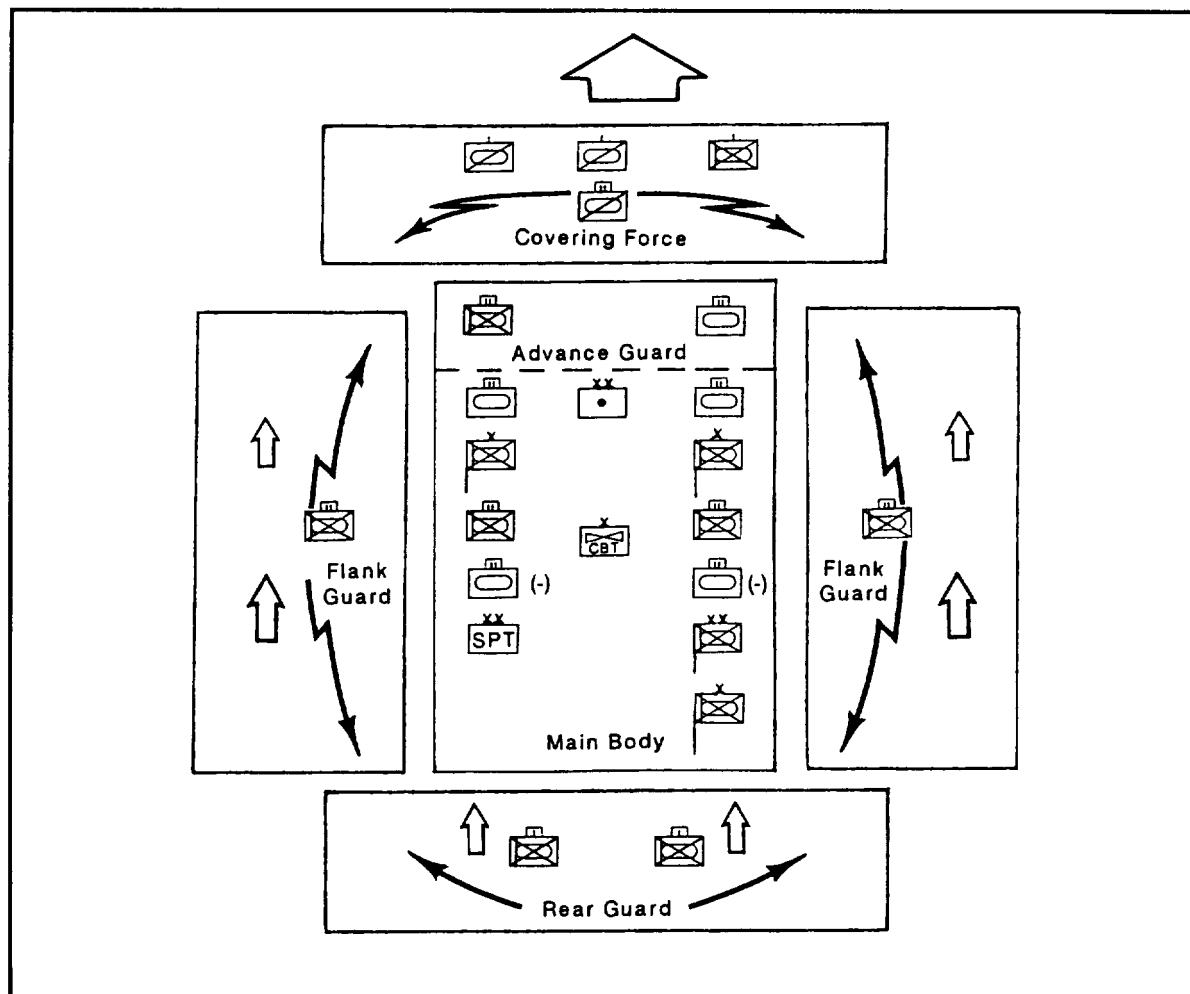


Figure 3-7. Division movement to contact.

Flank and rear security. Flank and rear security protect the main body from observation, direct fire, and surprise attack. These forces may be strong enough to defeat a strong enemy attack or to delay it long enough to allow the main body to deploy. As in the security force in front of the movement to contact, the flank and rear security force's ability to defeat or delay an enemy force is based on the strength of the security force deployed by the commander. He must perform a risk analysis to tailor the size of the security force—he looks at the presence of friendly forces, restrictive terrain, and suspected enemy contact.

Flank and rear security operate under the control of the brigade. Flank security travels on routes parallel to the route of the main body. It moves by continuous marching or by successive or alternate bounds to occupy key positions on the flanks of the main body. During the movement to contact, the flank security will also maintain contact with the advance guard. Rear security follows the main body.

A rear or flank guard is similar to an advance guard in strength and composition. If the flanks or rear of the brigade are secured by adjacent or following units, the size of the brigade security force can be reduced.

The main body. The main body contains the bulk of the brigade's combat power. It is organized and deployed to be capable of hasty attack or defense on short notice. March dispositions of the main body must permit maximum flexibility during the movement and when contact with the main enemy force has been established.

Elements of the main body may be committed to reduce pockets of resistance contained or bypassed by the covering force, or may be left for elimination by following and support units. Elements of a covering force that are assigned containing missions are relieved as rapidly as possible to rejoin the covering force and avoid dissipating their strength. Possible enemy forces to be bypassed may be strongpoints, garrisoned cities, or reserve locations.

Fire support

The main FS task in a movement to contact is providing immediate responsive suppressive fires to the maneuver units who initially make contact. In order to accomplish this task, three techniques should be considered:

- Decentralization of calls for fire.

Ž Movement of artillery units to make the artillery more responsive. TF FS personnel should send calls for fire directly to designated firing batteries. This is especially important for the lead TF(s). The movement of the batteries must support this decentralization, and should be synchronized with the movement of the TF with which they are associated. The associated battery can move directly behind the TF it is supporting. For choke points, the TF needs to consider moving the battery in the middle of the movement sequence rather than behind to ensure the lead company does not outrange its artillery support. Batteries might also consider moving by platoons to ensure one element is always in position to provide immediate fires.

- Shifting of priority targets to the lead TF(s). These targets can be plotted on the next probable area of expected enemy contact. If no contact is expected, the priority target can be shifted to the next area of expected enemy contact. If there is a reinforcing battalion, it can maintain its batteries under centralized control to give the capability to mass fires against possible enemy counterattacks and meeting engagements. Although the reinforcing battalion can move behind the DS battalion in order of movement, it should still move forward at the rear guard and maintain the ability to range forward of the lead elements.

Mobility, Countermobility, and Survivability

Engineer assets will move with the security force and advance guard to assist with mobility operations. The objective is to maintain the speed of the main body and not become impaired by obstacles. Those engineer elements that accompany the main body serve the same function, although they may be more concerned with route clearing and road mobility so CSS elements can keep pace with tactical movement. Countermobility planning will deal with situational obstacles. For example ADAMS and RAAMS targets are planned to secure the brigade's flanks. Scatterable mines can be planned for areas where contact is expected to help isolate the enemy's forces.

Air Defense

Air defense protects both the forward ground forces and the main body. Some air defense assets will accompany the maneuver forces, moving with them as part of the tactical formation, and others will bound with the force, providing protection from a stationary position.

Combat Service Support

Because movement to contact is characterized by increased consumption of POL, increased vehicular maintenance requirements, and reduced ammunition expenditure, planning should be geared toward pushing supplies forward. The speed of the operation and the high POL consumption necessitate careful planning of CSS operations; moreover, the brigade's support organization must be capable of sustaining uninterrupted delivery of supplies. As a result, the support units will often require reinforcements during movement to contact. Additional MP units may also be necessary to assure adequate traffic control.

Command and Control

The brigade main CP would normally displace as far forward as possible before beginning movement to contact to support the operation with a stable C2 environment; location depends on the depth of the

movement to contact, time available, and location of the division C2 facilities. The TAC and command group would operate forward with the main body to facilitate decision making and transition to other offensive tactical missions. If the distance traveled exceeds the main CP's capability for C2, it must be prepared to establish a jump TOC or position a retransmitting station. Figures 3-8 and 3-9 illustrate two types of brigade movement to contact: as part of a division movement and as an independent movement.

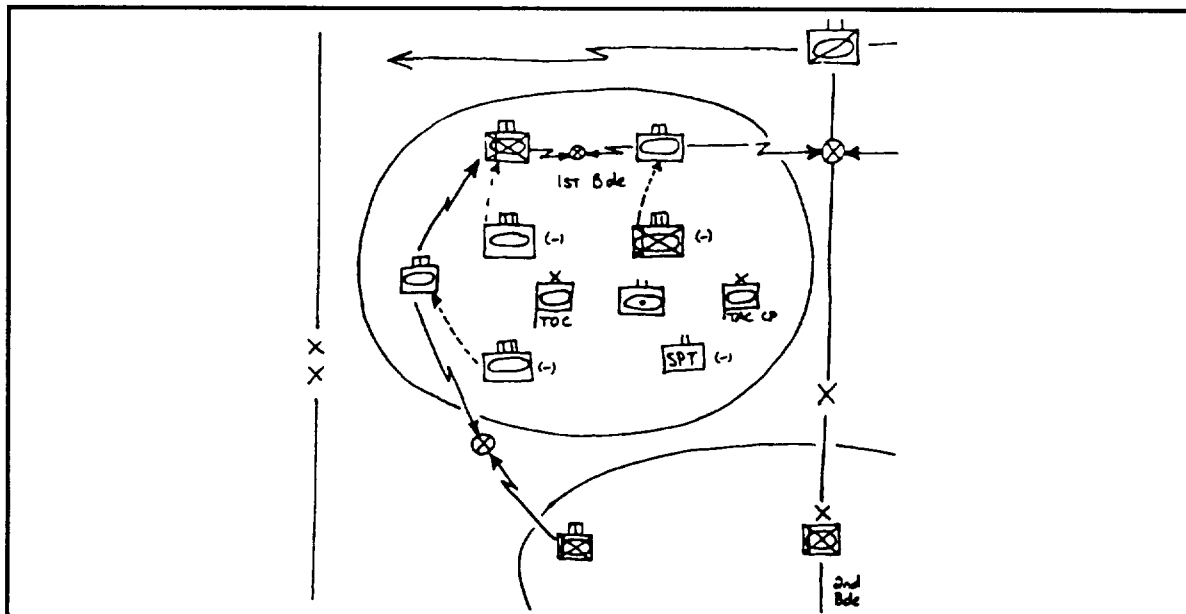


Figure 3-8. Brigade movement to contact as a part of a division movement.

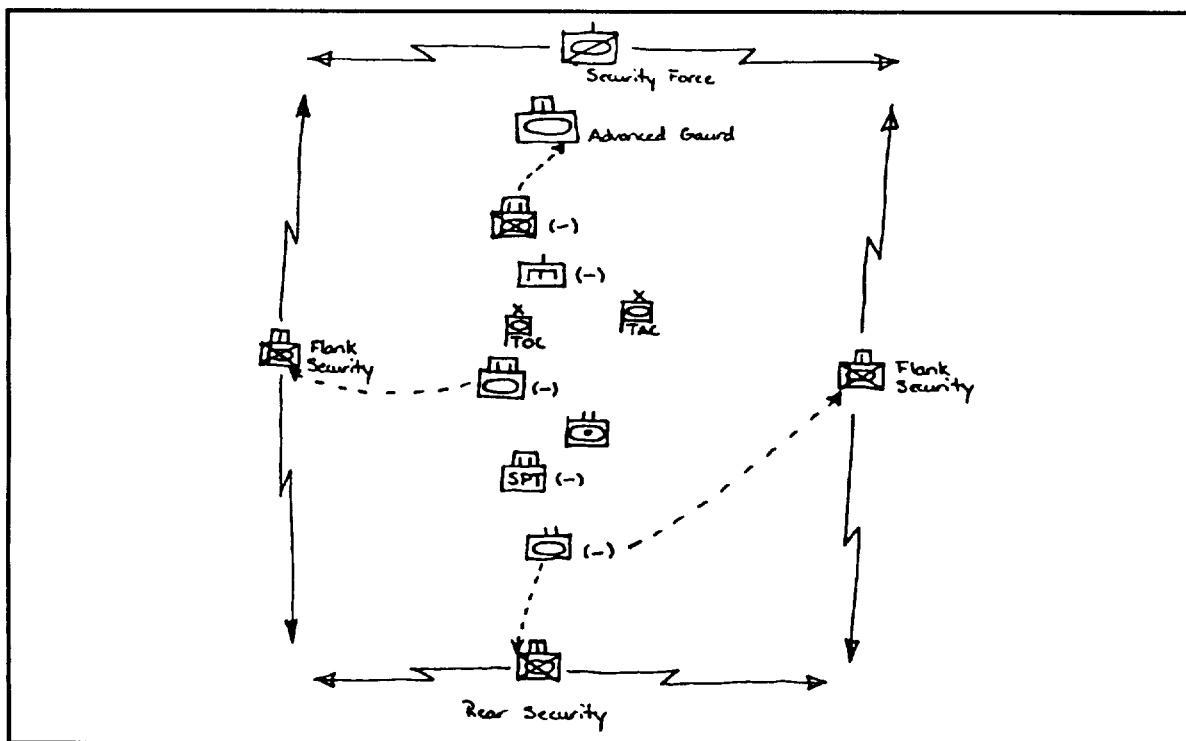


Figure 3-9. Separate brigade movement to contact (independent movement).

Preparation

Intelligence

In preparing for movement to contact, the S2 will continue to receive intelligence from both higher and lower reconnaissance and surveillance sources. He will take this intelligence and update the following tools:

- Enemy order of battle.
- Doctrinal templates.
- Event template.
- Decision support template.
- Intelligence collection plan.
- Reconnaissance and surveillance plan.

More importantly, the S2 will provide information to the commander, staff, and maneuver elements concerning changes and developments in the enemy situation. The commander may revise his plan based on this input (see Chapter 1, IPB paragraph, this FM).

Maneuver

When preparing for movement to contact, the primary concern of the commander is that his subordinate commanders understand their individual missions within the context of his intent. This is partially accomplished after the order is issued by an immediate backbrief. Once the battalion task force commanders have an opportunity to conduct their own troop-leading procedures, they may be recalled to the brigade commander for a rehearsal and update. Figure 3-10 shows an offense decision support template.

There are two major areas requiring attention when rehearsing for a movement to contact. The first is the reporting procedure. As the enemy situation is unknown or vague, any information regarding the enemy is important. Therefore when conducting the rehearsal, the brigade commander will want to ensure the reporting procedure is understood both up and down the chain of command.

The second area is actions on contact. Each commander must rehearse what to do when making contact with the enemy, not only for his benefit but so the other commanders understand their responsibilities considering the element in contact. In practice, this means conducting several rehearsals, one for each of the enemy's probable courses of action. To get the greatest benefit from the rehearsal, the S2 should role-play the enemy commander. This will ensure accuracy and may allow each engagement to be taken to a logical conclusion.

One critical action the brigade commander must decide during contact is the commitment of his reserve force. It is paramount that he be provided timely and accurate intelligence on the nature of the enemy contact so the reserve is not committed at the wrong time. Even after the reserve force is committed to the fight, the commander should look for forces to remove from the fight to create a new reserve force.

Fire Support

As with maneuver, it is important to rehearse the FS plan. The brigade commander will want to review the conduct of battery movement and the brigade FS plan/matrix with the FSCOORD of the artillery battalion commander, and to ensure subordinate commanders understand their role in executing the matrix.

Mobility, Countermobility and Survivability

In preparation for movement to contact, the engineers are placed in the forward elements of the movement and participate in the rehearsal. This is particularly important if there is any known obstacle that requires a deliberate breach along the axis of advance. If there are any natural obstacles that must be breached during the operation, for example, a river-crossing operation, they will also be incorporated into the overall rehearsal.

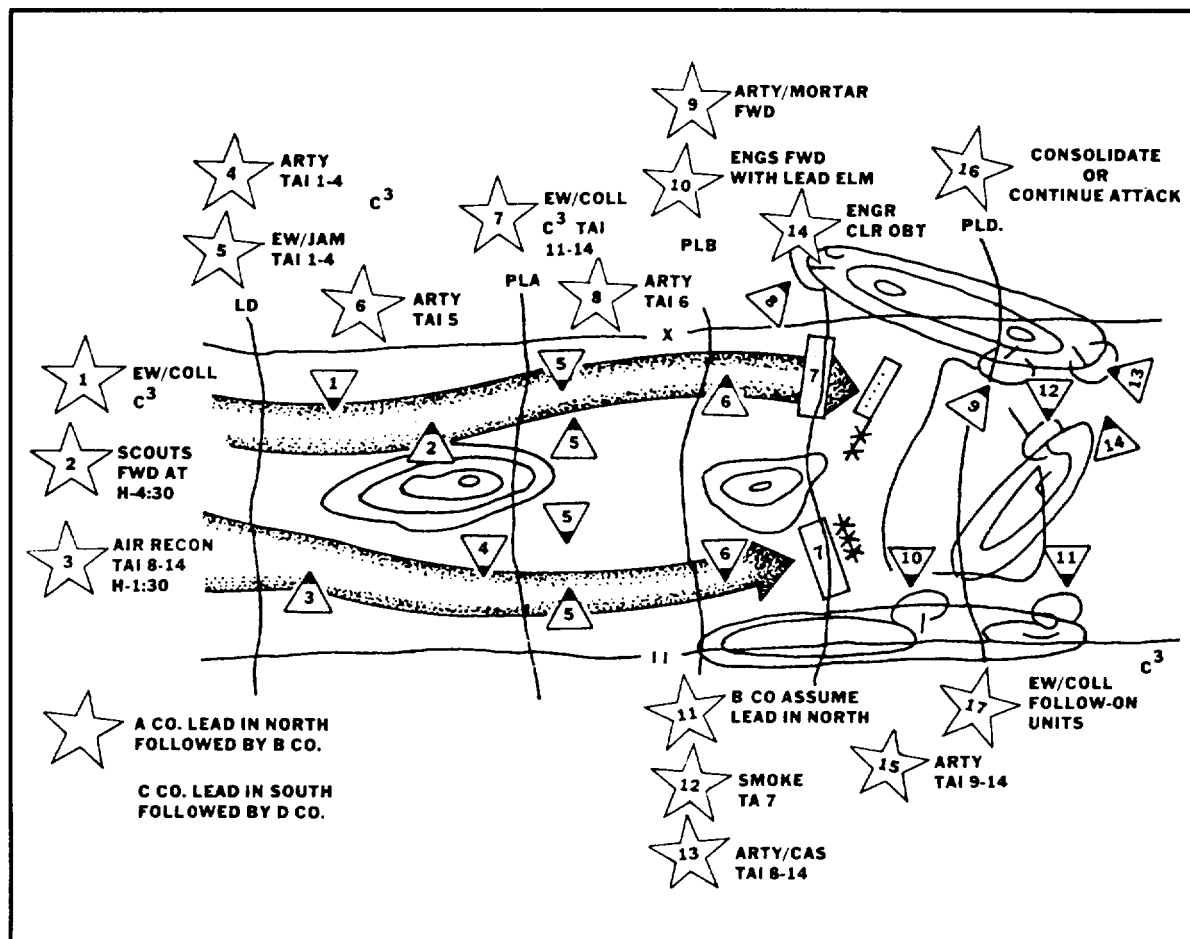


Figure 3-10. Offense decision support template.

If special pieces of equipment are required for the operation, they should be placed in the lead elements of the march column. If coordination is required between engineer and maneuver forces, this is a good opportunity to make the final check before execution.

Air Defense

The rehearsal provides a good opportunity to confirm the location of ADA assets. For example, a piece of high ground that offers observation of air avenues of approach may also be targeted by the artillery as a possible enemy OP along the route.

Combat Service Support

CSS rehearsal is very important in a movement to contact due to the extended lines and speed of the operation. Planned LRPs should be checked during rehearsal as should any scheduled refueling operations. Route security and convoy security are especially important as there are no established enemy lines. Moreover, the possibility of bypassing undetected enemy forces is all too real and could become a severe threat to CSS operations. The echeloning of trains is an effective technique for moving CSS assets without creating overwhelming space control problems.

Command and Control

The commander must think through the entire operation *before* rehearsal. He must identify possible choke points and examine the enemy's probable courses of action. When conducting the rehearsal, he must ensure the brigade players understand their individual and team responsibilities. Options and contingency planning

unessential during rehearsal so virtually every eventuality is addressed. He must point out where formations may have to change, or where speed of the operation will be adjusted as a result of the terrain or suspected enemy. Integration and coordination between combat, CS, and CSS elements will go a long way toward lessening the support problems after crossing the LD.

Execution

Intelligence

Once the movement to contact has begun, the S2 will continue to update his enemy situation template. As he develops a picture of the suspected enemy disposition and confirms or denies enemy probable courses of action, he relays this information to the commander and staff for dissemination to the maneuver elements. In this particular scenario the S2 really has two concerns. First, he must determine the disposition of the enemy force that broke contact. Second, he must be swam of the enemy's attempt to reinforce. While the movement to contact is being executed, he must pay equal attention to the actions of the enemy and to confirming their present course of action.

Maneuver

The brigade will move as directed by the brigade commander. The mission is to regain contact with the enemy, but the enemy may be attempting just the opposite. He may, therefore, leave nuisance minefield; or he may leave obstacles guarded by small stay-behind parties which attempt to slow our movement with limited direct fire, or more likely with adjusted artillery fire at choke points and defiles.

The commander must be aware of these delaying actions, but must give bypass criteria so the speed of the main body is not impaired. Unless an enemy stay-behind force provides a significant threat to one of the formations, it will be fixed, bypassed, and handed over to the follow-and-support force. The follow-and-support force is oriented toward engaging the enemy as a function of the execution of the follow-and-support mission, verses a reserve force, which is kept uncommitted until the critical point of a battle.

Forward and flank security forces will execute their mission in terms of both the commander's intent and the R&S plan. It is important that all previously identified areas advantageous to the enemy be cleared to avoid ambush or flanking enemy attack. The movement of the brigade can be controlled using PLs and checkpoints on easily identifiable terrain. Unit orientation will first be directed in sector with respect to the formation itself, and second toward those areas suspected of posing a threat to the brigade.

Movement to contact ends with the occupation of an objective without enemy contact, or when contact is made and the enemy cannot be defeated or bypassed. This occurs in a series of meeting engagements and/or hasty attacks. In an encounter with a moving force, action should take place without hesitation. Battalions use tire and movement to fix the enemy. The decision to attack, bypass, or defend must be made rapidly at each echelon. The decision must be governed by an understanding of the division commander's intent.

Fire Support

In the execution of the movement to contact, the fire support plan should continuously be updated to reflect the availability of more detailed information provided by the maneuver units and the S2's refinement of the situation template. This includes the changes to the maneuver plan effected by the commander in reaction to enemy actions.

Mobility, Countermobility, and Survivability

During movement, these must be protected by the combat maneuver elements. Only after an obstacle has been identified and no bypass route found, will the engineers move forward to breach. However, during the reconnaissance for bypass routes, a small portion may move forward to conduct initial reconnaissance of the obstacle in order to save time. On order of the maneuver commander, engineer assets found in the follow-on forces will have the additional responsibility to reduce obstacles bypassed by the advance guard, or to breach obstacles encountered by the flank guards.

Air Defense

As the air defense elements maneuver with the brigade, the air defense plan must be continuously refined to reflect the change in the enemy situation.

Combat Service Support

CSS elements will follow the main body and be protected by the rear guard. As forces require refueling and resupply, the support elements will move forward in log packs. Maintenance collection points will be established as required.

Command and Control

The commander will make any changes to his plan or changes with respect to the control of the brigade through fragmentary or oral orders. Leaders at all levels, however, should not hesitate to make decisions or take appropriate action in the absence of those orders. Efforts to retain the initiative remain decentralized, but the decision to commit the entire force or to halt the attack remains with the senior commander. Figure 3-11 shows a sample operational graphics for a brigade movement to contact.

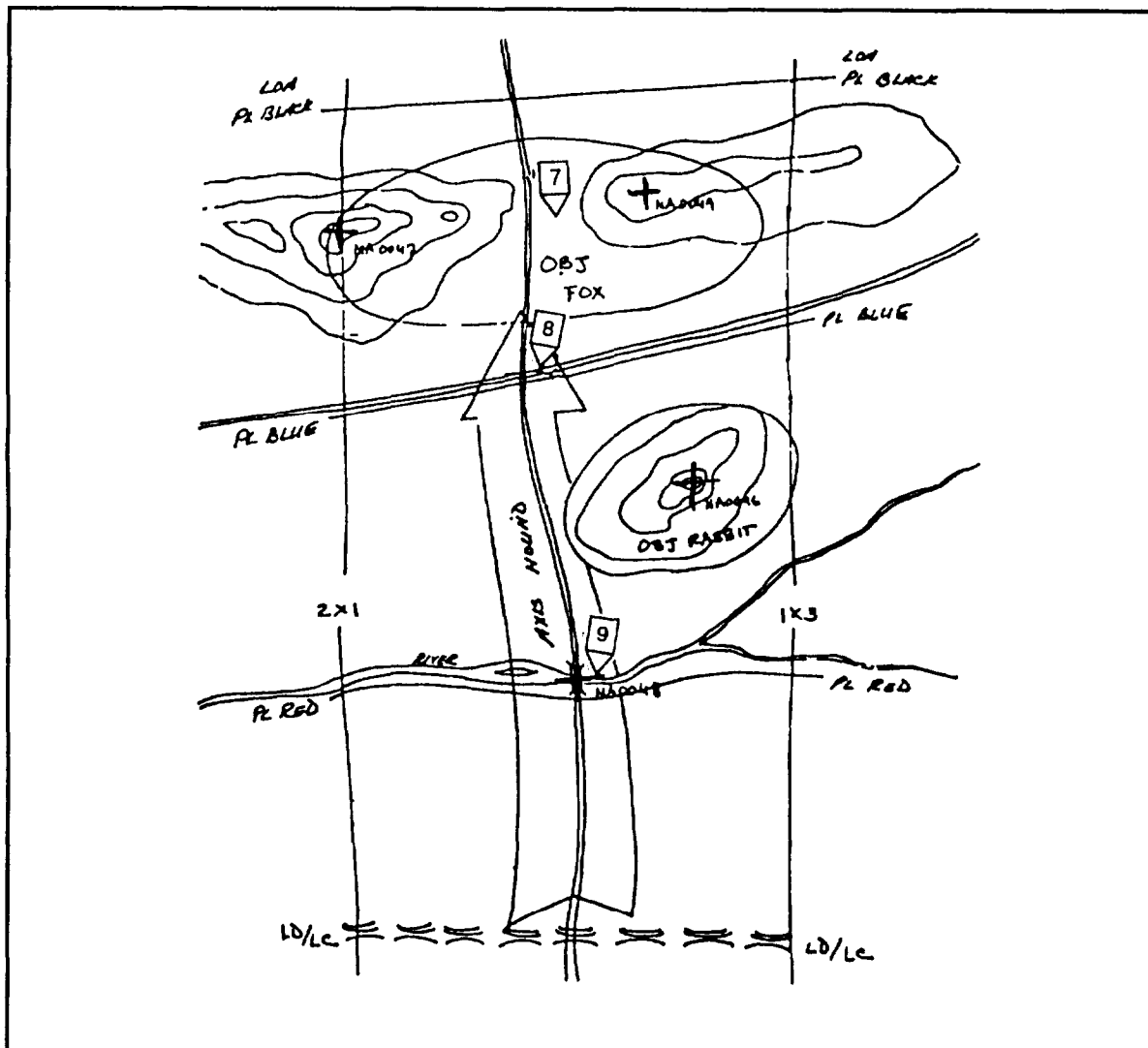


Figure 3-11. Sample operational graphics for a brigade movement to contact.

Hasty Attack

The basic principle in conducting the hasty attack is to seize the initiative. Before mounting a hasty attack, the commander must develop the situation, determine enemy strength, and rapidly mass firepower against the enemy. By retaining the initiative, the commander can subsequently adopt the best course of action to accomplish his mission. A hasty attack is usually conducted following a movement to contact. To maintain momentum, it is conducted with the resources immediately available.

Planning

Intelligence

Because the hasty attack is generally an outcome of the movement to contact, any intelligence planning will be that which was conducted as part of the movement-to-contact planning. The S2 knows before the operation that some enemy forces will be left behind in sufficient strength to warrant attack by the brigade as a whole. This most likely would be about a battalion in strength. Knowing the type of unit, BMP, BTR, or tank, the S2 will have a rough idea of where that force might be positioned and how it will defend. Ultimately, several options will emerge from this analysis. During the actual movement to contact, intelligence reports should confirm or deny them. Once actual contact is made, there will be little time to develop a clear picture of the enemy outside of what is being reported by the units in contact.

Maneuver

Like intelligence, maneuver planning for actions on contact (hasty attack) are manifested in the planning and preparation for the movement to contact. The commander will have only a vague picture of where and how the enemy will defend, based on input from the S2 as well as his own experience. Remember, much of the planning for a movement to contact is based on the desired outcome on contact. Therefore, the commander will consider options available to the brigade. If the situation is vague and the enemy is a considerable distance away, he may choose to lead with a large number of reconnaissance elements spread over a wide area to develop the situation and retain the main body in a tighter, more responsive formation. If the avenues to the enemy are relatively short and the enemy situation is better developed, he may select a formation that allows him to hit the enemy in a vulnerable spot or outflank him.

Regardless of the formation selected for reconnaissance and security elements, the hasty attack will normally occur in the following sequence. Therefore, the drills and SOP tasks that are associated with each step should be reevaluated within the context of the current situation.

Advance of reconnaissance and security forces. In planning the advance of the reconnaissance and security elements, the commander should identify the direction of movement, possible danger areas, objectives to be occupied, and bypass criteria. This planning is the same process used in the movement-to-contact planning.

Deployment and assault by security forces. Once contact has been made with the enemy, the security force will attempt to develop the situation. In planning, the major consideration for deployment is task organization. Reconnaissance elements generally are not heavy enough to deploy against an enemy, but armored forces are. The commander therefore, will want to ensure that C2 and organization of the security force is a mix of armor and reconnaissance elements. Again, the organization must be based on METT-T considerations. One of the key points the commander should keep in mind is that the enemy may want to slow the main body by making us deploy. The advance guard must have enough firepower to destroy smaller size elements. If it does not the enemy will have accomplished its mission. If the enemy encountered is too strong for the advance guard, it must be prepared to become the support force for an assault by the main body.

Assault by the main body. As the security force suppresses the enemy with direct and indirect fires, the main body changes from a movement to contact formation to an assault formation. The size of the actual assault force is determined by the intelligence generated by the advance guard. The planning for this assault is generally limited to templated or suspected enemy defensive locations. In this regard, the identification of

areas such as checkpoints corresponding to these and other easily identifiable locations will allow the maneuver units to execute quickly from FRAGOs. However, not all maneuver units will be committed to the assault. The commander must maintain security throughout the operation; therefore, he must identify which units will maintain security if the main body is deployed.

Fire Support

FS planning for a hasty attack will be a continuous process. The operation needs extremely responsive fire support to compensate for the relatively small amount of maneuver power initially echeloned forward. At division level, the majority of FS assets will stay within the area of the main force, but because the brigade will ultimately outrange this support, provisions must be made to position direct-fire support artillery forward with the attacking brigade. The division should continue to attack deep targets, suppress enemy air defense, and provide counterfire.

The brigade considers major tactical contingencies and makes sure the lead TFs and subsequently committed TFs have adequate fire support. The brigade attacks the targets in its area of operation that are critical to success. It supports its operation with a combination of standard relationships and missions, as well as nonstandard relationships and quick-fire channels.

The brigade also plans for positioning the artillery in support of the scheme of maneuver. Artillery units are moved to forward firing positions by integrating artillery units into its march columns and attack formations. Fire request channels must be kept open to all units. Displacement of artillery must be controlled so that FS to committed units is not interrupted.

Mobility, Countermobility, and Survivability

Much like the movement to contact, engineers are task organized to support instride breach operations. Attachments provide the commander the greater tactical flexibility in the fluid circumstances typical of hasty attacks. CEVs and AVLBs play a key role in the attack and should be located forward where they can best support leading elements of the brigade.

Air Defense

When the maneuver force moves to attack, the attacking maneuver battalions should receive air defense priority. The Vulcan gun and Stinger missile system provide air defense to the attacking maneuver forces.

Combat Service Support

Once contact is made, every class of supply would be affected except for barrier material. As a result, in addition to primary and alternate MSR selection and all of the collection, maintenance, and evacuation activities associated with them, LOGPAC resupply of Classes III and V must be prepared and moving as far forward as common sense allows. If the brigade is forced to engage in high-intensity combat, CSS is in a position to respond rapidly.

Command and Control

Because preparation time is short, planning time is almost nonexistent and orders are brief, and usually oral, during the hasty attack. It is imperative that commanders locate with lead elements to control the situation as it develops. The brigade commander should be with the lead TF that has the most critical mission to the overall operation. This does not mean the brigade commander is there to tell the TF commander how to control his unit. Rather, the brigade commander must ensure the TF commander gets everything he needs to ensure success. The brigade commander will augment the TF fires as necessary to achieve a synchronized effect of firepower. Although TAC CPs need to be close to their commanders for battle direction and information flow, their movement cannot be allowed to interfere with attack formations. Brief situation updates must be planned for and may be event-driven; for example, on crossing each brigade PL. This will assist the brigade as they operate through the use of FRAGOs, TIR-shift graphics and battle drills. Detailed SOPs and a thorough understanding of the commander's intent make coordination between units possible.

Preparation

Intelligence

In preparation for the hasty attack, the S2 will be forced to make some quick assessments. Until enemy contact, the S2 should constantly update and revise his enemy situation template, confirming or denying possible enemy courses of action. The commander will decide whether or not to conduct a hasty attack based on the advice of the S2 and the spot reports from the units in contact; therefore, split-second judgments and decisions are required. As a minimum, the commander will want to know—

- The enemy's location.
- The enemy's strength.
- Ǻ The enemy's intentions/probable course of action.
- Ǻ The enemy's obstacle effort and composition.
- The enemy's ability to reinforce.
- Ǻ Any exploitable enemy weakness.
- Ǻ The consequences of bypassing the position.

Maneuver

The commander prepares for the brigade hasty attack while rehearsing the movement to contact. Specifically, he must run the brigade staff and commanders through a series of enemy courses of action. This will exercise command and staff drills and SOPs. There are several enemy actions that should be considered during rehearsals:

- The advance guard makes contact with a small force. Options may include fix and bypass so as not to sacrifice speed, or conduct a hasty attack.
- The advance guard makes contact with a large force. Options include possible hasty attack, suppressing for the main body attack, or hasty attack while the main body bypasses.
- Ǻ A flank security force makes contact with a small force. The flank security force can fix and bypass or conduct a hasty attack. What does the rest of the main body do in the meantime?
- Ǻ A flank security force makes contact with a large force. The flank security force will suppress the enemy, while elements of the main body conduct the attack. What does the remainder of the formation do during the attack?

The commander should reinforce his intent throughout the rehearsal, and identify any possible difficulties in execution. The S2 should be present to ensure the enemy course of action is accurately portrayed.

Fire Support

The FS plan will be rehearsed along with the maneuver plan. In particular, the brigade FSCOORD will ensure that the units will call those priority targets that they have been assigned, that they understand when priority of fires shifts from one unit to another, and that there is sufficient communication between the maneuver elements and the forward batteries to ensure protection of the guns as the situation is developed. Of particular concern will be the artillery's ability to respond to a rapidly changing situation once contact is made and its ability to sustain that fire in support of a deliberate attack.

Mobility, Countermobility, and Survivability

At brigade level there are two things the engineers must verify before execution. First, they must ensure the engineer assets are sufficient to guarantee mobility. Second, they must ensure the force is able to conduct hasty breaches without a significant loss of momentum.

Air Defense

If the brigade is forced into a hasty attack, adequate planning must be done to incorporate the likely enemy EAs with the best possible air defense locations required to protect the force during the hasty attack. The brigade's concern with air IPB remains the focus of the planners for the hasty attack just as it was for the movement to contact.

Combat Service Support

The requirement for ammunition, medical, and vehicle evacuation, and any other activity associated with the attack will increase sharply as enemy resistance increases. The FSB commander, with the brigade S4, will closely examine the MSRs' security, location, and flexibility.

Command and Control

During the rehearsal, the commander will verify that his control measures are adequate for the hasty attack. More often than not, the hasty attack will be a FRAGO from TIRS or checkpoints. Therefore, the commander will want to ensure "on order" graphics are adequate to control the hasty attack. The commander will ensure control measures sufficiently control movement and direct and indirect fire.

Because of the spontaneous nature of the maneuver, it is imperative that all subordinate commanders understand their responsibilities within the parameters of the commander's intent, as well as their relationship with other elements. For example, the element that makes contact and develops the situation must maneuver to gain effective suppression of the enemy, especially if a hasty attack of the main body is required. They must communicate their observations not just to higher headquarters, but to the other TF commanders to maintain coordinated actions. This also guides the assault force as it makes its attack. Similarly, the assault force must direct the suppressive fires of the support force so that the most debilitating effect on the enemy is achieved.

In rehearsing the hasty attack, the commander must check to ensure each player operates as a member of the team, actually achieving unity of effort. This is accomplished by the commander presenting the tactical scenarios discussed earlier. As the rehearsal is conducted, the commander must issue his instructions orally, as he would in combat, and verify that his subordinates are able to respond to his orders with limited instruction. During the rehearsal, the commander may determine that his control measures require augmentation or modification. These should be made, but not to the point of significantly altering the plan, which could cause chaos within the subordinate elements who are in the process of developing their own plans.

Execution

Intelligence

Once contact with the enemy is established, the situation is developed vigorously and aggressively. The ability to find and exploit an assailable flank will disclose the enemy's disposition more rapidly than conducting a frontal attack; and will present more opportunity for tactical surprise and will achieve decisive results. The ability of the S2 to tentatively identify an assailable flank, and of the maneuver forces to find it, are as much a function of the enemy disposition as they are of reconnaissance. The S2 must be prepared to provide the commander with an estimate of the enemy disposition and probable course of action shortly after contact is made, as this will drive much of the decision making. The danger is there is inclination to focus on the enemy element in contact, when the real threat may in fact come from other enemy units positioned in depth or from a deploying reserve.

Maneuver

The element that makes initial contact has the responsibility to develop the situation and make a quick assessment of the situation. In particular, the commander of the unit in contact must quickly decide whether to fix and bypass, attack, or become the support force for an attack by the main body. Also, his report to higher headquarters will drive the decisions of the higher commander. Assuming the situation is such that the advance guard must lay down a base of fire for a hasty attack by the main body, thus becoming the support force, the advance guard commander must move to a position of advantage over the enemy force. Specifically, the support force will attempt to fix the enemy in order to deny their freedom of movement. While this

occurs, the commander of the support force will constantly update the higher commander about the situation and attempt to identify the most effective direction of attack for the assault force. The brigade commander will quickly give instructions for the CS elements to support the brigade designated main effort. For example, the artillery will position forward, not only to range to the identified enemy, but also to identify probable adjoining enemy positions or to counterattack avenues of approach.

The force designated to conduct the assault must rapidly change formation from whatever it was for the movement to contact to the appropriate attack formation. The assault force commander will communicate with the support force commander to coordinate direct and indirect fires as the assault force conducts their movement to the enemy position and during the final assault of the enemy position. In particular, the assault force commander will want to isolate the position quickly from other possible enemy positions and suppress the enemy's ability to observe or engage the assault force. This will be accomplished by a combination of direct and indirect fire. In the meantime, reconnaissance elements must screen to any exposed flank(s) of the assault force, ensuring security.

The assault force commander will direct his force through the use of TIRS or checkpoints and terrain features easily identifiable to the assaulting forces. The actual assault of the position, however, becomes a drill conducted by the assaulting forces. Once the fires of the support force have been masked, the support force will either join the assault force on or near the objective, or move to another position that will safeguard the main body from possible enemy counterattack. This must be a preplanned action controlled by the brigade in support of the commander's intent.

Fire Support

The commander will attempt both to isolate and prepare the enemy position before the assault. The primary concern of the assault force commander, aside from the assault itself, is security. If the enemy is able to bring flank or enfilade fires to bear against the assault force, the attack may fail. Reconnaissance forces will screen the flank of the assault force, and artillery will be used to suppress likely enemy positions that may be in observation or range of the force most likely this means using HE and smoke. On the objective itself, the primary concern is suppression. Although an artillery preparation generally lifts enough dirt to obstruct vision, smoke will also be necessary to ensure that the exact point of attack is unknown to the enemy until the last moment. The disadvantage to the assault force is that many of the enemy positions may also be obscured from observation and tire from the support force or maneuver elements of the assault force.

Nevertheless, once the assault force closes with the enemy, indirect fires will be shifted. Some artillery will be used to block reinforcement of and retreat from the objective. Other artillery tire will be used to protect the assault force from fires and observation from depth positions. These probable enemy positions will be suppressed, therefore, in the same manner as described earlier. Further, as an enemy counterattack may be imminent, FOs and OPs will position themselves to view the enemy likely avenue of approach. If time allows and the situation permits, targets along these avenues may be planned while the assault force consolidates and reorganizes. One note of caution: if the enemy situation was such that these activities occurred, the unit will probably adopt a hasty defense and perhaps pass other friendly maneuver elements forward to maintain momentum.

Mobility, Countermobility, and Survivability

Upon inching the objective, the maneuver elements *may* be required to participate in breaching operations. In some cases, units may be forced to attack without engineer support; however, this is the least desirable scenario. In this instance, the mechanical breach is the best option, as it offers the least degradation of speed and protects the force (dismounting is not required).

Air Defense

ADA assets must be prepared to protect the force by engaging the enemy at any time throughout the operation. Primary concerns will be ADA's ability to position itself while the main body moves, and to occupy the best appropriate terrain quickly once contact has been made and the main body slows becoming an even more lucrative air target.

Combat Service Support

The brigade is going from a high-mobility/flow-contact situation to one of rapid expenditure of ammunition and increased casualties. Support assets may quickly find themselves unable to respond adequately to the demands of the hasty attack, unless extensive planning and rehearsals were conducted prior to execution. CSS elements in particular must be prepared to push supplies and recovery assets forward. Class V expenditure will be high. Similarly, maneuver elements may have blundered into a potentially lethal situation requiring the use of recovery assets. Just as with maneuver units, CSS units must be prepared to operate from FRAGOs.

Command and Control

The commander has a particularly difficult role during the hasty attack. He must allow his subordinates to develop the situation and make decisions quickly, with very little planning. It is paramount, therefore, that subordinate commanders understand the brigade commander's intent likewise, the brigade commander must trust the judgment of his battalion commanders, because there simply is no opportunity for a second chance. Once the brigade commander decides to conduct a hasty attack, he must put his full weight into assuring that each subordinate commander gets the necessary support. Once the assault force moves to attack the objective, it may receive priority. Any aviation or CAS sorties which may be allocated to the brigade should be synchronized to augment the fires of the assault force. Each element must move quickly as in a drill. Commanders must talk laterally and vertically, making suggestions and maneuvering as a team. The brigade must operate as a close-knit unit, where each knows his role and that of his teammate. The commander must know, through continuous information flow from subordinate commanders, what to expect of each element and what he can give in return. Figure 3-12 depicts the hasty attack.

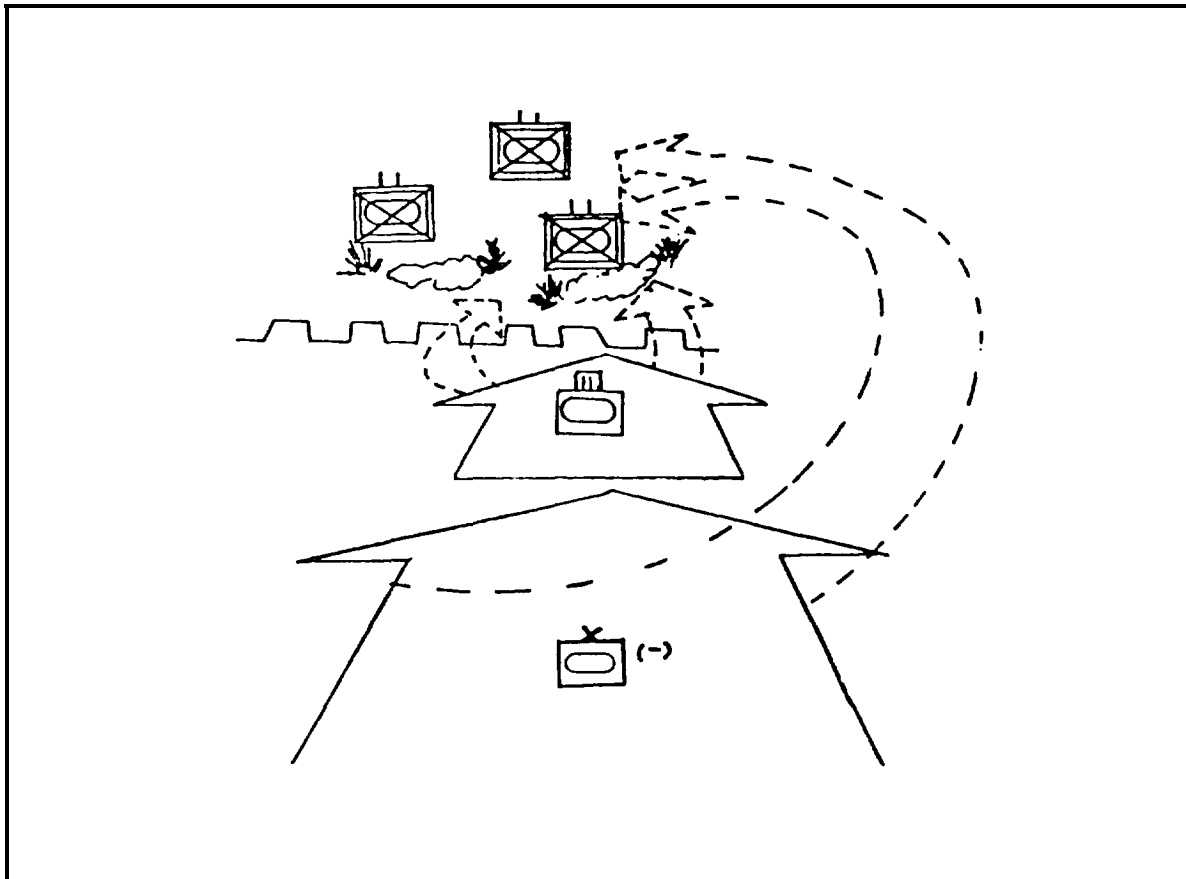


Figure 3-12. Hasty attack.

Deliberate Attack

Planning

Intelligence

The deliberate attack requires as much detailed information about the enemy as possible, therefore, thorough reconnaissance before the attack is important. The S2 will also request intelligence from higher headquarters, as appropriate, or request the brigade's PIR be included in the division collection planning. Additional efforts must be made to conduct ground reconnaissance, if possible. The two most important items will be the identification of the enemy's exploitable weakness and a determination of his probable response to our attack. Armed with this information, the commander will know when to attack and what counterreactions to take against the enemy to preclude his influencing our operation.

Maneuver

Brigades conduct deliberate attacks through coordinated battalion task force attacks consisting of fire and maneuver. A battalion task force participates in a brigade deliberate attack as a support force or a maneuver force.

The support force.

Mission. The support force fixes the enemy to the ground and suppresses his weapons, thereby permitting freedom of action by the maneuver force. The support force normally will not close on the objective unless its fires become masked or it is no longer able to suppress adjoining enemy positions.

Composition. The support force at the brigade level may consist of elements of the battalion task force, or if the situation allows, an entire battalion task force. Mortars, artillery, naval gunfire, antitank weapons, tanks, and Bradleys can all contribute to the base of fire. Helicopters may assist; however, they are better suited to accompany the maneuver force, as a support role does not take advantage of their capabilities.

Employment. The support force should assign specific targets and target areas to be freed during the advance of the maneuver force, during the assault, and during the continuation of the attack or consolidation on the objective. Signals for lifting and shifting of these fires must be prearranged, and should include visual signals if possible. The support force must also be prepared to engage targets of opportunity within the parameters of the commander's intent. Similarly, the support force must be prepared to move to other positions from which it can continue to deliver necessary suppression. Alternate positions must be selected for each element.

The maneuver force.

Mission. The maneuver force closes with and destroys the enemy.

Composition. The maximum possible strength should be placed in the maneuver force. When possible, it should be a combined arms force of tanks, mechanized infantry, aviation, and a CS/CSS slice.

Employment. The maneuver force closes with the enemy as quickly and directly as possible to exploit the effects of the base of fire. It is usually committed so that it has mass, and when possible, it seeks to attack at an identified weak point in the enemy's defense. Once the maneuver force is committed, it should proceed with all the speed and violence at its command. The advance should be timed so the elements of the maneuver force arrive on the objective simultaneously. Tanks and mechanized infantry can then provide mutual support. As the objective is reached and overrun, support force fires onto the objective will be masked. The support force will then shift its fires to the flanks and rear of the objective if possible; in the meantime, the assault force of the maneuver element is intensified.

Actions on the objective. As the assault force secures the objective, the brigade begins to focus on the enemy elements that could counterattack. The brigade commander will reposition battalion task forces on the objective either to defend against an enemy attack or to prepare for future operations. The brigade will

continue to synchronize the consolidation of the objective. Based on the end state of each battalion task force, the commander may adjust task organization.

Scheme of maneuver. This is the detailed plan for the placement and movement of the maneuvering force into advantageous positions on the objective with respect to the enemy. In developing the scheme of maneuver, consideration is given to its possible effects on future operations. The scheme of maneuver includes but is not limited to—

Ž Task organization.

- Formation.
- Control measures.
 - Objectives.
 - Direction of movement.
 - LD.
 - Time of attack.
 - Checkpoints.

Formations. The attack formation selected by the commander will ultimately be based on the factors of METT-T. In general, the depth of the attack depends on the following conditions:

- An attack in depth is favored—
 - Against deep objectives.
 - When there is a requirement for security against a counterattack.
 - During periods of poor visibility when maximum control is desired.
- A formation with less depth is favored—
 - Against limited objectives.
 - When major enemy strongpoints and troop concentrations are known.
 - When the objective is securely held by the enemy, and there is a requirement to place maximum fire upon the objective.

Column. The column formation provides depth to the attack since units are in a position to move through or around a leading unit. The commander using the column will normally have several courses of action open to permit him to retain the initiative, maintain the momentum of the attack, and provide the response required to meet varying situations. The column affords the commander with significant uncommitted combat power in the form of reserve units introduced into the situation at the time and place of his choosing. Also, the follow-on elements are available to assume the mission of the lead element should its combat power decrease. The column formation provides a high degree of security to the flanks since units are in a position to counter threats to either flank. It also facilitates control. Considerations favoring C2 include—

- Restricted maneuver room.
- Enemy defenses that must be attacked on a narrow front.
- Enemy reserves in such strength and location that a sustained attack or a meeting engagement is anticipated.
- Use of a column formation, forced by terrain and the enemy situation. Care must be taken that use of a column does not unduly emphasize security and flexibility at a cost of speed and placement of maximum firepower forward (see Figure 3-13).

Line. The line formation is formed by placing two or more units abreast to lead the formation. The line formation provides combat power forward over a relatively wide front. A commander using a line formation

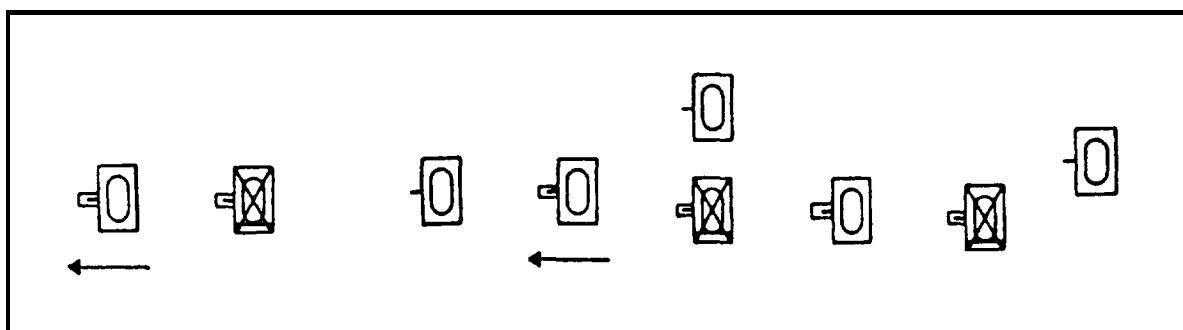


Figure 3-13. Variations of the column formation.

can employ leading units so their attacks are mutually supporting. He can converge the combat power of leading units into one massive, coordinated assault. The formation also allows the commander to gain information from a broader front than if he was using a column formation (see Figure 3-14). Gaps, weak points, or flanks of the enemy's disposition are more rapidly discovered. The line is more difficult to control than a column. Considerations that favor use of the line are—

- Adequate maneuver space.
- Shallow enemy defenses.
- Requirement for more combat power than one subordinate unit.
- Requirement for a rapid advance on a broad bent.

Ž Requirement to develop the situation.

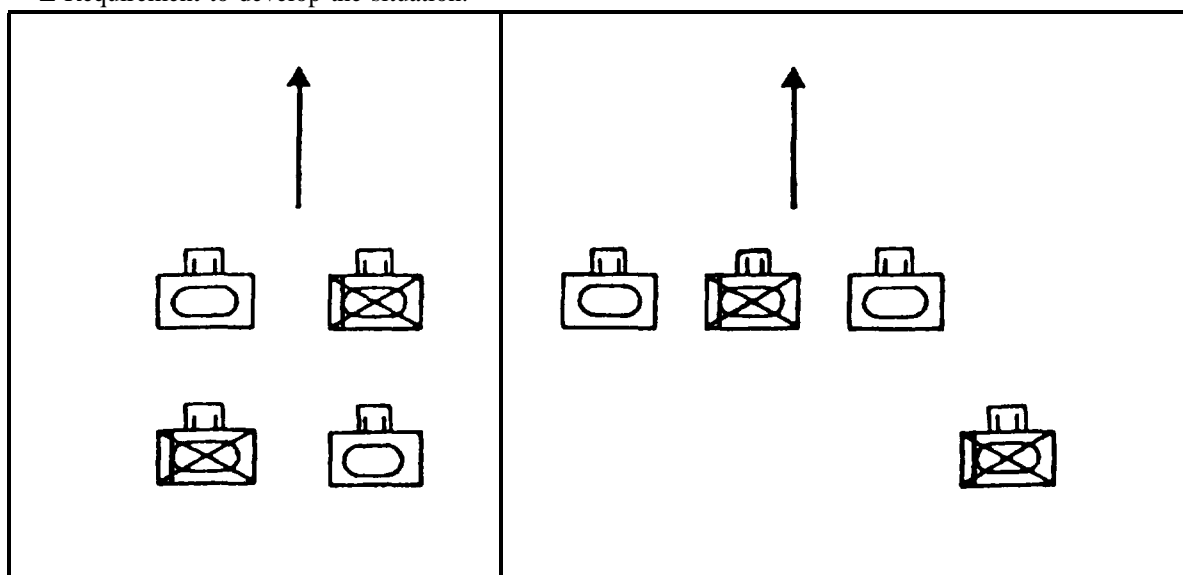


Figure 3-14. Variations of the line formation.

Reserve. A reserve is part of a body of troops that is kept to the rear of the formation, or withheld from action at the beginning of an engagement so it is available for decisive employment. In heavy operations, reserve forces are kept well forward in the formation to be readily available for the commander's immediate use. Committing the reserve is a matter of reasoned judgment by the commander, based on his analysis of the factors of METT-T to include:

- Size of the reserve. A deep objective, the extent of knowledge of the enemy situation, available friendly combat power, or inability to visualize the attack or its conclusion require the retention of a stronger reserve than when these conditions do not exist.
- Location and movement. In attacks by armor units, the reserve, when designated, is part of the maneuver force. It moves in the overall unit formation. In the formation, the reserve is positioned to permit rapid movement to points of probable employment, and provide security by its presence.
- Establishment or reconstitution of a reserve. When the commander has all maneuver units actively engaged, he should provide for means by which he may influence the action. He may constitute forces for a reserve from other elements of the command, determine which unit may be most profitably disengaged if an urgent requirement for a reserve arises, and request additional means from higher headquarter.

Fire Support

In planning, the commander strives to ensure that his FS is massed where he needs it the most. The majority of fires will be in groups or series. FS is planned “top down” to ensure synchronization with maneuver forces and massing of fires. Indirect fire preparation of the objective should be delivered immediately preceding the attack and in combination with the movement of attacking units, depending on the amount of surprise desired or necessity to soften the point of attack. Indirect fires should also be planned to isolate the objective from both the observation and effective fire of the enemy located on adjoining positions. Generally, this will mean delivering a mix of HE and smoke. Smoke missions must be carefully planned in terms of location, duration and logistical support, as the basic load of an artillery unit does not include enough smoke ammunition for sustained operations.

As the attack progresses, initial OPs will become ineffective. Calls for fire on enemy positions in depth will originate with the maneuver elements who have penetrated the enemy defensive belt. This is particularly true if the enemy has chosen a reverse slope defense. Fire control must be planned accordingly.

FS must also be planned to assist in the interdiction of the enemy’s counterattack force. This could mean firing FASCAM, for example, into his hide position or at a choke point to block his access into the MBA. FASCAM is costly in terms of time and tubes, and must be weighed against the close support mission.

Once the attack is completed, FS planning takes on a defensive posture as the maneuver elements consolidate on the objective. FPFs are planned, and targets along likely mounted and dismounted avenues of approach are registered.

Mobility, Countermobility, and Survivability

The focus of engineers in the deliberate attack is on mobility. The brigade engineer uses the confirmed situation template and the scheme of maneuver to recommend the allocation of mobility assets. Breaching of tactical and protective obstacles are anticipated. In the planning process, the brigade engineer used the force allocation ratios to recommend a in-stride or deliberate breach for breaching the enemy’s tactical obstacles. Allocation of breaching assets are also considered for assault breaching through the enemy’s protective obstacle system. With the mobility requirements identified, engineer units and assets are task organized. If a brigade deliberate breach is planned, the synchronization of the support, breach, and assault forces are detailed and the breach fundamentals (SOSR) are planned. The basic planning factors for tactical obstacle breaching are—

- Support force: 3:1 friendly to enemy for adequate suppression (direct and indirect).
- Assault force: 3:1 friendly to enemy.
- Breach force: number of lanes required (one engr plt, or two MICLICs, or mineroller and mineplow per lane).

Air Defense

Air defense assets must travel with the maneuver force, as Soviet-style air attack is incorporated into defensive planning. Some assets may remain with the support force oriented on identified enemy air avenues

of approach. Should the commander choose to begin the operation under electronic silence, he must be swam that air defense radar systems will not be available. Conversely, the electronic signature of active radar systems may tip off the enemy to impending attack as emissions increase prior to H-hour.

Combat Service Support

During offensive operations, the brigade support area moves forward as required. If the road net is limited, locating the BSA to ensure adequate CSS is increasingly important.

Ammunition expenditures are generally lower in the offense: however, POL products will be in great demand and support units must be prepared to fuel forward. Casualties are normally high during this type of offensive action, particularly those units directly involved in the assault. This necessitates rapid evacuation by the supporting medical aid and evacuation teams. When attacking through a friendly unit, to assist in receiving casualties, coordination should be made with the friendly unit aid station. Vehicular losses are likely to be high, so close and continuous support is essential, with emphasis on using BDAR. Battalions will establish UMCPs, from which vehicles will be evacuated to the BSA's maintenance company.

Command and Control

The commander must plan to position himself where he can make timely decisions. The commander's key decision will probably be where and when to commit the reserve. Should the attack begin to bog down or a counterattack strike, the commander must be in a position to receive the rapid notification, assess the situation and execute his instructions in a timely, effective manner. He must be in a position to see the battle. He must be able to talk to subordinate headquarters and commanders, have the most recent intelligence, and use his training, experience, and instinct to his advantage.

Preparation

Intelligence

Prior to execution, the S2 should have a clear picture of enemy defensive positions, obstacles, and the location and possible use of his reserve. It is also important the S2 differentiate between known and unknown enemy locations to inform the commander of enemy actions. During the rehearsal it is important for the S2 to portray the actions of the enemy accurately. The repositioning of weapon systems would also become important, particularly if the commander planned to attack the enemy at an especially weak location. Finally, the positioning of antitank reserves, as well as the counterattack force, must be portrayed in a manner commensurate with the tactical situation posed to the Soviet-style commander.

Similarly, to aid his own operations, the S2 will ensure R&S elements observe NAIs, TAIs, and DPs as appropriate. This is especially critical for early identification of the counterattack force. PIR will be issued as part of the OPORD. These must be issued in a manner easily understood by each soldier.

Maneuver

In preparation for the deliberate attack, the commander will rehearse the maneuver and synchronization of the brigade's assets. Specifically, the commander will ensure that his commanders understand both the maneuver plan and his intent, so that if they must deviate from the maneuver plan it will be within the context of his intent. The commander will first ensure that the support force commander understands his role within the maneuver plan. He must be prepared to maneuver the support force so they will maintain continuous and effective suppressive fires on the objective. He must then review the support force commander's instruction once the maneuver force masks his fires. To where do they shift their fires? When do they move to join the assault force?

Likewise, the assault force commander must demonstrate the best use of terrain to support his approach to the objective. He must be prepared to conduct hasty breaches of obstacles and change his maneuver formation to suit the terrain and enemy situation. Finally, and most importantly, he must rehearse the final assault on the objective. Can the support force effectively suppress the objective? Is an internal support force appropriate? How has the objective been divided into battalion/company objectives? What happens if the assault force is counterattacked just as they are about to assault? How can this be prevented? Where is the limit of advance? How are the TFs using their scouts during the assault? What actions are being taken to deny

effective enemy fires from adjacent and depth positions? These are only a sampling of the questions that must be answered as the commander conducts the rehearsal.

Fire Support

The commander will first check his priority of fires to ensure they are appropriate as the units maneuver. Next, he will exercise the commanders in their calls of priority targets, and in the execution of their own FS plans. The isolation of the objective and suppression of adjoining enemy positions will be important to the success of the operation; controlling and adjusting these fires throughout changing conditions will also be an important aspect of the attack.

The preparation of the objective will be critical to the protection of the assault force and its shock effect. It is doubtful that the preparation will occur once the assault force crosses the LD (unless it is a shallow objective); the preparation will probably be called by the assault force. Calling the preparation, knowing its duration, and understanding how that impacts upon the maneuver of the assault force is essential for success. Therefore, it must be rehearsed carefully, almost like a drill.

Finally, the lifting and shifting of the fires just prior to the assault must be rehearsed. Should the commander be killed, who will call in his place? If no call is received, can the shifting be event driven? Chances are the enemy will not be exactly where we expected him to be, which means shifted fires from the objective will have to be controlled by someone. Who will control the shifted fires? All of these questions are meant to be food for thought. There are many others. In the final analysis, it will be up to the commander and FSCoord to ensure the success of the FS plan.

Mobility, Countermobility, and Survivability

There are two major mobility concerns with respect to the deliberate attack that the brigade commander must address. First, how shall the assault force negotiate obstacles while en route to the objective? Second, how will the assault force deal with the close-in protective obstacles expected near or on the objective itself?

In-stride breaches of obstacles may be addressed by task organization and tasks to maneuver elements. Specifically, if obstacles are expected, then the assault force must have engineers attached or moving with the force and maintained under brigade control, although the latter is by far less frequently executed. In either case, the point to remember is the engineers must be forward, prepared to conduct mobility operations, such as breaching and obstacle reduction. The breach itself should be rehearsed as part of the maneuver plan. If the obstacle is known and assets have been given to the brigade for a breach, for example, an engineer battalion attached for a river crossing operation, then the operation must be rehearsed in detail.

The brigade commander's primary concern during any close-in breaching on or near the objective is to maintain adequate suppression so the enemy will be unable to cover the obstacle by direct fire.

Air Defense

The commander will ensure that air defense covers those danger areas within the brigade's axis of advance. The ADA battery commander will develop the brigade's air defense priorities based on the commander's intent and scheme of maneuver. Once these are approved, the battery commander will task organize his assets to defend those priorities. The rehearsal should ensure that air defense assets are prepared to position themselves on terrain which accommodates an effective defense.

Combat Service Support

At the brigade level, the commander must ensure that his support organization is prepared to support the mission. In the rehearsal, the brigade commander should ensure the forward support commander has chosen adequate MSRs and good locations for future support sites. He must have a plan for emergency resupply of Classes III and V. In addition, the FSB commander must have a plan for the evacuation and treatment of mass casualties. The brigade commander must be attuned to the ability of the FSB to sustain its operations and provide the necessary extra support when it is needed.

Command and Control

The brigade commander must use his time wisely in rehearsing for the deliberate attack. The brigade commander must get the most out of his rehearsal in a limited amount of time because the TF and company commanders will want to conduct their own rehearsals. The major concern is that every subordinate commander in the brigade understands his role in the attack within the context of the brigade commander's intent. This is accomplished by methodically rehearsing the operation from the AA through consolidation. If appropriate, the commander should break the operation into phases and make sure everyone understands what is to be accomplished in each one. He should ask, "What if...?" questions throughout to see if his TF commanders have prepared alternatives thoroughly for the unexpected. Above all he must make sure his control measures are adequate and his subordinates have everything he can give them. Based on results of the rehearsals the plan may be modified.

There are several concerns the commander will have with respect to the deliberate attack. He must ensure his units do not become intermingled, that fratricide is avoided, and that elements do not outrun their support (both direct and indirect). If the brigade has not rehearsed the operation prior to execution, success is doubtful.

Execution

Intelligence

Having planned and coordinated a thorough R&S effort prior to execution, the S2 continues to refine his situation template of the enemy. (R&S is detailed in Chapter 2, Section IV, of this manual.) Once the attack commences, the enemy can be expected to reposition some forces, and reinforce or move/commit reserves. As he receives intelligence information, the S2 anticipates changes in enemy disposition and informs the brigade commander. He will also relay any pertinent information reported from higher headquarters.

The advance to assault is conducted in a manner that minimizes casualties to the maneuver force while placing combat power in position to impose maximum destruction on the enemy. This is accomplished through the proper selection of the axis of advance and the maneuver formation by the commander.

The brigade conducts its advance as a continuous rapid movement, attempting to pass through the enemy's defensive fires in a minimum amount of time. If possible, the brigade will conduct the advance in mass. However, enemy action may require the maneuver force to employ fire and movement.

The commander supervises the execution of his plan and continues his estimate. He keeps abreast of the situation as it develops to determine if changes must be made to the scheme of maneuver or FS plan.

Fire Support

The initial mission of the artillery will most likely be to mask the movement of the brigade. First, suppression of known enemy positions such as OPs and defensive positions with HE and smoke will deny initial observation, and perhaps prevent the enemy from accurately suppressing the movement of the brigade with indirect fire. Second, fires used to screen the movement of the brigade as it begins its advance to the assault should prevent identification and direct-fire engagement from known enemy positions forward of or near the objective area.

Once the maneuver elements begin to close on the objective area, suppression of the objective will be the primary concern. If the objective is rather shallow, artillery may be adjusted from friendly positions along the LD. Suppression of the objective will be called from observers located with the support force or the assault force. The suppression must be maintained until the assault force closes on the objective. The objective is to synchronize the arrival of the assault force and its close-in direct-fire suppression with the lifting of the indirect-fire suppression. Ideally, there should not be a break between the two—essentially, there should be a handover of fire directed against the enemy position.

As suppressive fires are lifted from the objective, they are shifted to identified or suspected enemy positions and along enemy avenues of approach. In this way, enemy reinforcement and retreat will be cut off. On consolidation, targets will be selected along likely mounted and dismounted avenues of approach; FPFs and targets on our own defensive positions will be marked for close-in protection.

Mobility, Countermobility, and Survivability

The brigade commander must ensure supporting units are allocated to do all in their power to support the main effort. Likewise, in an effort to reinforce success, those maneuver elements not yet in the fight can be directed by the brigade commander to assault at the enemy's most vulnerable point. This means exploiting the breach conducted by the lead battalion equipped with the appropriate engineer assets.

Air Defense

Air defense assets must be prepared to provide protection quickly should the brigade momentum slow anytime throughout the operation. In particular, breaching operations, defiles, and even the assault will be slower overall than the pace of the advance to the assault. As a result, the brigade will become a more lucrative air target. To counteract this, the air defense warning net must be operational, and any threat aircraft must be reported to the maneuver elements. This will provide the early warning that the TFs need.

Combat Service Support

In the deliberate attack the FSB must provide continuous support to the maneuver forces. This is accomplished by jumping or echeloning support assets to meet the current support need and anticipate future needs. Preloaded LOGPACs and refueling assets must be on standby throughout the operation, ready to respond to an emergency request. Casualty evacuation must be fine tuned to reduce delay in evacuation. The ability of the brigade to position its medical assets forward will reduce the amount of time a casualty must be stabilized before being attended.

Command and Control

The commander should position himself with the lead TF conducting the assault. He should not, however, be so far forward that he allows himself to become fixed on the objective. Rather, the brigade commander must be able to take a broad view of the operation. He must be able to assess the success of the lead TF and know when and where to reinforce it. If necessary, the commander must be able to direct the reserve to strike another area so as not to reinforce failure. The ability to physically see the battlefield is seldom available to the commander. Because effective control of the entire brigade is radio-dependent, the best place for the brigade commander may be that location where he can best communicate to his subordinate elements. The brigade commander will often have to rely on the reports of his TF commanders to assess the situation.

Exploitation

In the exploitation, the attacker seeks to follow up the gains of a successful penetration. The attacker drives deep into the enemy's rear to destroy his means to reconstitute an organized defense or to initiate an orderly withdrawal.

Planning***Intelligence***

The exploitation is an operation that cannot generally be foreseen as the certain outcome of the deliberate attack. The S2, however, must be aware of the conditions that may suggest that an exploitation is possible. Caution must be exercised before the S2 recommends the exploitation to the commander, since the enemy may try to draw the brigade into a trap. The considerations include—

- Enemy having difficulty holding positions.
- Increase in EPW and abandoned material.
- Overruling of artillery, C2 facilities, signal facilities, and supply dumps.
- Decrease in enemy resistance.

In particular, the S2 will compare the spot reports from the units in contact to his situation template. If the situation is such that there is space to maneuver beyond the weak enemy resistance and generally no significant threat facing the brigade, the conditions may favor the exploitation. The S2 must brief the commander

concerning the next formidable enemy position, counterattack force, or echelon the brigade will encounter therefore, a continuation of his situation template in depth is appropriate.

Maneuver

Formations during the exploitation. The brigade may advance in a column formation when forced by terrain and the enemy situation. In this formation, neither the leading battalion task force nor those following are restricted to the same route within the brigade axis of advance. Generally, use of a column formation in the exploitation unduly emphasizes flexibility and security at the expense of the prime consideration of speed and the placement of maximum firepower forward (see Figure 3-15).

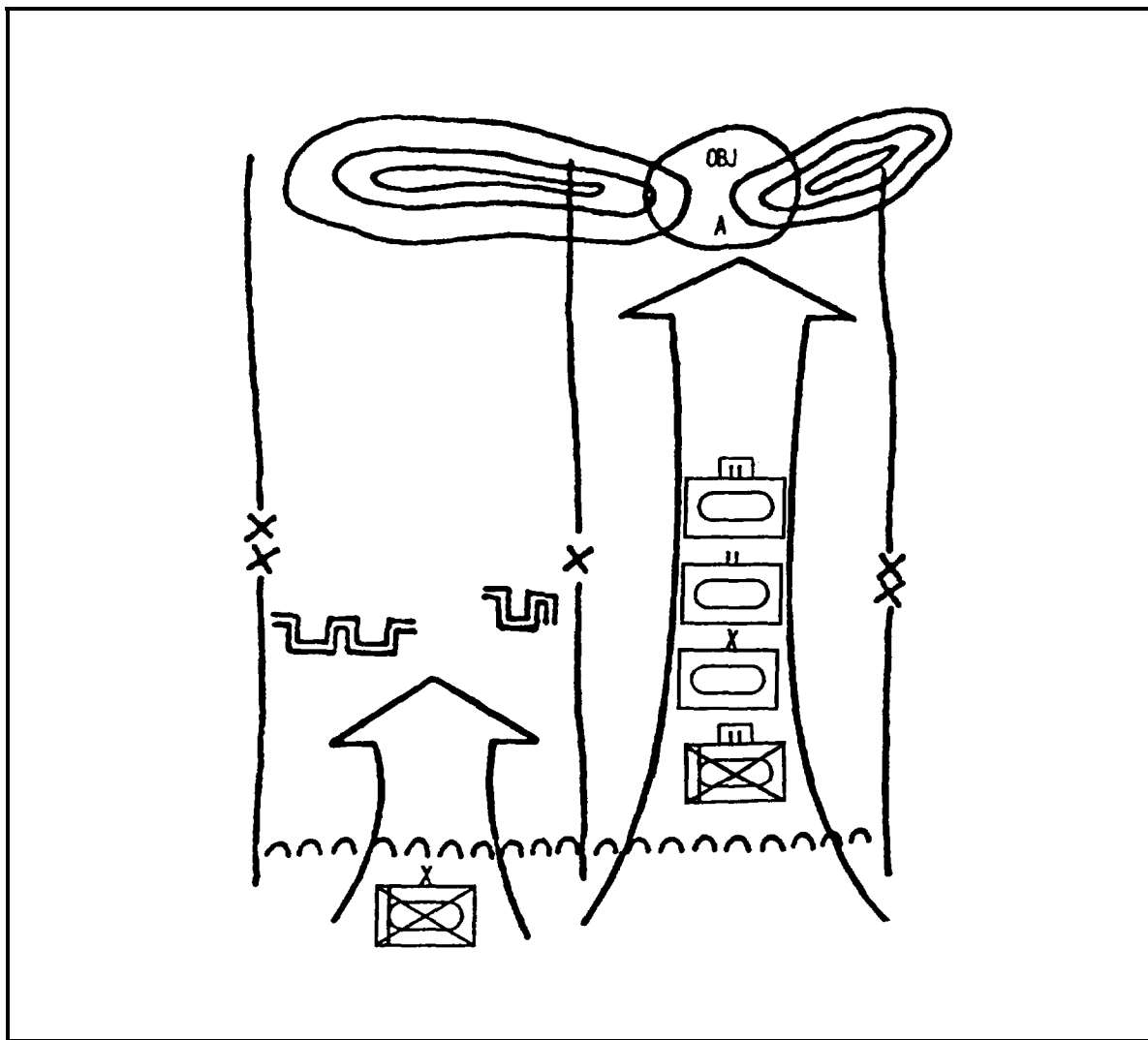


Figure 3-15. Brigade exploitation-battalions in column formation.

The formation of two or more TFs abreast without a reserve may be employed when the situation demands an approach to objectives on as wide a front as possible. This formation might be used when attempting to secure crossing sites over a major river. It is also used against sporadic and weakening resistance, and when the enemy capability of interfering with major reserves is lacking or can be blocked by means other than the employment of a reserve. In spite of the lack of a constituted reserve, action can be influenced by the effective employment of massed indirect fires and the maneuver of combat elements (see Figure 3-16).

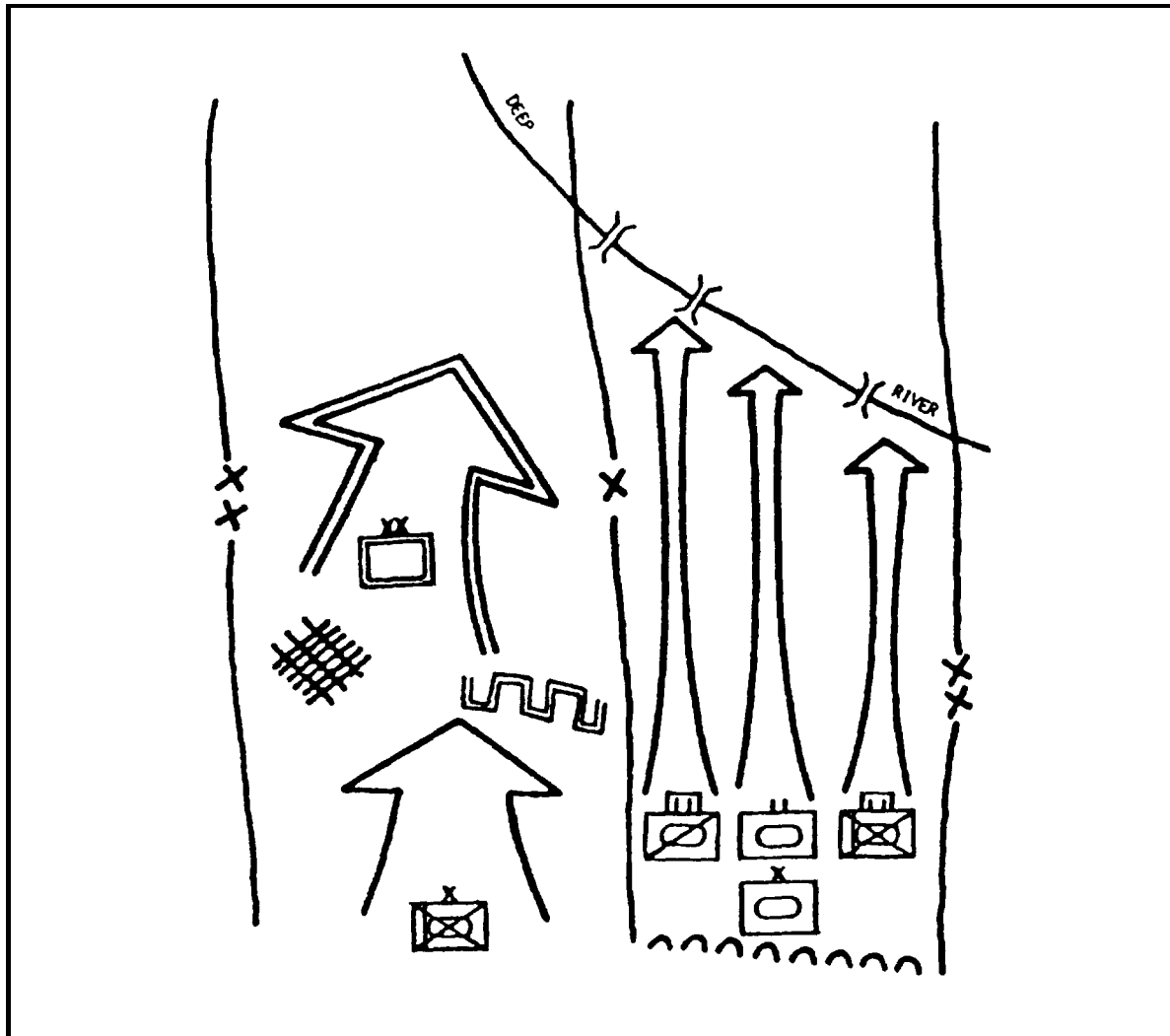


Figure 3-16. Brigade exploitation—battalions abreast, no reserve.

A formation of two or more TFs abreast with a reserve allows the brigade to advance on a reasonably wide front with the bulk of the brigade's direct firepower forward. This formation helps when creating gaps in the enemy's defenses. While the bulk of the brigade is committed, a battalion task force is in reserve to either exploit the success of the attacking elements, assume the mission of the attacking elements, or counter enemy threats as they develop (see Figure 3-17).

Planning. The exploitation may take the form of a movement to contact or hasty attack. In this regard, the brigade will be responding to a series of FRAGOs issued by the brigade commander. Generally, he will designate—

- The formation of the brigade.
- The position of each TF within the formation.
- Bypass criteria.
- Objectives.

- A limit of advance.
- Any other terrain-oriented control measures that will assist with maneuver.

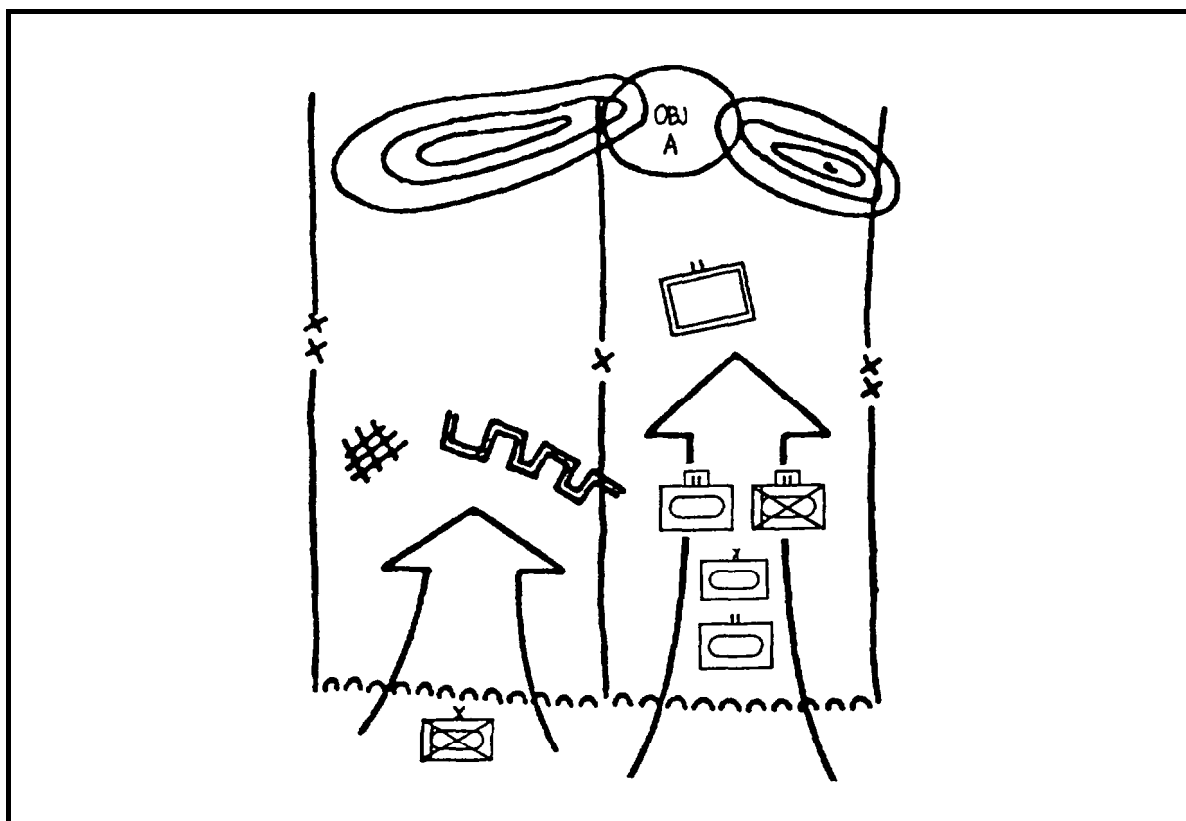


Figure 3-17. Brigade exploitation—two battalions forward, one in reserve.

The characteristics of the exploitation that must be understood prior to execution are that the exploiting forces advance on a broad front; only the reserves necessary to ensure flexibility and essential security are retained. Once the exploitation has begun, it is carried deep in the rear to cut lines of communication and disrupt C2. Generally, a second brigade will follow and support the brigade that is actually conducting the exploitation.

Follow-and-support units are assigned missions to assist exploiting forces by relieving them of tasks that would slow their advance. As the exploiting brigade advances farther into the enemy rear areas, the follow-and-support units secure lines of communication and supply, destroy pockets of resistance, and expand the area of exploitation from the brigade axis. They relieve lead brigade elements containing enemy encirclements, allowing them to rejoin the exploiting force. Liaison must be maintained between lead units and follow-and-support units to facilitate this coordination. Elements of the follow-and-support units may be attached to the brigade to ensure unity of command and effort.

Fire Support

Because of the rapid nature of the exploitation, FS planning must be done as part of the attack planning. Specifically, the targets selected in the depth of the enemy defensive area will take on a more close nature as the brigade maneuvers to the enemy rear.

The artillery must be prepared to travel at a pace that exceeds that of normal offensive operations. Less ammunition will be fired, because the fleeing enemy is not a significant threat to the brigade. Of particular

strikes a new defensive belt of a second echelon force. This means that ammunition transport must be absolutely responsive to the needs of the guns.

Mobility, Countermobility, and Survivability

In planning, the same considerations for a movement to contact come into play for the exploitation. Engineers located with the follow-and-support force should plan on conducting obstacle reduction operations or mobility operations, such as road repair and maintenance, in support of the exploiting force. Engineer support must also be planned for the CSS elements to allow the lead combat elements to be logistically supported. Situational obstacles are planned in phases of the advance. As the brigade moves forward, scatterable mine targets are planned to react to possible enemy counterattack.

Air Defense

Air defense planning is accomplished by the brigade through task organization. The enemy ground forces may want his air assets to slow down the Progress of our ground forces to buy time for him to prepare a defense. Air defense assets will move with priority of protection to the main effort, and to secure the lines of communication, allowing support elements to keep pace with the operation.

Combat Service Support

POL consumption and vehicle maintenance will be the primary concern of CSS elements, unless major contact occurs. The selection of a flexible MSR is paramount to the successful execution of the exploitation. The MSR must be able to respond to the changes of direction. Moreover, in order to establish an effective MSR, engineer elements may have to be placed under the FSB commander's control to ensure that the MSR is trafficable. Some combat elements from the reserve may be assigned a mission to protect the CSS elements or secure the MSR.

Command and Control

When planning the exploitation, the commander must designate appropriate objectives and a limit of advance. Graphic control measures developed prior to the exploitation and issued with the attack order will facilitate command and control when the brigade transitions to the exploitation. The commander must balance speed and momentum against security and distance. Generally, the commander should approach the exploitation with a sense of guarded optimism. He knows that it is an excellent opportunity to gain a position of advantage over the enemy, but he does not want to fall prey to a possible enemy trap where the brigade could be drawn into a salient and destroyed in detail.

Preparation

Intelligence

The S2's preparation for an exploitation is twofold. First, he must be able to identify the factors that are preconditions for the exploitation. Second, he must be prepared to assess the enemy situation in depth as it will relate to the brigade's future area of interest.

The S2 must coordinate with the division G2 for intelligence concerning the future area of interest, division templated information, or more important, confirmed enemy locations in depth (especially reserves).

Maneuver

Most likely, the brigade exploitation will occur as the result of an extremely successful attack. Generally that means that as a battalion task force consolidates on an objective, the remaining battalion's task forces are being given instructions to execute the exploitation. That translates to battalions task forces going from, perhaps, a support-by-fire position or a movement formation of some type to the exploitation. In order to accomplish this with a minimum amount of confusion, the brigade commander must know where each of the elements are, and the brigade must practice changing formation, changing mission, and changing direction. When the command to execute is given, practice will have prevented chaos. The brigade commander must be cognizant of the formations each of the TFs must adopt once they are instructed to begin the exploitation, and the amount of time needed for the TFs and the brigade to prepare for the mission.

It is essential that the exploitation be conducted as a unified brigade maneuver. Piecemeal efforts will only fragment the formation and make it vulnerable to counterattack, however, slowness in mounting the operation will result in lost opportunities. This is the window in which the brigade must make its assessment, issue orders, and conduct the operation. Accurate intelligence and drills are the key to exploiting enemy weakness.

Fire Support

Preparation for the exploitation encompasses techniques that allow for a flexible, responsive, and redundant fire control net. In the exploitation, there will be no time to register targets or prepare target lists. Therefore, a FS matrix that includes targets that are already planned in depth must be prepared as part of the initial offensive mission. Coordination with the S2 is critical as the situation develops into the exploitation. Enemy locations known to division intelligence will be targeted, and templated as danger areas.

Mobility, Countermobility, and Survivability

The actual preparation for an exploitation involves keeping the engineers forward so that the momentum of the operation may be maintained through to the objective. Their actual mobility operations (breaches) are drills conducted at TF and company level: brigade breaches are a possibility, but less frequent. In preparing for offensive operations by conducting breaching rehearsals, the brigade is also preparing for the exploitation. Requirements unique to the exploitation will be placed on the engineers. Engineer assets are used to reduce breached obstacles, and route clearing tasks in support of logistical movement forward.

Air Defense

The likelihood of enemy air attack grows with the success of ground maneuver. Preparations must be made for quick resupply of missiles and perhaps a new priority of protection.

Combat Service Support

Preparation of CSS elements for the exploitation includes the designation of future MSRs, LRPs, UMCPs, and ambulance exchange points. The FSB commander must anticipate the exploitation and ensure that his plan will support the brigade all the way to the terminating objective. One significant factor will be that the brigade will be traveling on a broad front. This may necessitate the designation of lateral MSR to handle the dispersion. CSS assets must be prepared to bound farther and more often than in an attack. The ability of the brigade to continue an exploitation is based partially on its sustainability.

Command and Control

Preparation for the exploitation does not lie in a rehearsal devoted to the mission. The actual preparation for the exploitation takes place as the brigade prepares for its offensive operations. Movement to contact hasty attack, breaching operations, and follow-and-support operations are all missions that are accomplished during rehearsals for offensive operations. If the brigade practices these operations in training and successfully executes them during combat rehearsals, they should be able to execute them with minimal guidance during combat.

Execution

Intelligence

As the attack is in progress, the S2 will receive spot reports. He will combine the enemy situation template, plus descriptive information from the maneuver battalions, for example, mass EPWs. The S2 will then quickly develop the most likely course of action for the enemy defense in depth. He must advise the commander of the possible danger from enemy counterattack or the likelihood of a meeting engagement with newly arriving second-echelon forces.

Maneuver

The commander will receive the enemy situation update from the S2 and assess the situation from personal observation and the advice of his subordinate commanders. Although a division normally is the lowest echelon that conducts an exploitation as an operation, some situations may present themselves where it is lucrative for the brigade to seize the initiative.

Based on the input of his staff and commanders, the brigade commander will issue a FRAGO to conduct an exploitation. The formation he chooses will be based on METT-T. The objective he selects will generally be terrain oriented, which severs enemy lines of communication and prevents the enemy from regrouping. Similarly, a limit of advance is selected so the brigade will not outrun its support. Much of this decision is based on the S2's situation template.

Once across the LD/LC, the exploitation is pushed vigorously until arrival at the objective. Enemy troops encountered are not engaged unless they are a threat to the brigade or cannot be bypassed. The decision to bypass or engage these enemy forces rests with the brigade commander. The leading elements of the brigade habitually attack from march column to reduce roadblocks and small pockets of resistance and to develop the situation.

During the exploitation, bypassed forces are reported to the higher commander. Enemy forces that interfere with the brigade mission are fixed and bypassed and destroyed by follow-and-support forces. If the enemy resistance is such that the brigade cannot block or bypass, the situation is reported to higher headquarters and a hasty attack executed.

Once on the objective, consolidation will occur with orientations specifically designed to cause the most severe damage to enemy retreat, regrouping, or reinforcement. Preparation for the enemy counterattack and its associated activities will become the first priority.

Fire Support

The artillery will shift from supporting the attack with its objective orientation to supporting a movement-to-contact mission. Due to the increased frontage, the artillery may find itself more dispersed than in a movement to contact, which may present some difficulty in supporting the entire brigade. The reinforcing artillery may have to move forward to fill the void, essentially affecting artillery battalions moving abreast.

The main concern of the artillery is to be able to respond to a meeting engagement or hasty attack. The artillery must be able to quickly fire large amounts of ammunition, necessitating additional accompanying ammunition. The next priority will be to support the brigade in the occupation of the terminating objective and destroying the lines of communication. This will involve targets deeper than the maneuver force, and protective fires to shield the brigade from counterattack.

Mobility, Countermobility, and Survivability

Throughout the exploitation, the engineers must be prepared to conduct breaching operations and maintain freedom of movement along the MSRs. The typical threat will be enemy scatterable minefields and hasty obstacles. Once on the objective, the mission quickly becomes survivability or countermobility as enemy counterattack will become a concern. Obstacle-free areas will be designated for use by a brigade reserve/counterattack force.

Air Defense

The air defense assets will continue to support the brigade during the exploitation in the same manner as during the attack. Messages received on the ADA warning net should be transmitted over the command net whenever a significant air threat appears. Quick identification and retransmission of significant air threat information is essential due to the extremely fast (mobility) nature of air threat.

Combat Service Support

CSS assets will quickly prepare for the increased tempo of the exploitation. LOGPACs with fuel and ammunition will move in step with maneuver while CSS services bound forward. Much of the evacuation will be forward to future sites. EPWs will be a significant problem, as they may choke the MSR. Therefore, a separate EPW evacuation route and collection points away from the maneuver and headquarters elements are desirable.

Command and Control

The primary concern of the brigade commander will be to get the brigade into a proper formation and in enough time to reap the benefits of the enemy situation. Assuming that is accomplished with relative ease, he

must then control the formation as it moves. This will be difficult because attention will be drawn toward captured equipment, surrendering soldiers, and pockets of resistance. The real danger, however, is not the immediate enemy, but beyond

The commander must anticipate the enemy's next move. If conditions are ripe for an exploitation, the immediate enemy concern can be handled at lower levels. An enemy counterattack could reverse any gains made.

Pursuit

Planning

The goal of the pursuit is the annihilation of the enemy's main combat forces. It is accomplished by maintaining direct pressure on the withdrawing enemy units and destroying them. The brigade may conduct an independent pursuit operation, but it normally operates as part of a larger force.

Intelligence

Like the exploitation, the pursuit is an operation that occurs as the result of an enemy precondition. The pursuit is initiated by the brigade commander through a FRAGO. It generally cannot be planned in detail at brigade level, due to the brief window of opportunity. The S2's responsibility is to inform the commander when the enemy conditions warrant the pursuit. These conditions include—

- When the enemy can no longer maintain defensive positions and tries to escape by withdrawing his forces.
- Ž When the enemy continues to advance without strong enemy resistance.
- Ž When increased numbers of EPW, abandoned weapons, and dead are acquired.
- Ž When there is a lessening of enemy artillery fires.
- Ž When there is a lack of enemy counterattacks.

Essentially, the enemy has lost the will to fight, and is no longer a significant threat. The primary concern of the S2 is accurately assessing the situation and predicting the possible options open to the enemy. The second-echelon forces, on the other hand, will present an organized threat to the brigade if contacted. The S2 must provide the commander with a clear picture of all the enemy in the area of interest.

Maneuver

Direct-pressure force. The mission of the direct-pressure force is to prevent enemy disengagement and subsequent reconstitution of the defense. Leading elements of the direct-pressure force move rapidly along all available routes, containing or bypassing small enemy pockets of resistance that are reduced by follow-and-support units. The direct-pressure force envelops and cuts off enemy elements at every opportunity. At no time must the enemy be allowed to break contact. If the enemy's main force establishes itself on a position from which it cannot be easily dislodged, the pursuing commander launches a hasty attack promptly to restore fluidity.

Encircling force. The mission of the encircling force is to get behind the enemy and block his escape so he can be destroyed between the direct-pressure force and encircling force. The encircling force advances along routes paralleling the enemy's line of retreat to reach key terrain ahead of the enemy force. Hostile rear guards or forces on flank positions are not permitted to divert the encircling force from its mission. Ah-mobile, armored, and mechanized units supported by engineers are particularly effective as encircling forces. If the encircling force cannot outrun the enemy, it attacks the enemy main body on its flank.

Follow-and-support force. The follow-and-support force is not a reserve, but is a fully committed force. It is used to accomplish any or all of the following tasks:

- Destroy bypassed enemy units. This is accomplished as either a hasty or deliberate attack.
- Relieve in place any supported units that have halted to contain enemy forces.
- Block movement of reinforcements. This is done by occupying a defensive position.
- Secure lines of communication. This is conducted as route reconnaissance, patrolling, escort convoys.
- Control refugees and guard prisoners (key areas and installations). This is augmentation to military police, or performing security mission.

Fire Support

Field artillery units should plan to move as an integrated element of the maneuver force. Therefore, most artillery assets will be found with the direct-pressure force. Those artillery units accompanying the encircling force will try to avoid firing until the force has cut the enemy off. If we are to outrun the enemy, speed will be essential. RFLs and CFLs must be used to prevent fratricide.

Mobility, Countermobility, and Survivability

Engineers must be positioned well forward, both with the direct-pressure force and the envelopment force. Engineers are task organized to support brigade in-stride breach operations with the follow-and-support forces and to conduct other mobility operations, such as road repair, maintenance, and short gap crossings. Engineers will give the priority of effort to the envelopment, as their brigade in-stride breach support is critical to the success of the operation. As the enveloping force maneuvers, mobility support to the fixing force is required in order to maintain contact. Situational obstacles are planned in phases of the advance. As the brigade moves forward, scatterable mine targets are planned to react to possible enemy counterattacks.

Air Defense

Air defense is organized in much the same manner as for the movement to contact. The envelopment force is particularly vulnerable because it is moving with great speed and may provide a lucrative target. As the envelopment and direct-pressure forces meet, the two combined forces are also extremely vulnerable.

Combat Service Support

Fuel, lubricants, and ammunition consumption will be particularly high. Air transportation may be required to deliver some emergency supplies, allowing the brigade commander to maintain the momentum of the pursuit. Maximum use is made of captured enemy material, particularly transportation and stocks.

Command and Control

Army aviation provides significant assistance in the pursuit. Scout aircraft continuously observe, attempting to determine the enemy's zone of retreat and locate hostile reinforcements. When attack helicopter units are operating in support of the brigade, they should be used with the enveloping force. The critical point for the pursuit is when the direct-pressure and envelopment forces meet. Occupation of an objective and flank attack are the primary courses of action used to control the direct-pressure and envelopment forces.

Occupation of an objective. The envelopment force will occupy a position that blocks the enemy's avenue of retreat. This is the most difficult to control, since the two forces are orienting toward one another with the enemy in between. The enemy is desperately trying to break out from encirclement, and the other enemy elements may be attacking the envelopment force in an attempt to assist the encircled enemy's breakout.

Flank attack. A flank attack is accomplished in the same manner as the occupation of an objective except that the envelopment force moves to the enemy's flank and conducts a supporting attack coordinated with the direct-pressure force. This is more secure but may not destroy the enemy, as he has a route open for retreat.

Regardless of which course of action the commander selects, he must be in position to control when and where the two forces meet to achieve the maximum enemy destruction. The timing is critical.

Preparation

Intelligence

The S2 prepares for the pursuit by comparing the reports of the units in contact with the intelligence of higher echelons. The S2's next responsibility is to template where the remainder of the enemy force is likely to be, and where the brigade can expect to close with the enveloping force. The S2 will quickly develop an intelligence collection plan that will support the operation. The S2 must rely on the spot reports of elements in contact to monitor the progress of the pursuit. Significant changes to the enemy disposition are relayed to the envelopment force.

Maneuver

The commander must evaluate the enemy situation with respect to the terrain. The envelopment force must have a mobility advantage over the withdrawing enemy. This implies trafficable terrain that supports a movement-to-contact formation parallel to the enemy's axis. Also, it must be an area in which the enemy will not pose a serious threat to the envelopment force.

There will be little time to prepare for the pursuit. Most of the decisions will be made from a map reconnaissance and intelligence reports. The level of training and ability to execute drills will generally determine the success of the mission. The pursuit is a hasty attack for the direct-pressure force, a movement to contact for the envelopment force, and a hasty attack or support by fire for the follow-and-support force. The ability of these forces to conduct operations in symphony with one another will determine the effectiveness of the pursuit. It must be practiced, as there is no time for rehearsal once the opportunity presents itself.

The commander must ensure that each force understands the mission, axis, bypass criteria, and the need to report all PL or checkpoints. The TFs must know when and where the direct-pressure and envelopment forces will meet and how their linkup will be conducted. Finally, the TFs must know what mission the brigade will adopt once linkup has been made.

Fire Support

Priority of fire will go to the direct-pressure force. Most of the missions will be on call. The brigade FSCOORD must ensure that an artillery battalion(s) is in position prior to execution. If the brigade was conducting an attack before the pursuit, the artillery will have to be given time to move forward and join the maneuver forces, as will the artillery support assets.

Mobility, Countermobility and Survivability

The engineers will give the priority of effort to the envelopment force, as their mobility is critical to the success of the operation. Assets should also be allocated to the direct-pressure force so that they can maintain contact with the enemy. The operations most likely to be conducted will be in-stride breaches of natural obstacles with CEVs and AVLBs, while blades will accompany the follow-and-support force to maintain the road networks. Countermobility operations will seat a vulnerable flank or protect the force on the final objective.

Air Defense

Air defense assets will be positioned with the forward TFs. The priority of protection is to the envelopment force and the direct-pressure force.

Combat Service Support

CSS operations will become hectic if the envelopment force becomes engaged prior to closing with the direct-pressure force. In preparation for the pursuit, CSS assets must be divided with priority of support given to the direct-pressure force. Those assets supporting the envelopment force must be accompanied by a combat element for security. The pursuit will place a severe strain on CSS units because division of their assets will make it difficult to jump operations.

[illegible]

Figure 3-18. Operational graphics for a brigade pursuit.

Execution

With the brigade traveling on separate axes, the S2 must watch for an enemy counterattack. The S2 should request that the direct-pressure force place reconnaissance forces to its flanks for early warning. The envelopment force should move as in a movement to contact. All reconnaissance reports will be reconciled against intelligence from division.

Maneuver

The enveloping force must move rapidly and securely. They should bypass and avoid enemy contact until the time when they must close with the direct-pressure force.

The actual destruction on linkup is difficult to conduct. Each option is addressed below:

Flank attack. As the enveloping force closes from the flank, it is given a limit of advance parallel to the axis of the direct-pressure force. Recognition signals will prevent fratricide. The direct-pressure force will continue to move along its axis, tying in on its flank with the enveloping force. As flank coordination is established, the enveloping force will turn its orientation toward the direction traveled by the direct-pressure force. At the completion of the maneuver, the two forces should be locked in shoulder-to-shoulder and oriented in the same general direction. Figures 3-19 through 3-22 illustrate the stages of the flank attack from initial movement through consolidation.

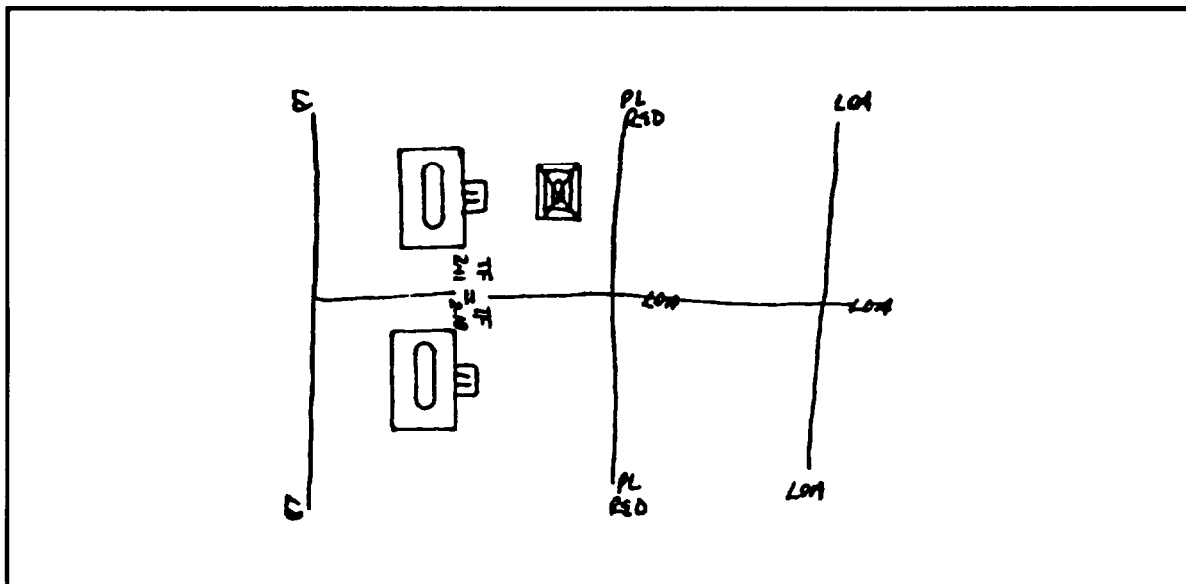


Figure 3-19. Pursuit flank attack-initial movement.

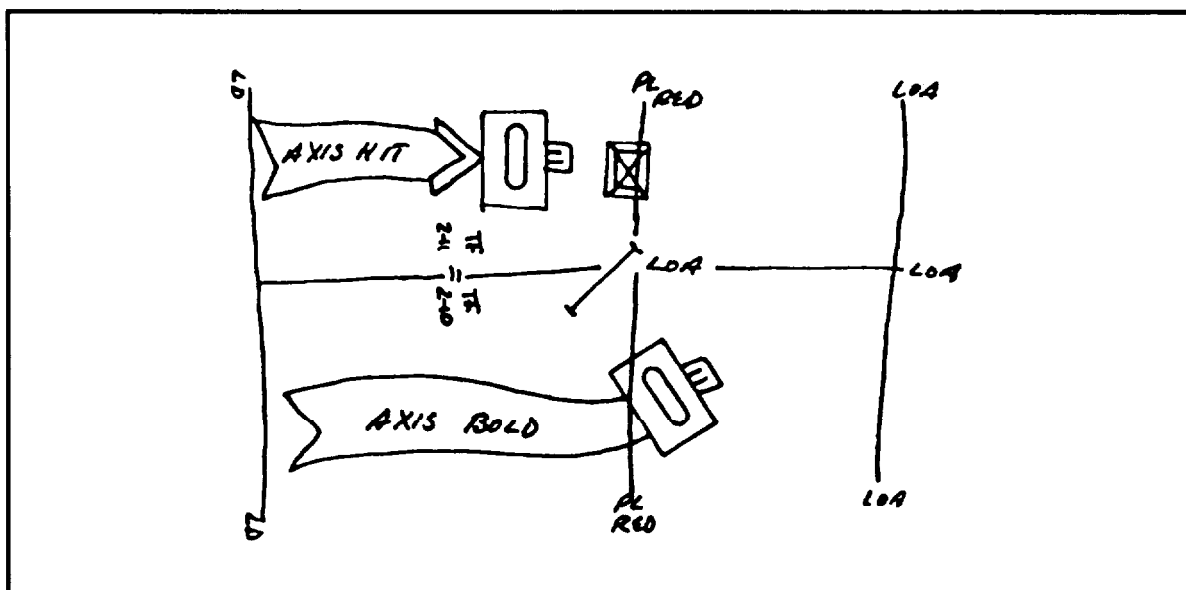


Figure 3-20. Pursuit, flank attack-forces closing.

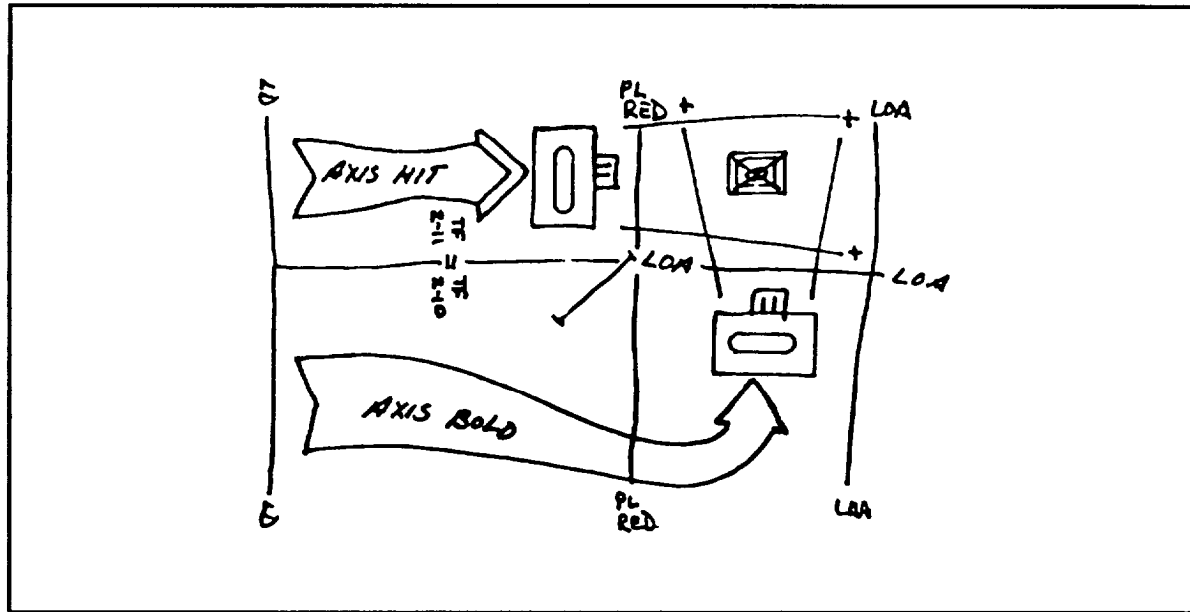


Figure 3-21. Pursuit, flank attack—linkup.

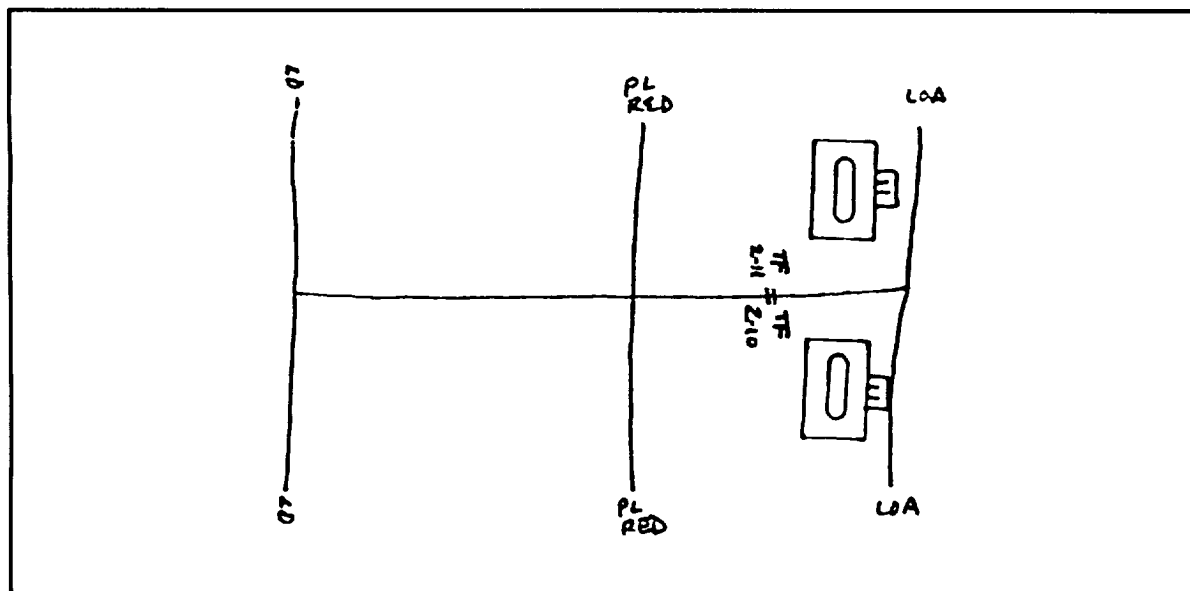


Figure 3-22. Pursuit, flank attack-consolidation.

Occupation of an objective. The enveloping force moves quickly behind the enemy and seizes key terrain that blocks the enemy's routes of withdrawal and reinforcement. The enveloping force must establish 360-degree security, because the enemy could attack from any direction. The direct-pressure force is given a limit of advance to prevent fratricide. This will usually be just outside of direct-fire range. Once contact has been made between the two forces, the direct-pressure force will move slowly toward the enveloping force, who will now only engage confined enemy targets. Despite the risks, the effect of this option is devastating and may encourage surrender. Figures 3-23 through 3-26 illustrate the stages of occupation of the objective from initial position through consolidation.

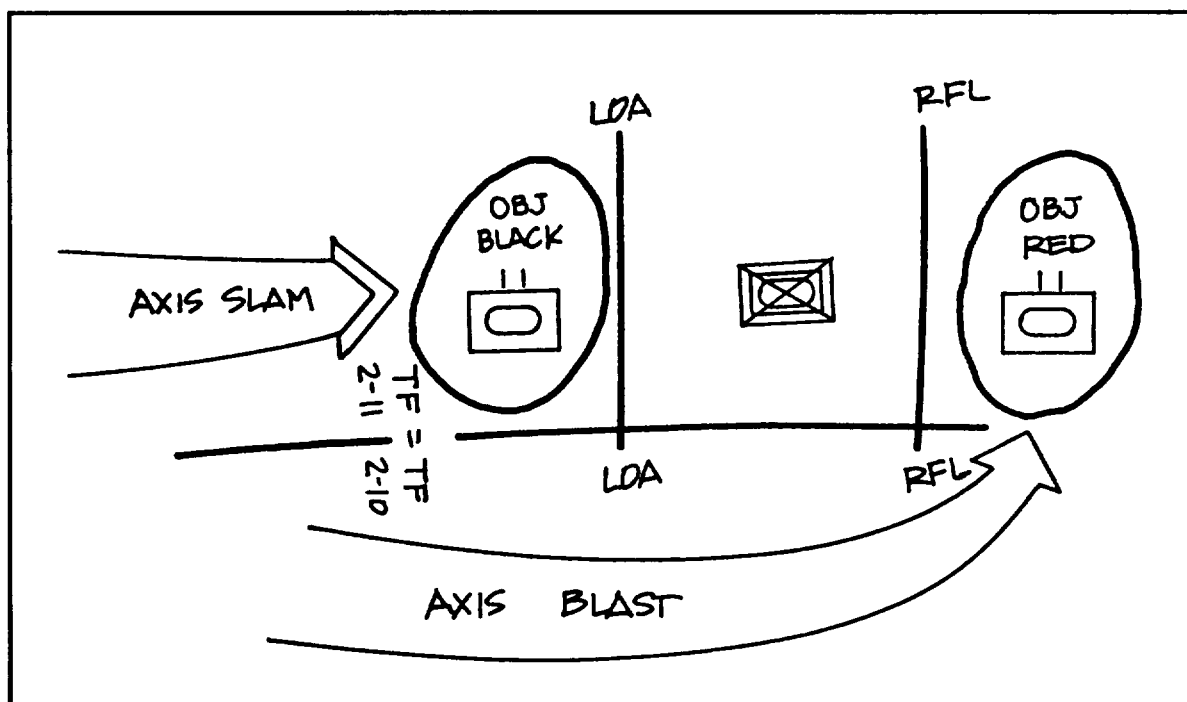


Figure 3-23. Pursuit, occupation of an objective—in position.

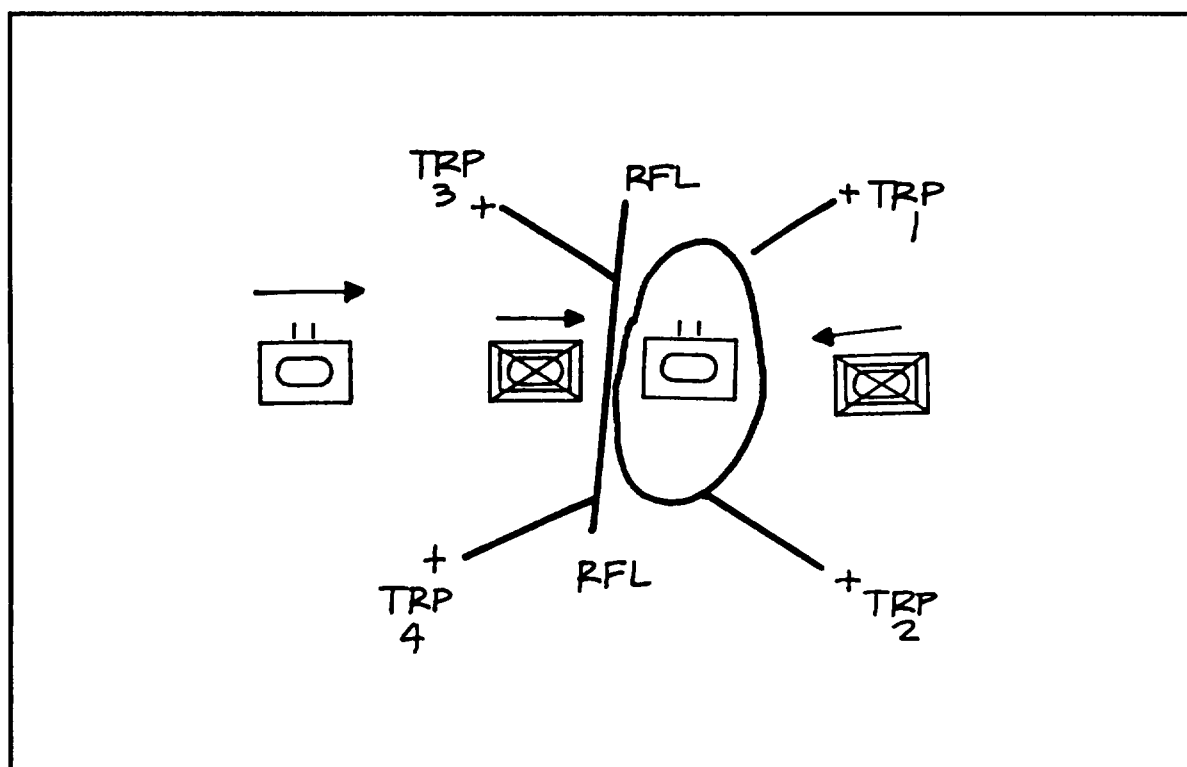


Figure 3-24. Pursuit, occupation of an objective-closure.

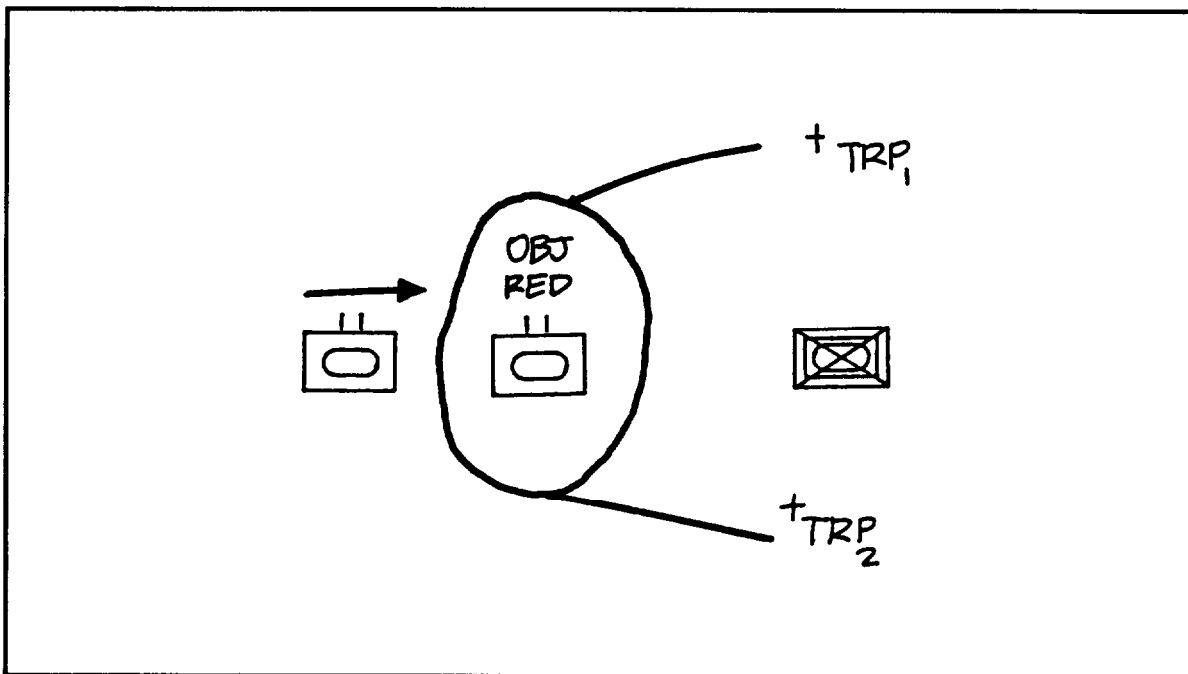


Figure 3-25. Pursuit, occupation of an objective-linkup.

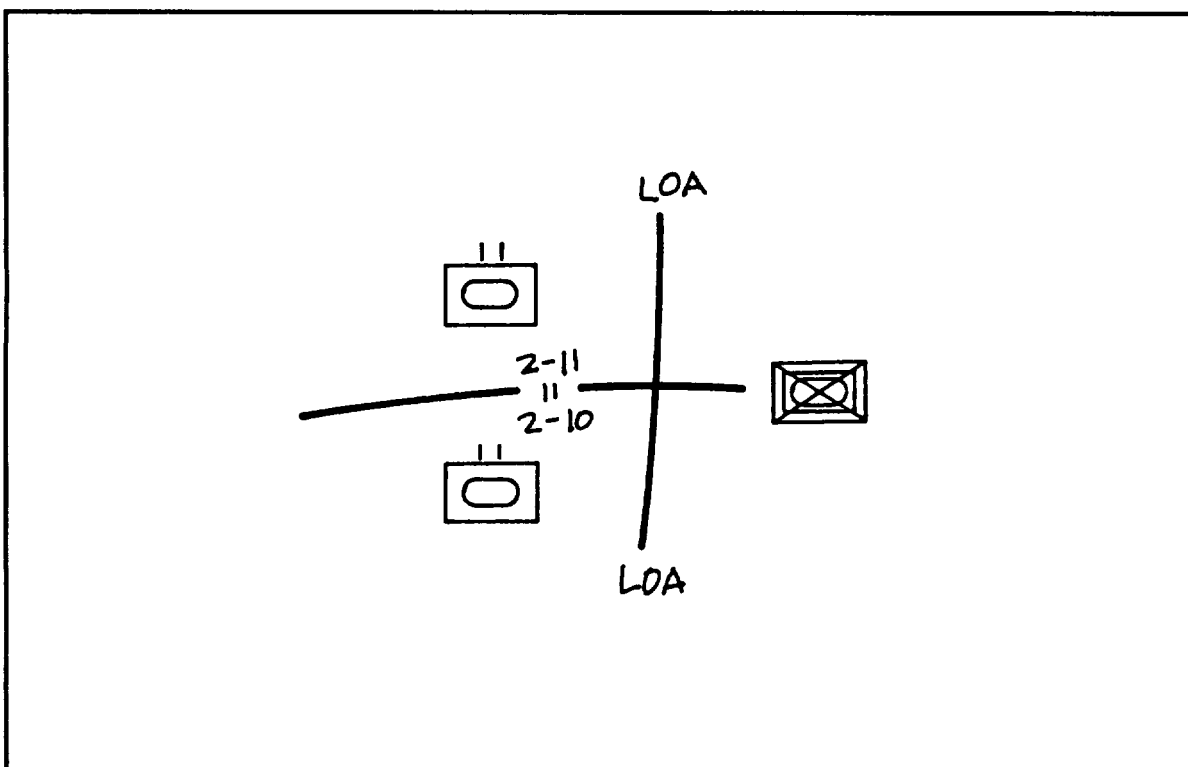


Figure 3-26. Pursuit, occupation of an objective-consolidation.

Fire Support

FS assets must move with the maneuver elements. Most fire missions will be in support of the direct-pressure force, to destroy targets of opportunity and to suppress those enemy positions that are fixed and bypassed. A restrictive no-fire area must be established along the axis used by the enveloping force to avoid fratricide. Air reconnaissance assets will be useful in calling and adjusting indirect fire where it will achieve the greatest effect. Once linkup has occurred between the two forces, the artillery will prepare to fire in support of the hasty defense.

Mobility Countermobility and Survivability

Engineers will conduct breaches and mobility operations as necessary. As the TFs revert to a hasty defensive posture, the engineers will orient on countermobility missions along suspected enemy avenues of approach. Obstacles will only be emplaced in areas that will not impede forward movement of follow-on maneuver elements. On the positions themselves, survivability operations will take priority as the brigade awaits the expected enemy counterattack. Route maintenance will continue to allow CSS operations to occur without degradation, and to assist the forward passage of follow-on elements.

Air Defense

Air defense molar must be prepared to move forward in an effort to maximize early warning for the brigade. Reports of imminent enemy air attack should be transmitted to maneuver elements.

Combat Service Support

During the pursuit, direct-fire weapons should have low ammunition consumption. Artillery may be shot frequently in order to suppress pockets of resistance, but only in the direct-pressure force. Casualties should be low; conversely, EPW evacuation will be a problem and will require assistance from reserve maneuver forces. Extended lines will require extra transportation and evacuation support. The ability of higher echelon support agencies to move forward will directly affect the responsiveness of CSS.

Command and Control

The commander will move with the direct-pressure force. He will monitor the progress of the enveloping force and adjust the tempo to achieve synchronization. Liaison with higher headquarters will ensure that gains made by the brigade may be further exploited. The brigade commander must anticipate the link up of the two forces. Regardless of the actual technique used to link the two forces, he must ensure the two force commanders are in constant communication, coordinating the linkup. Likewise, if stiff enemy resistance occurs where the two forces meet, the brigade commander must augment the lethality of the two forces. Afterward he must quickly emplace the TFs into appropriate hasty defensive positions in anticipation of an enemy counterattack and to assist the forward passage of follow-on forces.

Follow and Support

Follow-and-support forces are assigned missions to assist the lead forces by relieving them of tasks that would slow their advance.

Planning

Intelligence

The S2 of a brigade given a follow-and-support mission will have little time. The enemy situation will be the result of an attack's significant success. The S2 must have the same level of intelligence as the lead brigade, because the follow-and-support brigade could easily take the lead. A break in momentum due to an unclear enemy situation should be avoided. Moreover, as the lead brigade maneuvers, it must relay intelligence back to the follow-and-support brigade. An LNO with the lead brigade will assist information transfer. The S2 must plot and track the status of any bypassed enemy element in addition to situation templating of the enemy still out of contact.

Maneuver

The brigade must be prepared to finish those missions that have impeded the lead brigade. This involves attacking to destroy bypassed enemy. To accomplish this mission, the brigade is given the appropriate assets, such as supporting artillery, engineers, and ADA as needed.

The difference between this and other hasty attacks is that the enemy is already fixed by elements of the lead brigade, and the enemy situation around the position is clear. As the follow-and-support force moves, the lead brigade reports that an enemy force is fixed at a specific location. As much information as possible is relayed about the enemy. Elements of the follow-and-support force make contact with the fixing force, receive additional information, and coordinate their relief.

Fire Support

The artillery will have priority of support to the lead brigade. Indirect support must also be planned for the follow-and-support force. The brigade FSCoord asks the DS battalion commander to designate a battery to be on call to fire in support of the follow-and-support force. This will allow the brigade to have fires forward, without limiting support to the follow-and-support force.

Mobility, Countermobility, and Survivability

Engineer assets attached to the follow-and-support force will conduct several missions. They include—

- Obstacle reduction.
- Route maintenance.
- Breaching in support of an attack.
- Countermobility operations along exposed flanks.

Each mission requires a different type of engineer asset. The brigade engineer must be prepared to respond to these mission requirements as they arise, and to monitor their progress.

Air Defense

As the brigade moves farther into the enemy rear, ADA assets may become severely stretched. Prior coordination with the division's air defense battalion may preclude a break in the coverage.

Combat Service Support

Many of the CSS elements will assist the lead brigades as required, with ambulance exchange points, LRPs, and UMCPs. A balance must be struck to ensure the follow-and-support brigade has the support it needs to accomplish all its missions.

Command and Control

The commander should make sure he has excellent communication with the lead brigade and that his CP monitors the situation. All staff actions must occur as if the brigade had the same mission as the lead brigade. In addition to monitoring the lead brigade's transmissions, the commander must simultaneously direct activities such as an assault against bypassed enemy within his own area of operations. In the end, the follow-and-support commander must juggle several operations simultaneously while keeping pace with the lead brigade. As the follow-and-support force accepts responsibility for bypassed enemy forces, remember there is a danger that the clearing operations will increase the separation between the lead brigade and the follow-and-support brigade.

Preparation

Intelligence

In preparation for a follow-and-support mission, the S2 must ensure that his enemy situation template is current and that an LO with the lead brigade is maintaining communications. Once a fixed and bypassed enemy element is reported, the S2 prepares a quick intelligence estimate. This is based on reports received

from the lead brigade and fixing force. Coordination with the fixing force by one of the TF S2s will produce an accurate assessment. With the latest information, the S2 will advise the brigade commander on the fixed enemy, and its relationship to other possible enemy within the brigade's area of interest.

Maneuver

The maneuver commander will prepare a command estimate and issue a FRAGO. The brigade preparation will be the same as a hasty attack. This operation will be balanced against other operations; for example, route security and lateral expansion of the penetration. The size of the fixed and bypassed element will be small so that the remainder of the brigade will be free for the other requirements. Most of the missions conducted by the brigade will be drills and other types of SOP tasks that the brigade practiced in training.

Fire Support

In the follow-and-support mission, FS planning will occur as it would for any offensive operation. Known and suspected enemy locations, choke points, key and dominant terrain features, and any other easily identifiable terrain features will be plotted as artillery targets. The artillery will be firing in direct support of the lead brigade. When the follow-and-support force is called on to destroy a bypassed enemy element, that force will receive artillery support. The fixing force may have used artillery suppression to keep the enemy in check. In this case handing over the artillery to the follow-and-support force will require coordination between FSCOODs, but should ensure continuous and accurate suppression of the enemy.

Mobility, Countermobility and Survivability

The engineers should prepare for the operation by assigning missions to each of the different types of engineer units. For example, blade assets and AVLBs will be used for road maintenance, MICLICs and combat engineers will accompany maneuver units prepared to conduct breaching operations in support of the attack, and mine laying equipment will be used to secure exposed flanks from possible enemy flank attack.

Air Defense

The consolidation of air defense for area security rather than unit security may be a better option. If it is selected, coordination must be made between the brigade and maneuver battalions to avoid fratricide. The brigade's air defense must be able to protect both the force and the route while maintaining the ability to protect the brigade should it take the lead.

Combat Service Support

The pace of CSS operations will depend on the lead brigade's rate of advance. The destruction of bypassed enemy will require ammunition, POL, and lesser amounts of other supplies. The FSB commander should plan for the partial support of the lead brigade, whose lines of communication will be stretched.

Command and Control

The commander prepares for this mission by reviewing possible contingencies with his TF commanders. He should establish mission priority based on the intent of the division commander. There will be no time to conduct rehearsals. The commander should stress that contact is likely and that precautions be taken. The commanders must be aware that hasty attacks against bypassed enemy are likely. Units must watch their fire due to the proximity of friendly forces.

Execution

Intelligence

Close attention will be given to enemy elements that have been fixed and bypassed. The S2 must track the location of the enemy element, and when that enemy element has been destroyed or captured, MI representatives must be present if enemy units or command elements surrender. This will provide enemy information essential to the success of the overall mission. The S2 will keep the commander apprised of the enemy situation both within his immediate area of operations (from the lead brigade to the next following unit) and forward of the lead brigade.

Maneuver

The brigade CP must monitor both the lead brigade and division command nets. The commander must have a feel for the current situation to anticipate future missions for the follow-and-support force. The lead TF will be given responsibility for destroying enemy elements equal to or smaller than company size. Should the brigade encounter larger enemy forces, the lead TF will become the support force while subsequent TFs maneuver against the enemy.

Flank security of the follow-and-support force should not be overlooked. The friendly disposition to the right and left of the brigade will influence the formation selected by the commander. Security of the force and the division's LOCs are critical, TF reconnaissance elements should be placed on flank screens and spot reports relayed through the battalions to the brigade.

Fire Support

DS artillery battalions could travel forward of the follow-and-support force. Their mission will be to fire in support of the lead brigade. Reinforcing battalions and elements of DS artillery will support the follow-and-support force. Some maneuver forces may be given responsibility to provide security to the artillery if they are positioned forward.

Mobility, Countermobility, and Survivability

Combat engineer elements will move with the lead TFs, prepared to conduct hasty breaches as necessary. As the brigade moves along its axis, lead engineer reconnaissance elements will classify bridges and maintain lane markings as needed. Blades and obstacle reduction assets will improve the roads and attempt to achieve two-way traffic flow along each MSR.

Air Defense

Air defense assets must pay special attention to protecting potential choke points or major obstacles that may slow the brigade's maneuver and cause congestion.

Combat Service Support

Liaison should be established with the FSB that is supporting the lead brigade for two reasons. First, the lead brigade may require CSS assistance beyond the capability of their own FSB, particularly evacuation and forward transportation of supplies. Second, the mission of the follow-and-support force is usually predicated by the actions of the lead brigade. The FSB commander will be able to anticipate the likely mission of the follow-and-support force and have his support elements prepared to respond accordingly.

Command and Control

The commander monitors the operations of the lead brigade, and issues warning orders in preparation for the likely mission. All of these operations are further viewed within the context of the division commander's intent and established rate of advance. In execution, the C2 exercised will be identical to that described in preceding paragraphs. The difference is that elements of the follow-and-support force may be executing many and different operations simultaneously, so monitoring each operation will require decentralized control. The brigade commander must ensure his guidance is explicit and he is able to track the progress of each mission so he can appropriately distribute or adjust resource allocations.

SECTION II. BATTALION TASK FORCE OFFENSIVE OPERATIONS

Threat Defensive Doctrine

How the Threat Defends

When given the order to go on the defensive, the company commander deploys his force in an assigned area approximately 500 meters to 1,000 meters in width and 500 meters in depth. The company normally

defends as a single echelon with all three platoons in line. If terrain and situation dictate, or if defending alone in the security zone, the company will defend in two echelons with two platoons forward and one in depth. Figure 3-27 depicts a threat company defensive deployment by echelon while Figure 3-28 illustrates dispositions of a company in the defense.

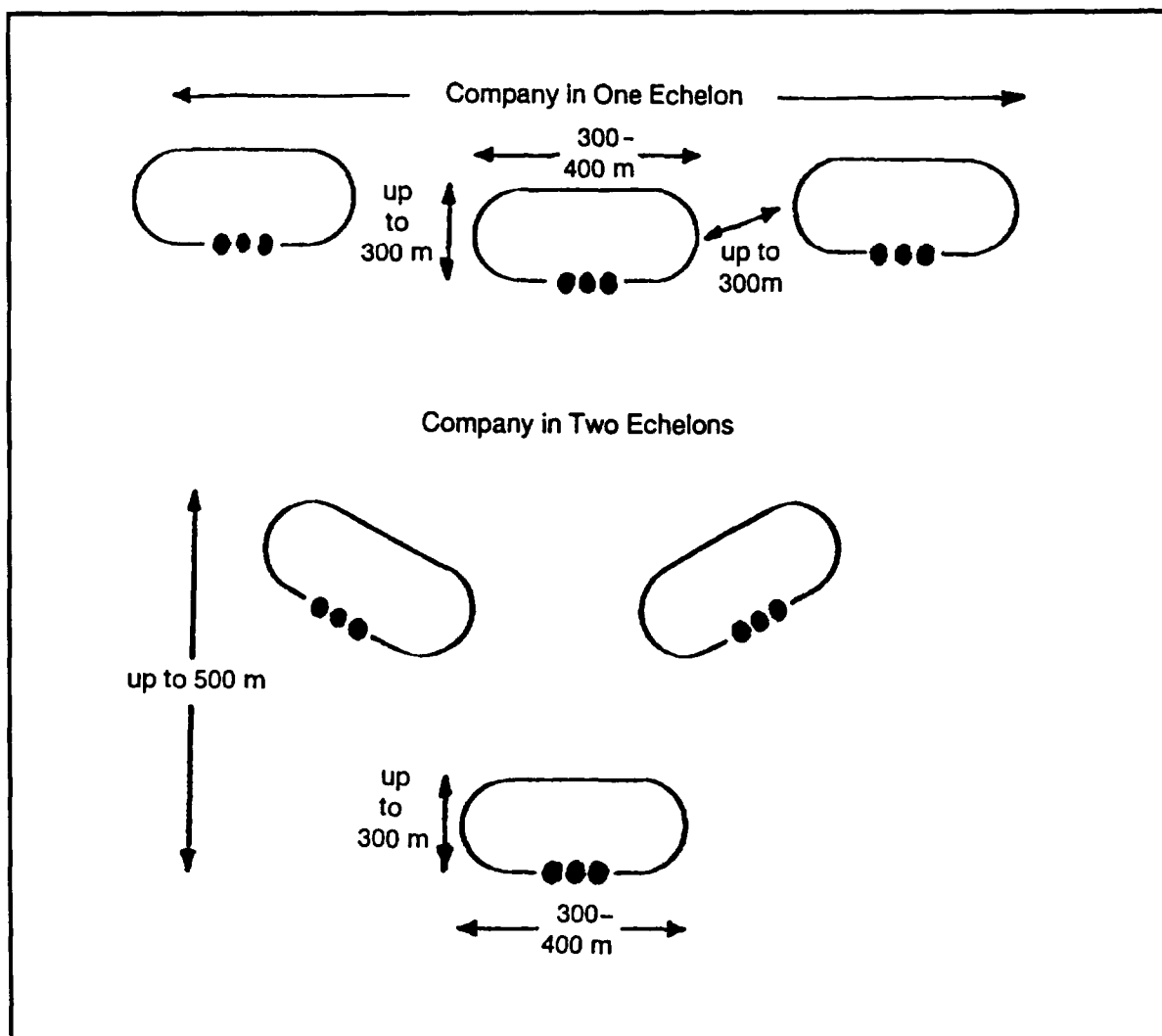


Figure 3-27. Threat company defensive deployment by echelon.

Terrain plays a vital part in the company defensive layout. If possible, the commander will deploy behind natural obstacles such as rivers, swamps, ravines and defiles. Where no natural obstacles exist, engineering obstacles will be constructed with the resources available. The company will position itself to engage the enemy at maximum range and to intensify fire on the enemy as he approaches the obstacle.

Reverse slopes are also employed to put elements covertly into position and enable them to launch surprise attacks on the enemy. Since forces may have to dig in under fire and observation from the enemy, a reverse slope defense is often chosen. Advantages of this position are that it hinders or precludes observation by the enemy, seriously degrades enemy long-range AT fire, silhouettes enemy forces on the crest line, and prevents attacking forces from receiving support from following forces. A disadvantage of such a position is that the maximum ranges of all weapon systems cannot be exploited. If possible, a combination of forward and reverse slope positions are used to take maximum advantage of the terrain.

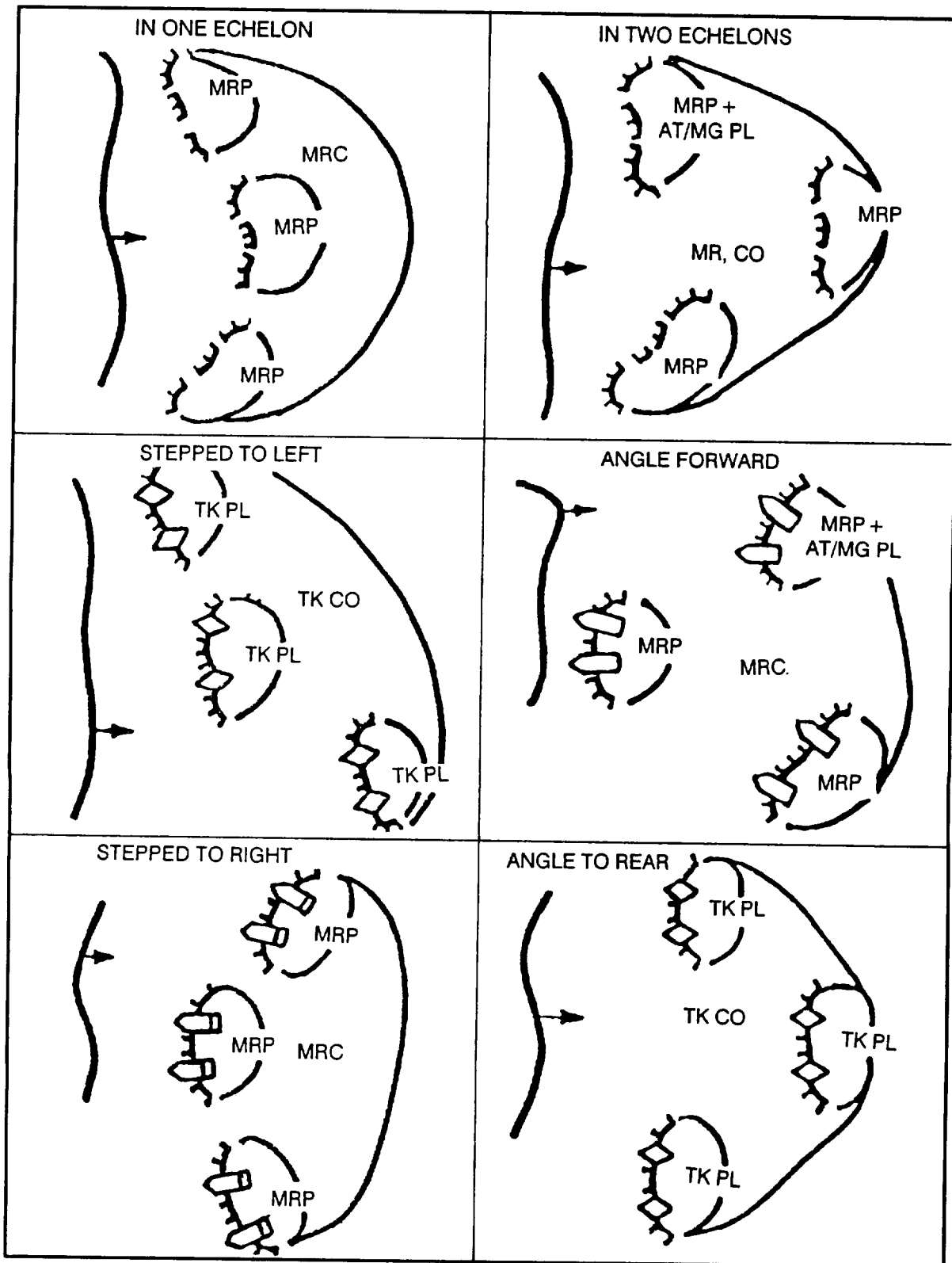


Figure 3-28. Dispositions of a company in the defense.

After completing his plan, the company commander issues his order to his platoon and attached leaders, usually from a point on the ground from which the defense and likely enemy avenues of approach can be surveyed.

platoons are sited, and supporting weapons such as the company PKM and GPMGs and the battalion's AGS-17s are assigned and given missions. Areas for concentrated fire are designated and tasks for securing flanks, boundaries, and gaps are included. The commander also—

Ž Gives supporting artillery areas in which to concentrate fire.

- Sites main and alternate positions for AT weapons with main and secondary areas of fire and procedures for opening fire.
- Tasks platoons with engaging enemy aircraft.

Methods of engineer preparation are detailed. They include where, when, and how to build fortifications, shelters, and obstacles. Plans for camouflage and deception are also covered.

After issuing his orders, the company commander plans the coordination necessary to the defense. He carefully integrates the company fire plan with the artillery, other weapons, and adjacent elements. Figures 3-29 and 3-30 illustrate the organization of a BTR and BMP motorized rifle company, respectively.

Finally, the company commander gives a sketch of the defensive strongpoint to the battalion commander, including—

- Reference points and distances to them.
- Enemy positions.
- Platoon strongpoints and their primary and secondary areas of fire.
- Main and alternate firing positions for tanks, APCs, AT and aircraft weapons machine guns, and automatic grenade launchers, as well as their primary and secondary sectors of fire.
- The fire concentration sectors of each platoon, obstacles, field defenses, and shelters.
- The location of the company commander.

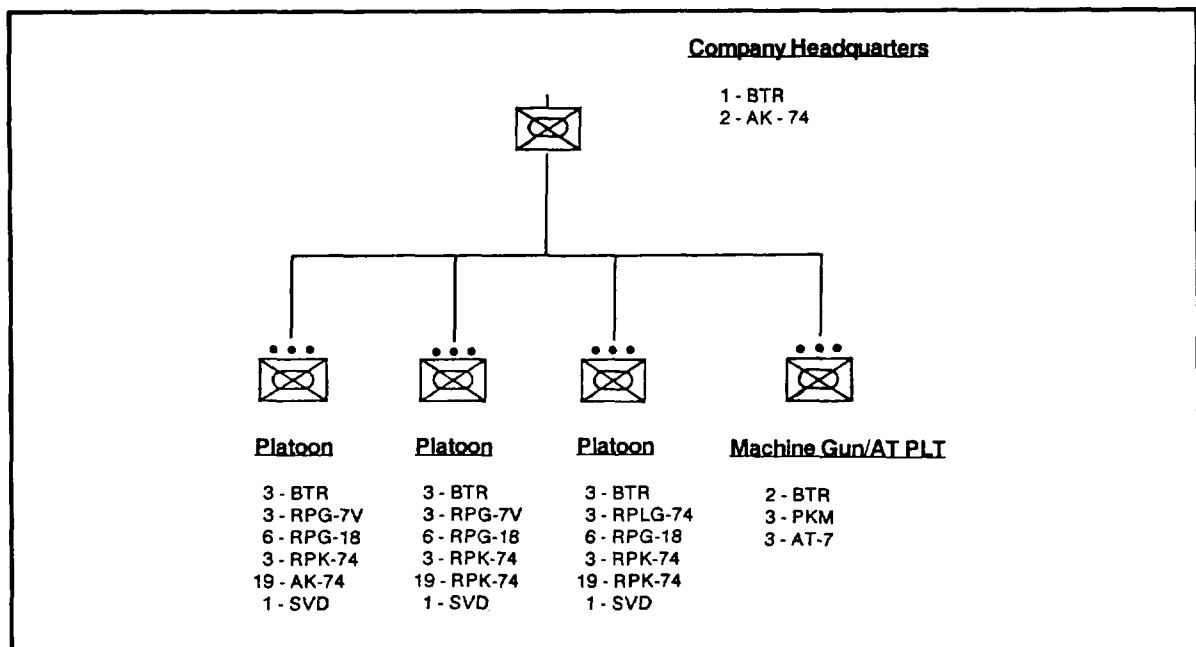


Figure 3-29. Organization of a BTR motorized rifle company.

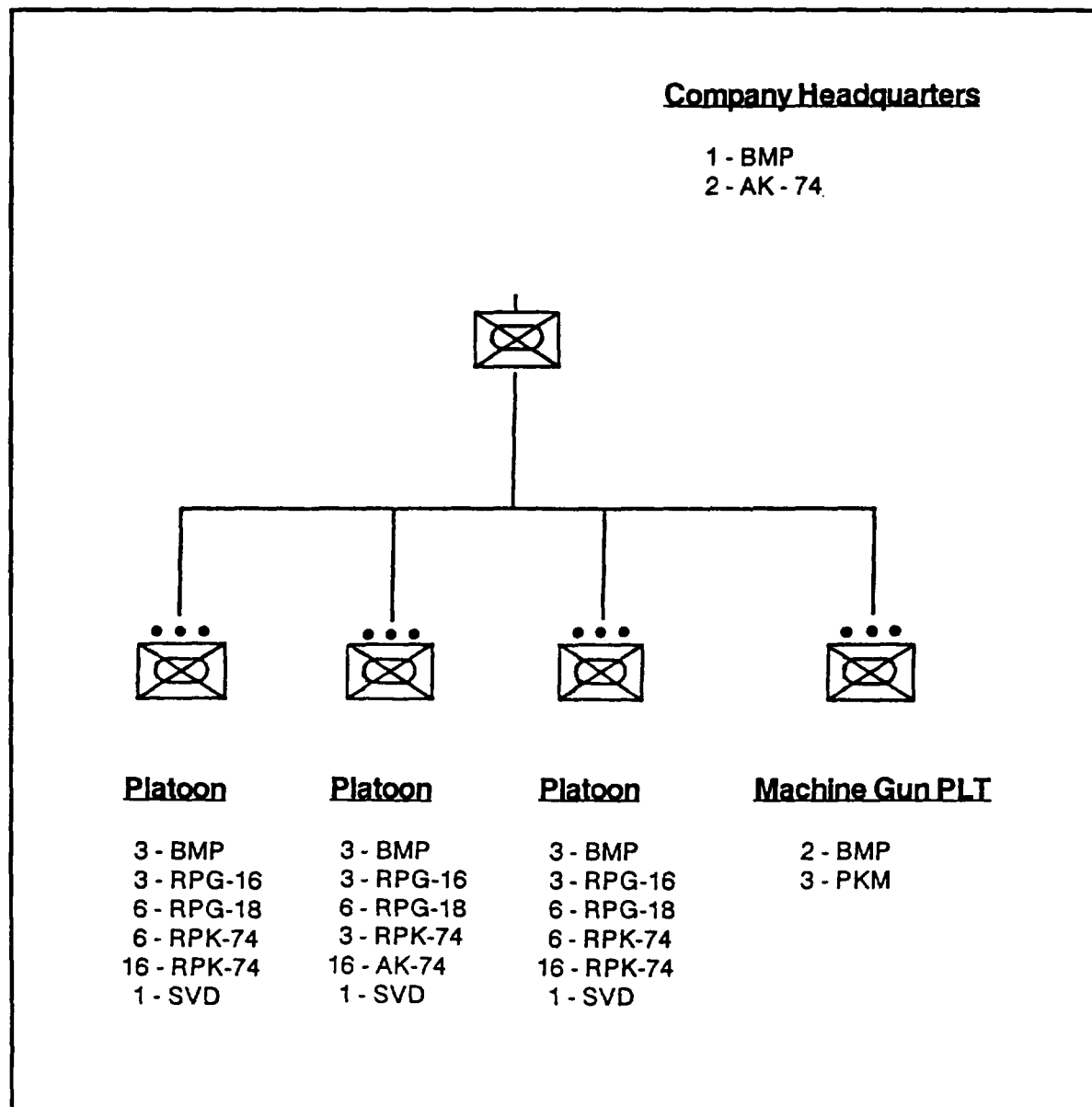


Figure 3-30. Organization of a BMP motorized rifle company.

The Conduct of a Company Defense

Company Layout in the Main Defensive Area

The battalion to which the company belongs will prepare the battalion defensive area in depth along a series of defensive belts or trench lines. A battalion may construct three or four trench lines with connecting communication trenches. Companies in the first echelon will occupy the first and second trench lines, with a distance of up to 500 meters between them. If the company is in the second echelon, it will be located with supporting battalion weapons in the third trench line, about 1,000 meters behind the second trench line. The battalion reserve, usually a reinforced platoon, is located in the fourth trench line up to 2,000 meters behind the first trench line. With the battalion sector, intervals between companies can be up to 1,500 meters. The overall battalion frontage will seldom exceed 5 kilometers (see Figure 3-31).

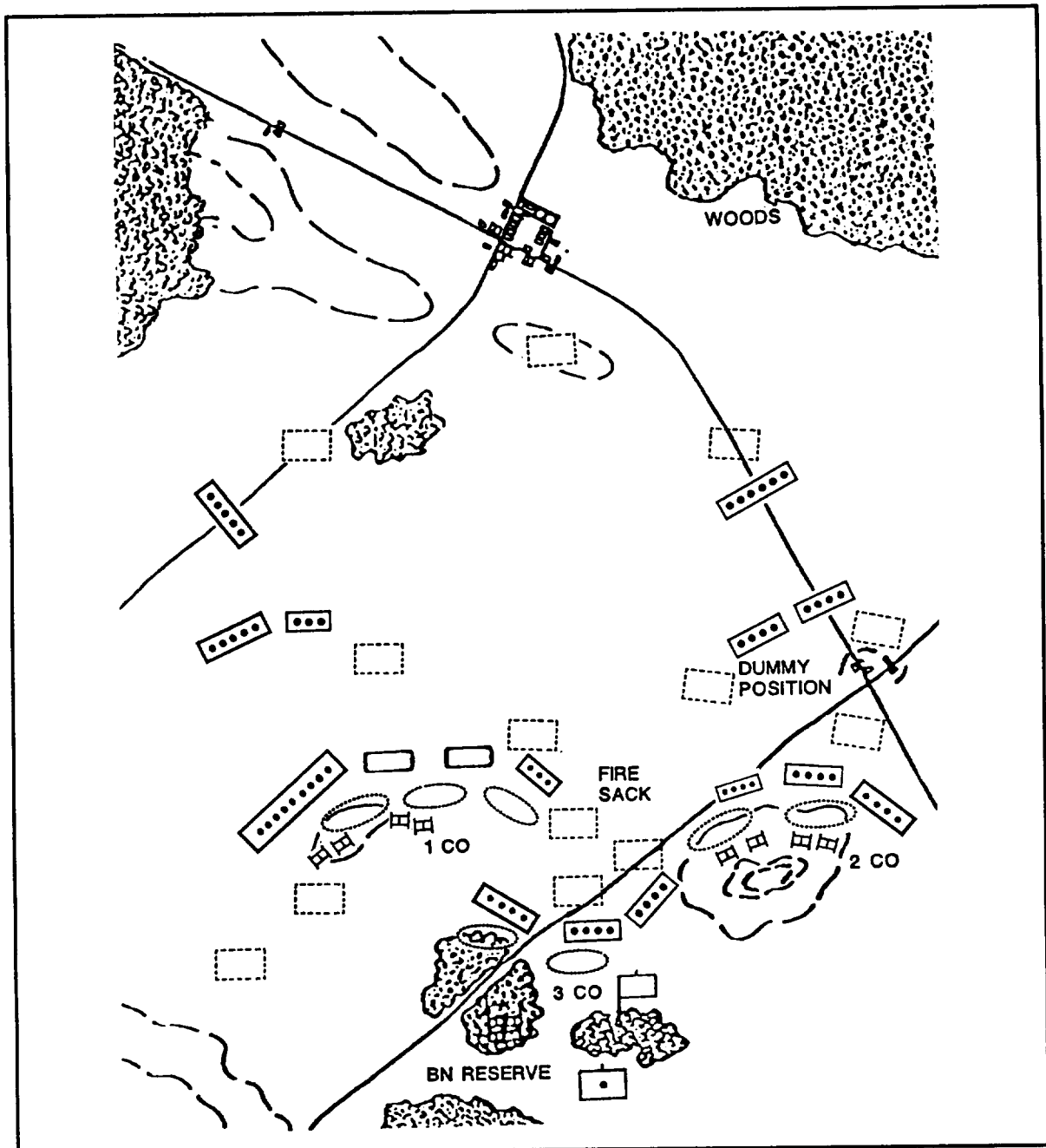


Figure 3-31. Company deployment, main defensive area

The company will deploy its platoons along the first trench line. Each platoon has a communications trench leading back to the second trench line where the main company CP is located. Weapons are sited to cover the entire company front and have interlocking fire with adjacent elements. Although primarily oriented to fight an enemy to their front, the company prepares alternate and supplementary positions to repel attacks from any direction. Each platoon will establish an OP of up to section level as far as 600 meters in front of the first trench line for early warning of enemy activity (see Figure 3-32).

The company commander will control his defense from a COP. He has two such posts, a primary and an alternate. These are concealed, and are chosen for good observation of the battle area and to facilitate troop control. Communications within the company defense rely on buried telephone landline and messengers. Signal flares are also used.

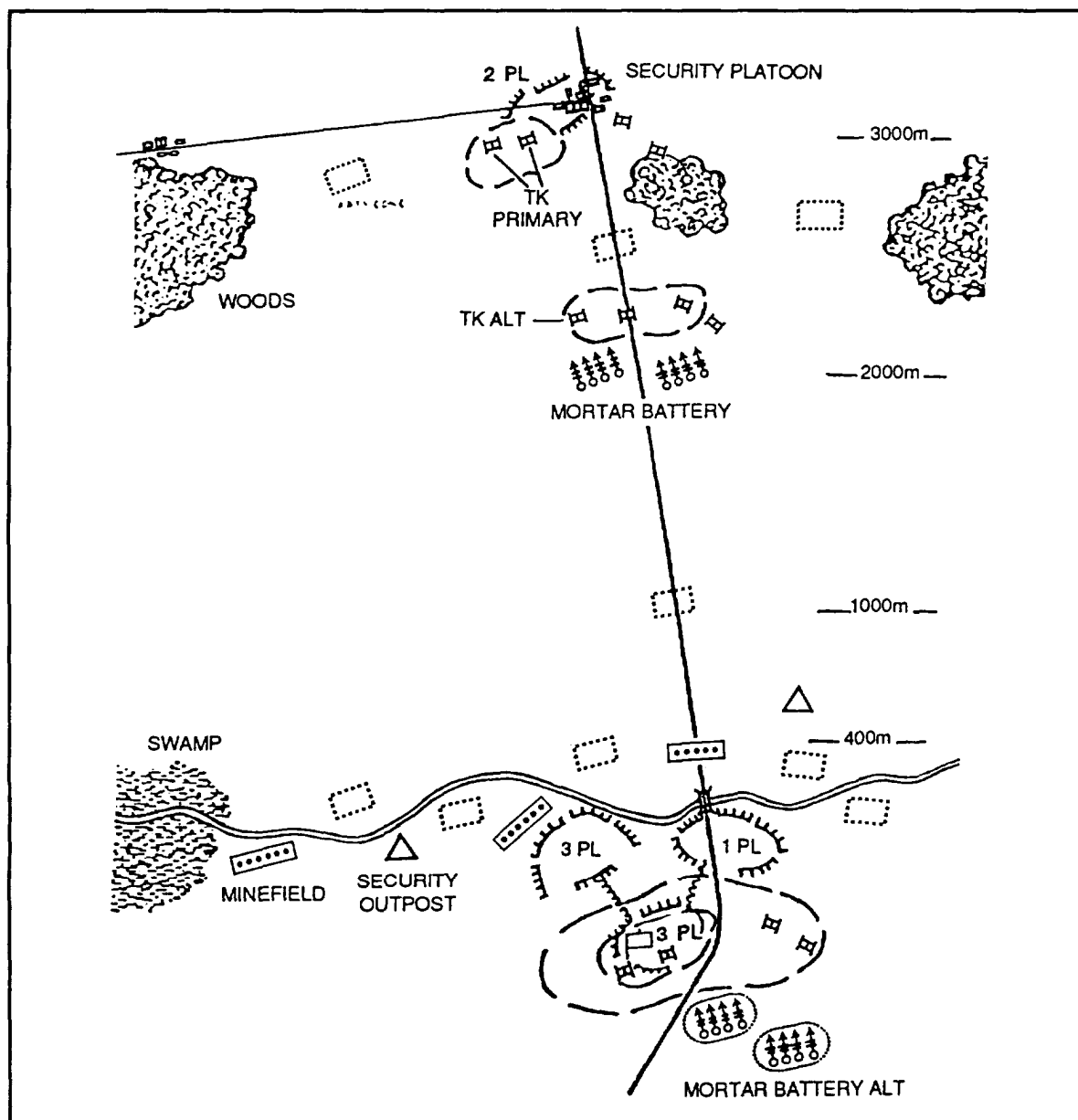


Figure 3-32. Company deployment with alternate positions.

Company Layout in the Security Zone

The company is up to 15 kilometers forward in the security zone. The company is reinforced and assigned a security sector, area of responsibility, defensive position, and reconnaissance zone. The security sector is from 1,500 to 2,000 meters wide. The company conducts reconnaissance patrols 5,000 meters forward. The company defends in two echelons. One platoon stationed in depth is designated the main support platoon, and the commander uses it as his reserve force. The other two platoons are stationed

forward in an outpost line. Field security posts are established 600 meters in front of the outpost line by reinforced motor rifle sections (see Figure 3-33).

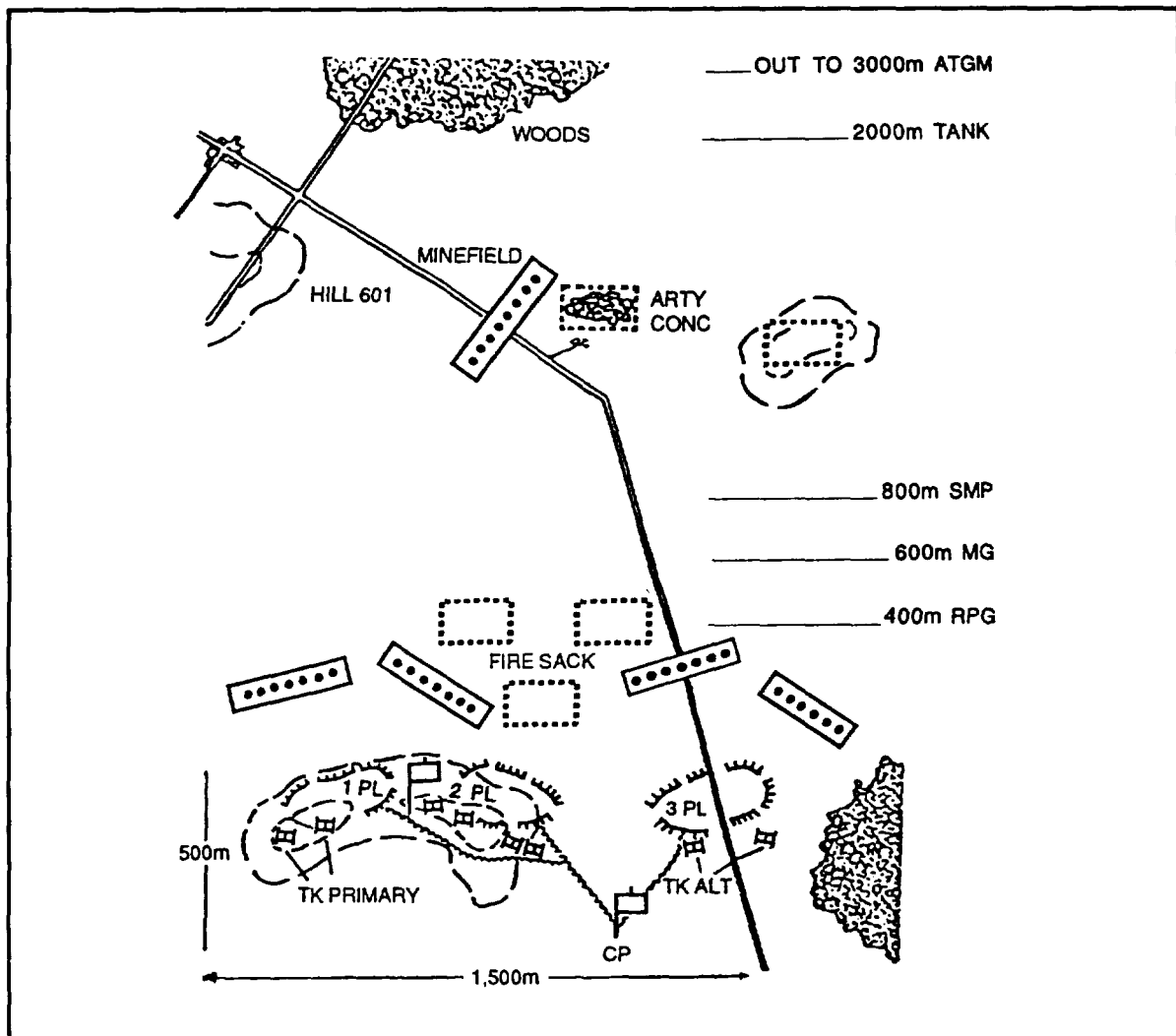


Figure 3-33. Company layout in the security zone.

One platoon equipped with tanks and mortars and with engineer or AT elements is deployed up to 5 kilometers in front of the company position as a security platoon. It prevents surprise attacks, and destroys enemy reconnaissance elements. The platoon will force the enemy to deploy. Threatened with being overrun, the platoon will withdraw back within the strongpoint on orders of the commander. The company deploys on favorable terrain to inflict damage on the enemy and cause him to deploy. The battalion commander orders withdrawal.

Digging In

Defenses are constructed in a sequence that guarantees personnel are always combat ready. First, observation/firing sectors are cleared: individual trenches for automatic riflemen, RPG gunners, machine gunners, SAM operators, and automatic grenade launchers are dug; COPs are constructed; then primary and secondary firing positions for APCs and tanks are designated. Slit trenches are constructed for all other personnel.

One-man trenches are initially dug to allow firing from a lying position and are 24 inches wide, 67 inches long, and 12 inches deep, with a 15-inch-high earth parapet in front of the trench, sloping toward the enemy. The soldier will continue to dig to allow firing first from a kneeling position at a depth of 24 inches, and then a standing position at a depth of 44 inches with a 20-inch to 24-inch parapet. Often two-man trenches will be constructed. A machine gun emplacement consists of two one-man trenches positioned at a small angle with a 40-inch by 40-inch pit and a parapet on three sides to a height of 20 inches to 24 inches, except in the arc of fire where it will not be more than 8 inches high. Time allocations in good ground areas follows:

- Individual shallow trench–30 minutes.
- Individual standing trench–1.5 hours.
- Two-man standing trench–2.5 to 3 hours.
- Machine gun emplacement–2.5 hours.

Individual trenches are linked into section trenches dug by mechanized engineering equipment. Secondary positions for vehicles and heavy weapons are prepared and communication trenches are dug connecting primary fighting positions and shelters. The trenches are curved or zigzagged with straight sections from 15 to 20 meters long at angles of between 120 and 160 degrees from each other to limit injury from fragments. Cover is prepared for weapons, ammunition, and supplies, and covered slit trenches or dugouts are prepared for every section.

Section trenches are linked to form platoon and company trench systems. Communications trenches are equipped with individual foxholes, machine gun emplacements, and recesses for ammunition.

Siting and Use of Weapon Systems

All fires are planned to destroy the attacker while approaching the company strongpoint, in front of the main trench line, on the flanks, and in prepared killing zones within the defended area.

Indirect fire is primarily the responsibility of battalion and higher levels of command, and is based on a series of previously selected fire lines concentrated on likely avenues of approach.

Standing barrier fire (NZO) is fire placed on a single line of concentration to disrupt an enemy attack. It is fired to the front and flanks of the strongpoint. Standing barrier fire will be conducted no closer than 300 to 500 meters from the position. This allows effective engagement by direct-fire AT weapons at the enemy as they emerge through the concentration. It begins as the enemy approaches the planned fire concentration line and continues at a rapid rate until the infantry is cut off from the tanks and halts its attack. Fires will be shifted to destroy infantry attempting to go around the fire concentration line. Standing barrier fire will be used in combination with other artillery fire as well as direct fire.

Rolling barrier fire (PZO) is based on several successive lines of concentration, each closer to the defensive position. The lines are planned for terrain that can be easily observed from a ground observation point and will be separated by 400 to 600 meters or more. The final line will be 300 to 400 meters from the position. Artillery units participating in the fire mission will be assigned a sector of fire on each successive fire concentration, and fire will continue until the bulk of the advancing force has moved through the barrage when it will be shifted to the next line.

FPF is planned within 100 meters of the strongpoint. The company commander has the authority to call for fire immediately in front of his strongpoint.

Emphasis is placed on AT fire planned to engage enemy tanks with continuous fire from the point of first detection. ATGMs are given an engagement area out to 3,000 meters from the forward edge of the position. Tanks firing first engage attacking tanks at 2,000 meters. The engagement range for artillery used in the direct-fire mode is out to 1,500 meters. SPG or RPG weapons engage the enemy at ranges less than 1,000 meters.

The fire plan complements the obstacle plan and makes use of both natural and man-made obstacles. Obstacles disrupt enemy formations, restrict maneuverability, and channel the enemy into areas on which

the company can bring maximum firepower to bear. Obstacles are located within 200 to 400 meters of the position to allow the enemy to be easily observed and effectively covered by fire

Artillery

Artillery is used in the defense for both direct and indirect fire. In the direct-fire role it provides for increased fire into fire sacks and for breakthroughs within the defensive area. In the indirect-fire role it is used to provide flexible fire in concentrations to affect the battle within the entire defensive area and into the enemy's depth.

There are two types of command relationships for artillery: attached and supporting. An attached artillery unit is under the operational control of the maneuver force commander. A supporting artillery unit remains under control of its parent artillery organization, and its fires are delegated.

It is unlikely that artillery will be attached directly to a defending company in the main defensive area but an artillery battalion may be attached at MRB level. A battery will then be assigned to support the company, and will conduct fire missions for it. The artillery fire plan is composed by the artillery battalion, and reflects the tasks of the MRB. It covers the most likely avenues of approach within the defensive area providing optimum FS to all companies. The MRB may have additional artillery in support from the MRR's artillery group. A company operating in the security zone may have an artillery battery directly attached to it.

A mortar battery of six 120-mm mortars or six 82-mm mortars is organic to the MRB and will fire the battalion fire plan. A company operating forward in the security zone may have this battery attached.

A battery commander's command OP will collocate with the supported unit. The battery command OP is located within 1,000 meters of the front line to provide observation of the enemy and actions of the supported company. The battery commander, a rangefinder operator, and a radiotelephone operator are located at this command OP, which is responsible for controlling the battery's fire and is near the company commander's command OP to ease coordination. If the command OP must be abandoned, an alternate OP is selected. The battery command OP is also augmented by flank or forward OPs as required. The forward OP is manned by the headquarters' platoon commander, a scout, and a communicator. In the security zone, the forward OP would initially be stationed with the security platoon and would fall back with it to the battery command OP. The lateral OP is provided for observation in areas unobserved by the battery command OP. It is usually manned by two men from the headquarters' platoon's reconnaissance section, and can direct fire on observed targets.

Should the defending company be positioned on a critical approach, it could expect to receive artillery fire from the artillery battalion as part of the MRB fire plan, fire from the battalion mortar battery, and fire from the RAG. If the company is defending on a secondary axis during an attack, artillery fire would be reduced to that of the supporting battery. If the company was on a secondary axis with a major attack elsewhere in the battalion defensive area, it would not receive any artillery support at all.

Antitank

The company has nine RPG-7Vs and eighteen RPG-18s, and is trained to wait until tanks advance within 15 to 20 meters before engaging with AT hand grenades. BTR companies have three man-portable AT-7 SAXHORNS, which are wire guided, have a range of between 70 and 1,000 meters, and have armor penetrating capability equal to the AT-4 SPIGOT. BMPs mounting SPIGOTs or SPANDRELS have the added advantage of being able to dismount these weapons and employ them separately. Weapons are positioned to provide the strongpoint with all-around AT defense.

In the main defensive sector, AT elements may be integrated into first-echelon company strongpoints. These elements are platoon size, and come from battalion or regimental AT companies. They will be positioned to ensure coverage of main armor AAs and AT barriers.

Leaders of supporting AT elements will remain with their weapons. With guidance from the company commander, they will select their deployment lines, firing positions, and movement routes.

Both attached and integral AT weapons are sited to engage the enemy at maximum possible ranges, with enfilade fire, cross fire, and surprise short-range ambushes.

Tanks

A company may receive tank support, usually in the form of a platoon, which will normally be located behind the second trench line. Terrain is the main consideration in its positioning. Each will have primary and alternate positions and primary and secondary sectors of fire.

These tanks will be dug in and camouflaged. The T-64, T-72, and T-80 are equipped with a self-entrenching device that will allow their crews to prepare a rough hull-down position within 30 minutes in good soil. The T-64B and the T-80 are able to fire the AT-8 SONGSTER ATGM from their main guns out to 4,000 meters instead of 2,000 meters. It will enable these tanks to destroy the enemy at long range with the first shot. This weapon may also be used effectively in an antihelicopter role.

The heavy machine gun can be dismounted and set up in a ground-mount position manned by the driver up to 100 meters in front of the tank; a communications trench would connect back to the tank.

AGS-17

The MRB has a platoon of six AGS-17s. The AGS-17 is a 30-mm automatic grenade launcher with a 29-round drum magazine; it is capable of delivering over 60 rounds per minute out to 1,700 meters. The AGS-17 is used for either direct or indirect fire, and has both HE APERS rounds and HEAT rounds. This platoon will fight with a section of two launchers assigned to each company. The ability to deliver large amounts of fire will be employed in areas where the heaviest fire concentrations are required.

Engineer

As the company is digging in, engineer assets begin the construction of a barrier system that uses existing natural obstacles. The objective of this barrier system is to canalize the enemy into fire sacks where he can be destroyed by fire. Fire is planned on every obstacle.

Minefield can be antipersonnel, AT, or mixed, with mixed being most common. They can be laid by hand or mechanically, surface laid or buried. Outside of the company position they will not be marked, but if inside the strongpoint they may be.

In addition, directional mines similar to the Claymore have been developed. The MON-50 has a range of 50 meters; the MON-100 and MON-200 are larger versions with 100- and 200-meter ranges.

Minefield are sited at the near end of a killing zone or astride likely enemy avenues of approach. They are also employed on the flanks and elsewhere to canalize the attacker into preplanned killing zones. Initially, minefield are laid within 300 to 500 meters of the company position, allowing coverage by all of the company's weapons. Close-in defensive minefield may also be constructed perpendicular to the position, starting as close as 10 meters and extending out for 60 meters (see Figure 3-34).

A planned defensive minefield of two additional belts will be constructed, one within the effective range of tank fire and another within the range of ATGMs.

The length, depth, and density of the minefield depends on time, equipment, types of mines, the ground, and an estimate of enemy intent. It is not unreasonable to construct several minefield 300 meters or more in length, each able to cover an entire platoon's frontage.

A company can lay mines by hand if no mechanical support is available. In four hours, a platoon with a sapper sergeant can lay 240 mines covering an area 400 meters long, if laid as a hasty minefield in 3 rows with 5 meters between mines. In 5 minutes, with support from regimental engineers, three PMR-3/60 minelaying trailers can lay a 500-meter-long minefield. In 8 minutes, with divisional engineering support and the division's three GMZ armored minelayers can lay a 1,100-meter-long minefield.

Nonexplosive obstacles are used both with and independent of minefield. These are AT ditches, escarpments and counterscarps, dragon's teeth, timber and ice barriers, and barbed wire entanglements.

AT ditches are constructed on level terrain or gentle slopes of up to 15 degrees. On 45-degree forward slopes, escarpments are constructed and on reverse slopes, counterscarps. Obstacles are not required for slopes over 45 degrees as these are obstacles. Regimental engineer assistance reduces the time needed to produce these obstacles. A BAT-M bulldozer can construct from 11 to 50 linear meters of standard AT

ditch in an hour, an MDK-2 or MDK-3 ditcher can construct 29 to 33 meters, and a BTU tank dozer mounted on a T-55 can construct 12 meters to 28 meters. One linear meter can be dug by hand in 25 man-hours.

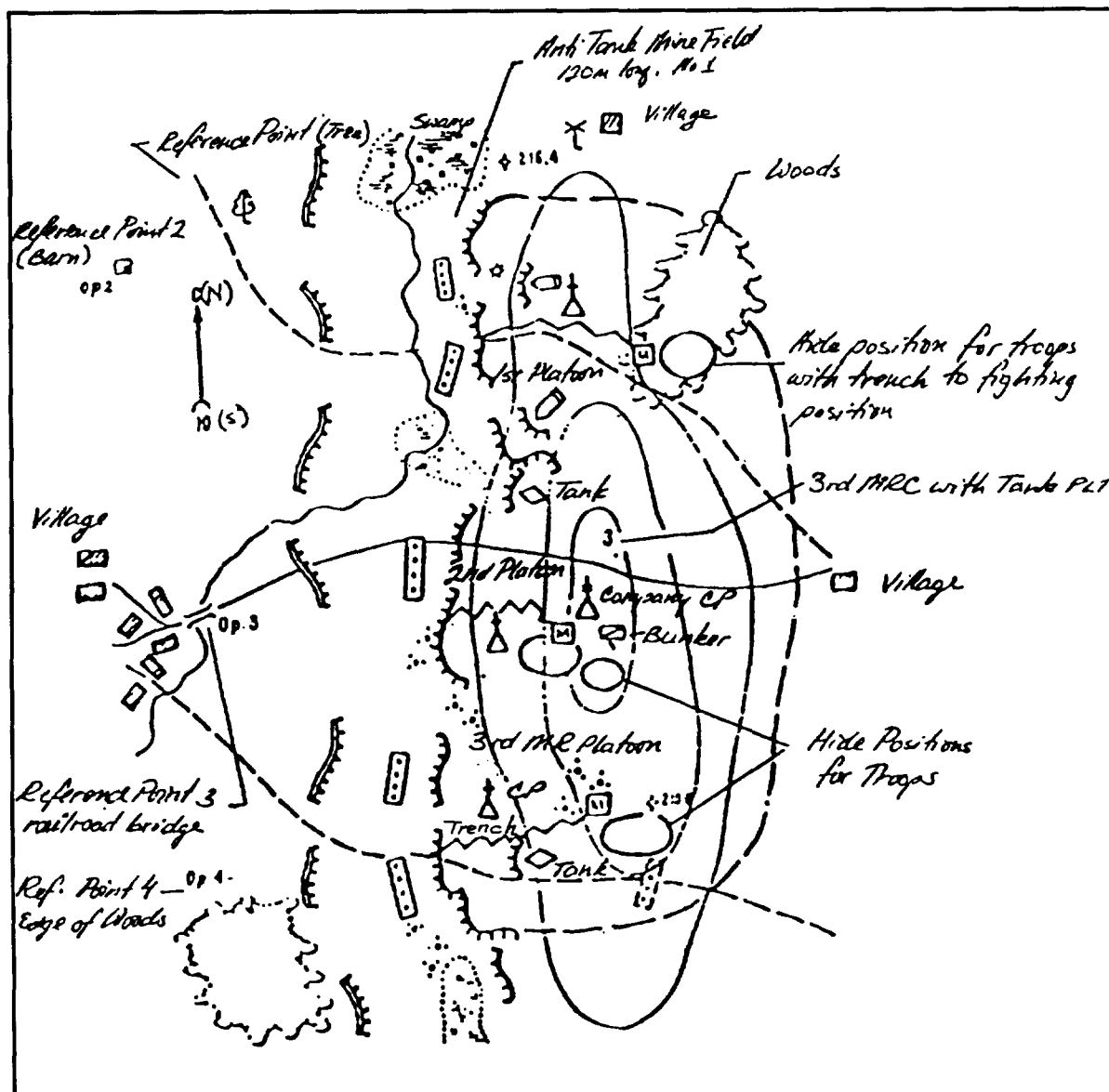


Figure 3-34. Company layout and obstacle placement.

AT obstacles can be constructed of dragons teeth or boulders. Boulders used must be at least 32 inches high, placed in three rows 2 to 3 meters apart with 1.5 to 2 meters between boulders. They may also be buried up to 8 inches deep and loosely wrapped with barbed wire. Log barriers are also used. A log crib is constructed with two walls of logs 10 to 18 inches in diameter 1.8 meters apart. Each wall is supported by posts at least 1.5 meters high. The crib is braced from the side opposite the approach route and filled with earth. It takes 6 to 8 hours to build a 6-meter obstacle. Dragons teeth and log barriers are employed on roads and through narrow passageways, and in gullies, river beds, and constricted areas (see Figure 3-35).

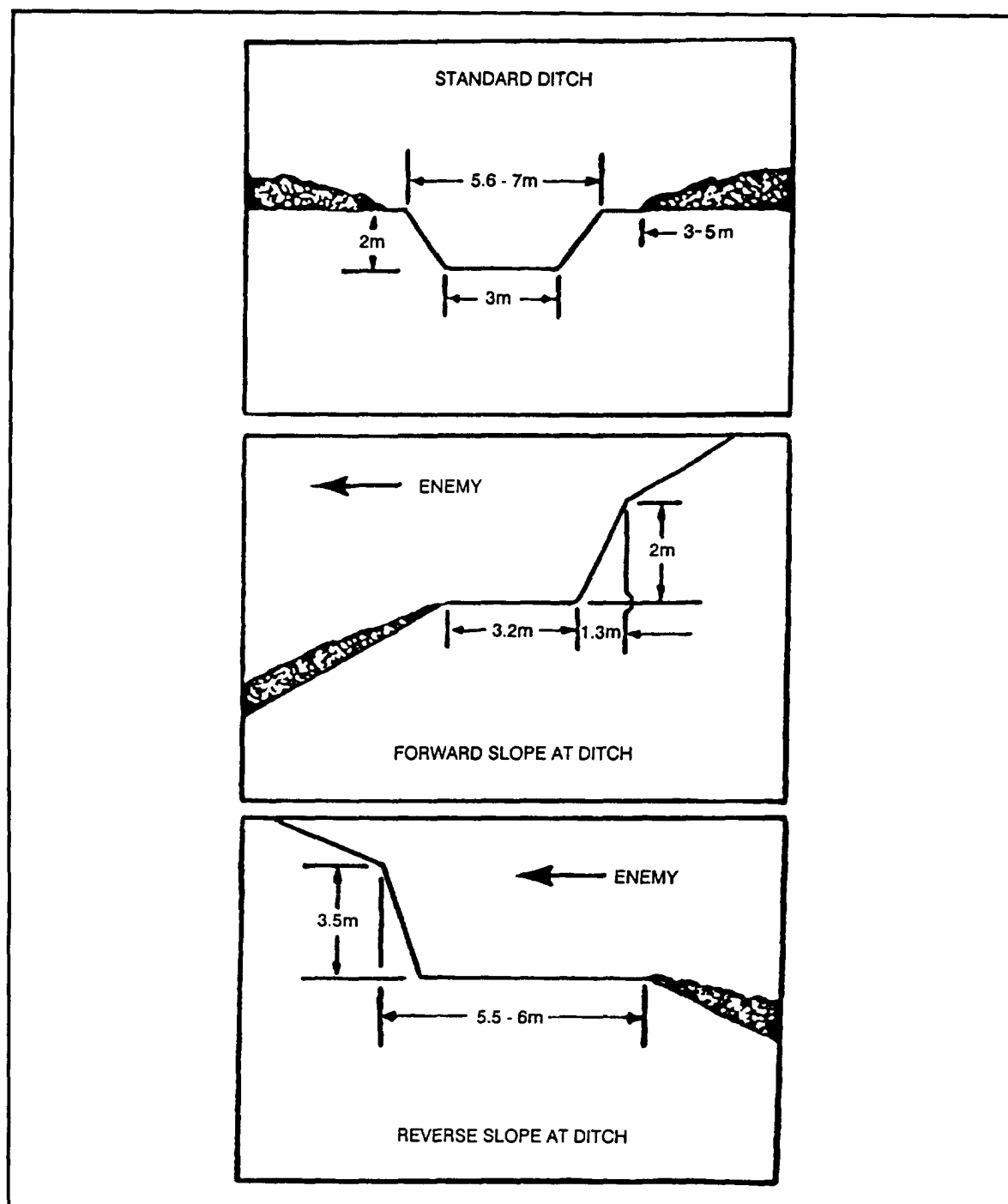


Figure 3-35. Antitank ditch measurements.

Wire obstacles will be situated to allow good small-arms coverage less than 30 to 40 meters from the position. They will be hidden from enemy observation. Twenty manhours are required to construct a permanent five-wire fence 100 meters long and three rows deep using metal stakes. Low wire entanglements or concertina wire is often used to create obstacles. Mobile wire obstacles such as knife rests or

hedgehogs are created to emplace obstacles across roads, ditches, and trenches quickly, and to close breaches in defensive obstacles. A company will have from three to four hedgehogs or knife rests to close off individual trench sectors during combat within the trenches. It takes four man-hours to make a knife rest and one to make a hedgehog (see Figure 3-36).

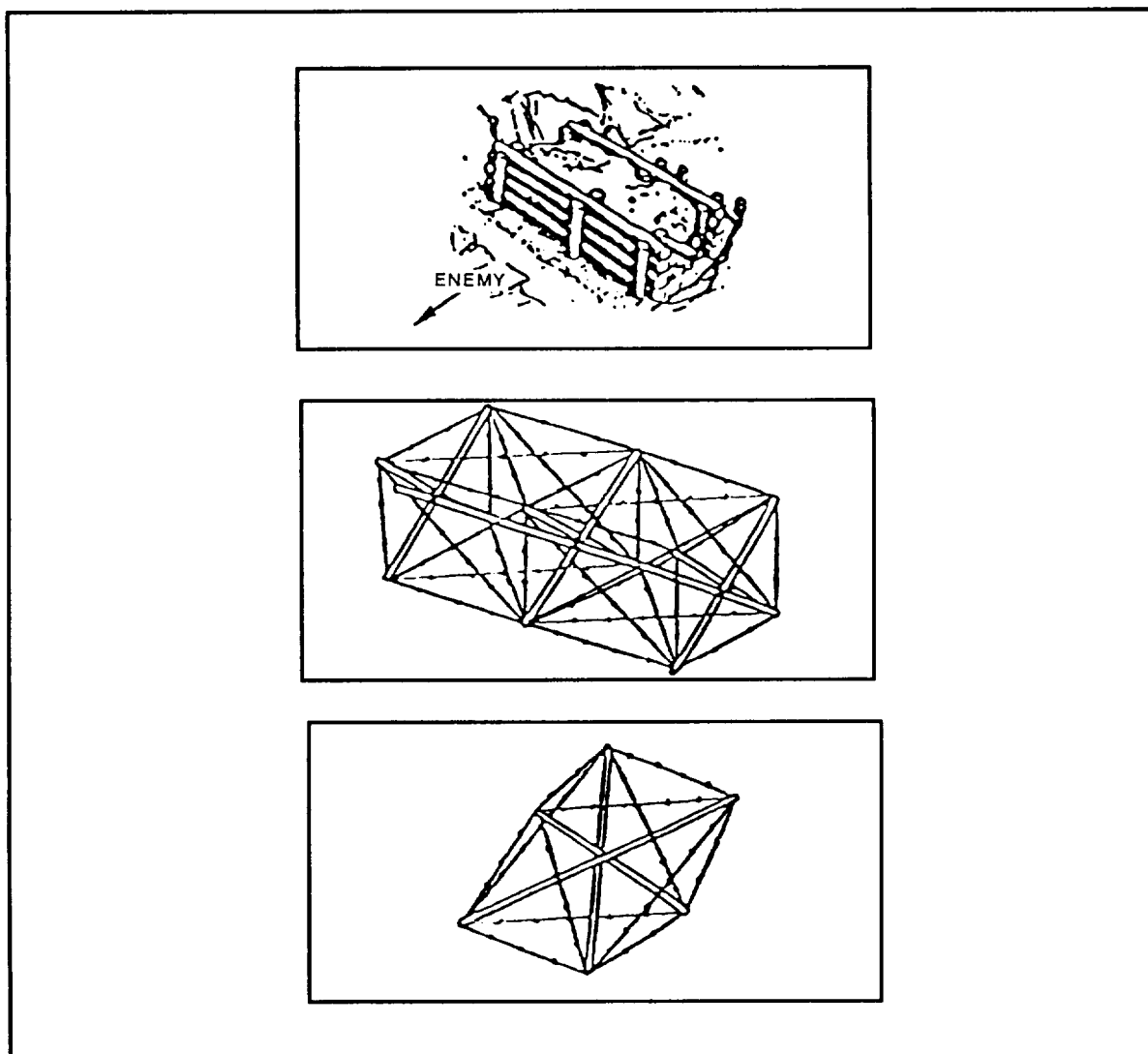


Figure 3-36. Log barrier and wire obstacles.

Air Defense

The company uses shoulder-fired SA-7B GRAIL or SA-14 GREMLIN SAMs from the battalion's air defense platoon as well as massed small-arms fire for air defense. Air OPs are established near the command OP on terrain offering good visibility. Sectors for observation and fire are assigned to air observers on a rotating schedule that provides continuous all-around protection. The attached SA-7 or SA-14 SAMs are collocated at these air OPs. Air defense within the company is also provided by the 12.7-mm antiaircraft machine guns of the attached tanks, 14.5-mm machine guns on the BTR-80s, and by ground-mounted 12.7-mm NSV machine guns. The 30-mm automatic cannon on the BMP-2 has anti-helicopter capabilities. ATGMs may also be used in this role.

A helicopter is engaged with massed fires of a single platoon, and high-performance aircraft by all the weapons of the company. Aircraft will be fired on as long as they are within range. Passive air defense measures used include camouflaging vehicles, equipment, and positions, and constructing dummy positions and vehicles.

Nuclear and Chemical Defense

The company executes NBC defense plans in accordance with the battalion plan. It disperses its positions to deny an attractive target and uses effective field fortifications. The company has an NBC noncommissioned officer with a small team of extra duty NBC specialists. These specialists can check unit NBC equipment and help in decontaminating personnel and equipment. In the defense they establish limited NBC monitoring facilities to warn of NBC use. Chemical defense specialists can be attached from the regiment's chemical defense company.

Conduct of the Defense

Standard Defense

Enemy reconnaissance is destroyed or repelled by designated units engaging from specially selected positions that will not give away the main defensive positions. Some of these special positions may be well forward of the main defense. After enemy reconnaissance is destroyed or repelled, units exposed by firing are relocated (see Figure 3-37).

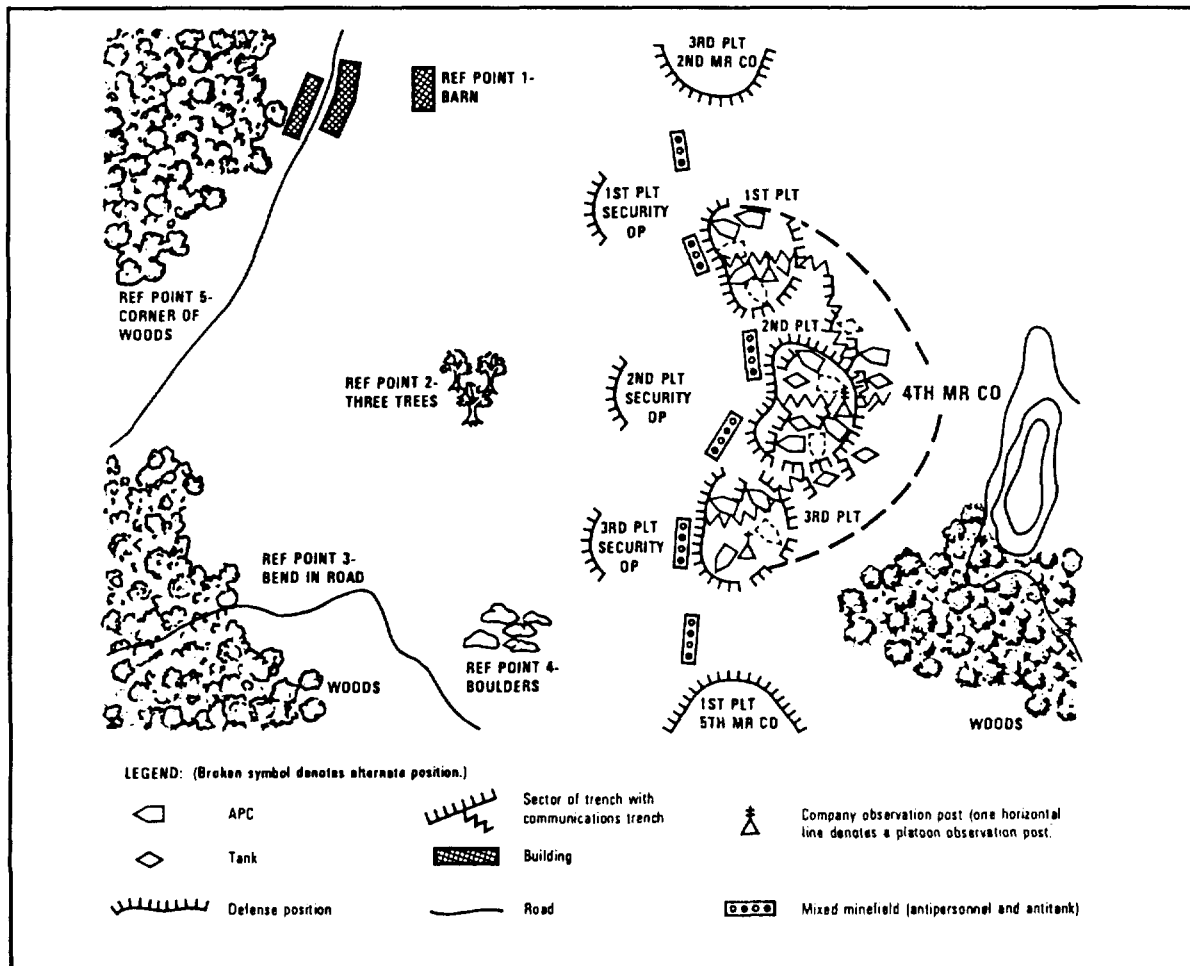


Figure 3-37. Conduct of the company defense.

During the enemy artillery preparation, company personnel remain under cover, with only machine gunners and observers remaining at their posts. Friendly artillery units fire on enemy artillery and mortars, and on enemy tank and infantry forces readying for the attack.

When enemy artillery fires shift to engage targets to the rear, company personnel occupy their stations and meet the advancing enemy with fire. If weapons have been destroyed by enemy bombardment, the remaining weapons are relocated to restore the fire plan. ATGMs engage the enemy at maximum effective range. Tanks open fire at 2,000 meters, and BMP- 1s at 800 meters. Section machine guns open fire at 600 meters, and small-arms fire at 400 meters.

Priority is given to the destruction of enemy tanks and then to APCs. Enemy infantry are destroyed once separated from their combat vehicles. The three platoon snipers kill enemy officers, observers, signalers, machine gunners, and snipers.

If the enemy penetrates a company strongpoint, personnel continue to defend their assigned areas and attempt to destroy the penetration by fire. Tanks are destroyed with all available AT weapons and infantry are engaged with grenades and hand-to-hand combat. Artillery is used to contain the spread of the penetration, and the battalion's reserve is committed to destroy a breakthrough. If bypassed, the company remains in position and continues to hold the strongpoint, engaging the enemy with all available weapons.

Should the enemy assault be repelled, the company commander concentrates his fire on the enemy attacking adjacent companies. He redistributes firing positions, shifts key weapons locations, repairs trenches and obstacles, replenishes ammunition, and prepares for further enemy attacks.

Night Defense

Two primary considerations in a night defense are security and illumination. LPs are established and each platoon details extra observers. OPs are brought closer to the front line—about 200 meters out. No less than 50 percent of subunit personnel remain in their positions, ready to open fire and repulse enemy attacks. Personnel are assigned to destroy enemy night-vision devices. Patrolling is increased to reduce the possibility of a surprise attack. Light and sound discipline is imposed, and movement is held to a minimum. Weapons exposed during the day are moved to alternate locations.

Weapons with night-vision devices are positioned with primary and alternate positions to cover main approaches. Active infrared night-vision equipment exists for short-range target illumination, and also have image intensifiers for weapon systems such as automatic rifles, machine guns, and grenade launchers as well as battlefield surveillance like the NOD, NNP-20M. The weapon sight NSP-U can be fitted to the RPK-74 light machine gun or the AK-74 assault rifle, and one is issued to each section.

The illumination plan includes measures taken to illuminate the sector and blind the enemy. Illumination posts are normally positioned in front of each platoon with two or three alternate positions 40 to 60 meters apart. They are equipped with flares and located to provide full illumination coverage. Since it requires relatively little time to activate a flare, each post can simultaneously fire two flares, illuminating a frontage of 400 to 480 meters. The flares have a range of 200 to 250 meters and will burn for 7 seconds. Incendiary and HE fires may be directed behind the attacking enemy to silhouette him.

The company withdraws its additional observers prior to daylight. Advantage is taken of the dark to evacuate casualties, and to replenish ammunition, and feed.

Defense in Special Terrain

Urban defense. As in the field defense, the parent battalion may defend in one or two echelons based around company strongpoints. However, the company strongpoint has its frontage drastically reduced to a maximum of 200 meters.

The company will deploy in platoon strongpoints with masonry and reinforced concrete buildings prepared for an all-around defense. Strongpoints will be fortified by knocking holes in walls for handheld weapons, positioning weapons on different floors to cover dead spaces, and positioning snipers on roofs and attics. Mobility is enhanced by cutting holes through floors, using ropes and ladders, and using sewers or other underground passages as covered communication routes. Unnecessary doors and windows are filled with bricks or sandbags, and stairways are destroyed, barricaded, or mined. Basements are used as

shelters from nuclear blasts, with 8 to 16 inches of earth placed on ground floors to improve protection. Vehicles are positioned in gaps in walls, fences, and ruins.

Tanks are employed either as a platoon or independently in planned ambushes. They may either be used in a mobile role with two or three alternate positions or stationary to reinforce the AT defense. Due to their minimum range limitations, ATGMs will be used on the approaches to the town or city.

Half of the artillery is positioned for direct fire. It is emplaced singly or in platoons with two or three alternate positions and under the command of the MRC commander.

Gaps between strongpoints, streets, and open areas are mined with obstacles set up to impede the enemy advance. Buildings are blown down to clear sectors of fire and create rubble that can be used as obstacles.

SA-14s or SA-7s are positioned on flat-roofed buildings, in major intersections, and in park areas to provide air defense coverage.

Continuous CB monitoring is conducted with extensive warning systems within the strongpoint. Additional emphasis is placed on fighting fires during combat. All combustible material is removed from the strongpoints.

It is commonly believed that the battle will become one of a series of small-unit (company) engagements. The fighting will be at close range for all weapons. Against a combined arms attack, emphasis will be on the destruction of the infantry, allowing the tanks to become easy targets at close quarters. If the enemy penetrates a company strongpoint, the company defends in place and uses artillery to fix the enemy and prevent advances. A counterattack will be launched by the battalion to destroy the enemy and restore the position.

Defense in mountains. The defender is hampered by the large areas of dead ground and the hidden approaches that hinder observation and at low the enemy to approach the forward edge and attack by surprise. Defenses in mountains will be decentralized and sited with larger gaps between companies than on regular terrain. Company strongpoints are set up to hold key terrain with an all-around defense and mutual support between them. Gaps between the strongpoints will make it easier for the enemy to turn and envelop them. The forward edges of mountain ridges, heights, and spurs are chosen to give good fields of view and fire over the approaches. Ambushes and obstacles are employed in areas that are difficult to reach and hard to cover by observation and fire. Reconnaissance and standing patrols are organized to cover these areas.

Field fortifications in areas where the soil is no deeper than 1 meter will use partially dug-in positions with embankments constructed of stone, sandbags, and dirt. If the soil is deeper than 1.5 meters, then ordinary field fortifications will be constructed.

The fire plan is prepared with provision for overlapping enfilade fire, cross fire, and surprise short-range fire all around the edge of the position. Weapons are placed in steps on the slopes facing the enemy and on the reverse slopes of heights to eliminate dead zones and hidden approaches to the position. Artillery is located for direct fire at maximum range because indirect fire is restricted by large areas of dead ground. Mortars are preferred for indirect support.

Tanks will be attached to company strongpoints that are defending major axes such as road junctions, exits from valleys, defiles, the edges of forests, and mountain river crossings.

Engineer obstacles will be used to block hairpin turns, defiles, and potential avalanche sites. Detours around obstacles will be heavily mined with both AT and antipersonnel mines. Due to the restricted nature of the terrain, fewer AT mines will be required than in normal conditions. The use of antipersonnel mines will be increased. The restrictive terrain will enable effective use of off-route and MON-series mines.

Increased reliance will be placed on local air defense by shoulder-fired SAMs, and longer range weapons will be held at higher levels of command.

The defense will be similar to that on regular ground. The enemy will be engaged by fire as he reaches the distant approaches. Tanks and other armored vehicles are destroyed as they attempt to maneuver on difficult ground. If the enemy is successful in breaching the defensive position, the company will remain in

place and maintain an all-around defense. If conditions are favorable, the battalion will launch a counterattack to destroy the enemy force.

Defense in winter. In deep snow, the frontage of the company will increase up to 2,000 meters with platoons defending on 500-meter frontages. The company strongpoint will be sited in locations that provide shelter to the defenders, such as populated areas and forests. The strongest defenses will be constructed along roads and areas of light snow that are the most likely avenue of approach. The flanks of positions are strengthened to counter enemy ski-borne attacks. It will be hard to construct elaborate defensive positions due to the frozen earth. To remedy this, parapets of packed snow are built around weapons and vehicles. Snow will be packed to conceal the strongpoints, and may be packed on the upper portion of combat vehicles to aid in concealment. Emphasis is on maintaining peak efficiency of company personnel, and two-thirds of the company will stay in warming shelters when not engaged.

Conduct of a Tank Company Defense

The tank company is equipped with 10 tanks and is organized into three platoons. Personnel consist of conscript soldiers generally well trained in the individual skills of driving, loading, and gunnery. Four TCs in each company are officers or warrant officers who complete extensive professional training. The remaining TCS are conscripts who have 6 months training before arriving in the company and train in their units during the next 18 months until their term of service expires.

Tank companies are equipped at present with tanks that are simple to operate, have low silhouettes, good mobility, and an accurate gun that can range effectively to 2,000 meters. Limitations in target acquisition and sighting equipment mean that night firing is restricted to a range of roughly half the daytime range.

The tank company is considered a single fire unit. It can reinforce other combat arms or be reinforced. It normally operates as an independent unit in reconnaissance, as a security detachment, or as the basis for an MRB's AT defense. In other tactical operations the tank company is subordinated to a larger unit.

Tactical training consists primarily of rehearsing changes in column and line formations at platoon and company levels. Fire control is exercised by the company commander except in emergencies. ATGMs and enemy tanks are regarded as priority targets. Control and communications security is strict, and platoon and company commanders are expected to lead and show initiative, but within the limits of field regulations.

Organization

The tank company consists of three platoons and a headquarters. There are three tanks per platoon and one in the company headquarters for the company commander (see Figure 3-38).

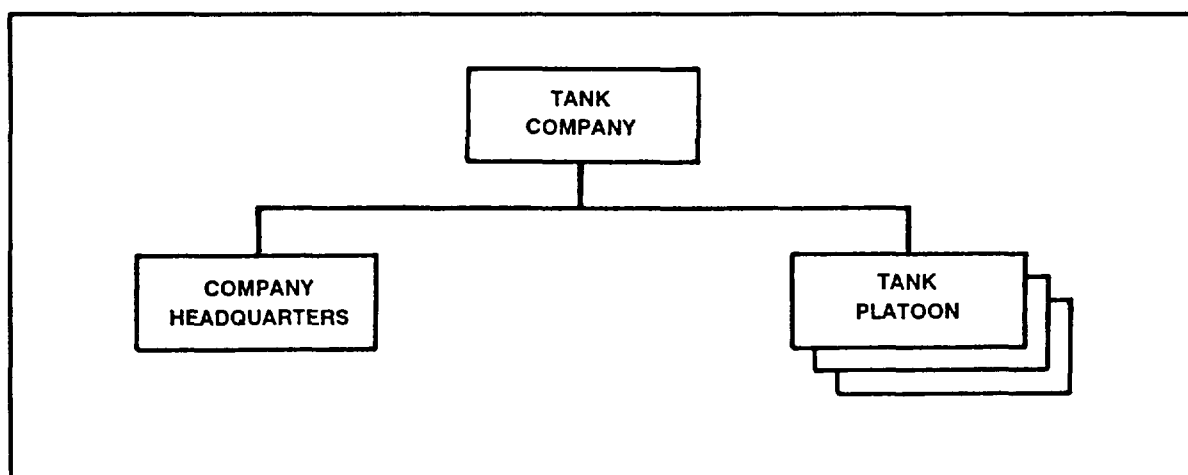


Figure 3-38. Organization of a tank company.

Command

Company commander. The tank company commander is usually a captain or a senior lieutenant. He is responsible for the accomplishment of the assigned mission and fire control of his company. He is responsible for maintenance and servicing of the vehicles, the combat readiness of the company, and the standards for crew and tactical training. In combat the responsibilities of the commander include—

- Deployment, camouflage, maintenance, and replacement of ammunition, fuel, lubricants, and food.
- Issuing tactical, political, and preparatory orders.
- Estimating the situation and carrying out reconnaissance with subordinate and attached unit commanders.
- Formulating coordinating instruction, issuing orders, and supervising inspections prior to commitment.
- Leading or directing the company during operations, controlling the fire of company tanks and attached units during execution of the mission, maintaining contact with flank units, and reporting tactical information to the battalion commander.

Company headquarters. The company headquarters consists of—

- A deputy commander who is a senior lieutenant.
- A technical officer who is a senior lieutenant or lieutenant with 3 or 4 years training at a higher tank technical school.
- Praporshchik (a rank roughly equivalent to a US warrant officer) who attends to routine administrative matters.
- A tank crew consisting of a driver-mechanic, a gunner, and a tank commander.

The headquarter officers and praporshchik do not accompany the tanks on their combat missions. There is also a truck driver and a clerk.

Control

Control means. The company commander controls the tank company by radio, visual and audio signals, and pyrotechnics in the employment of well-rehearsed tactical drills. Reference points are used for identification of terrain features. Personal example is regarded as a control technique.

Radio nets. The tank company commander has two radios in his tank. He has a VHF set for communications with the company and an HF set for communications with the battalion. In the tank company, the company and platoon commanders net with each other and the commanders of attached units. Radios in tanks other than command tanks operate only in the receiving mode. Supporting artillery commanders can communicate directly to all company tanks (see Figure 3-39).

Control level. It is important to note that control of the command radio net is retained at battalion level, and when the company operates as part of a battalion there is no company net. All tanks will monitor the battalion net and receive orders from the battalion commander.

Radio security. The tank company is forbidden to make radio transmissions immediately before contact with the enemy. Radio sets are on listening silence until contact is made. During combat, only the company commander is authorized to transmit. Transmissions are short and kept to a minimum. Platoon leaders transmit only in emergencies. In combat, orders and tactical reports are given in the clear, and references to terrain features and other units are encoded.

Visual and audio signals. During the commander's reconnaissance, code words are assigned to prominent terrain features within company boundaries. Pyrotechnics or tracers are used to identify targets, boundaries, and units. Audio signals are used for warnings when the company is in a static position. Landlines are used to communicate between tanks and supported units.

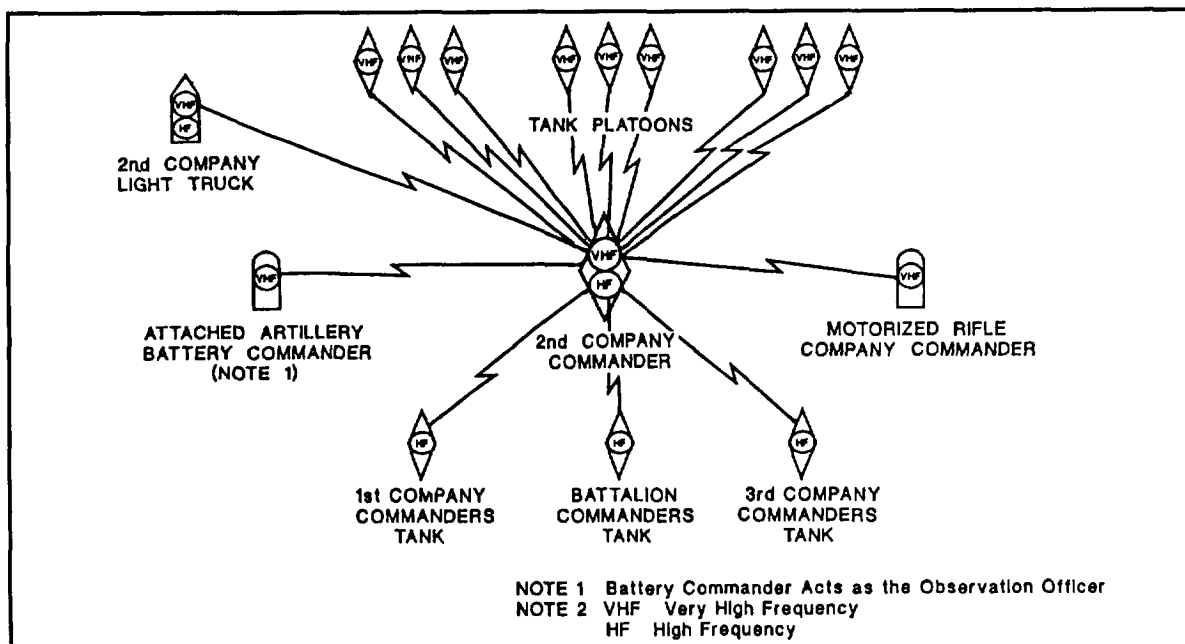


Figure 3-39. Representative radio net of a tank company.

9-mm Pistol, PM	24
5.56-mm Assault Rifle, AKS-74	6
Medium Tank, T62/T64/T72/T80	10
Mine-clearing Plow Sets (KMT-4/5M/6)	3
Radios, R-130	4
Radios, R-123	10

NOTE: Each tank platoon may have a minimum of one tank-mounted DSHK 2.7-mm machine gun for low-level antiaircraft protection.

Special-purpose tank equipment. Soviet-made tanks can mount the plow and roller combination and the tank bulldozer blade. The weight of these items reduces the tank's obstacle-crossing ability, maneuverability, and makes it more difficult to handle. The engine life of tanks with special equipment attached is also reduced.

Company truck. One light truck is in the tank company. This vehicle is used by the deputy company commander, the technical officer, and the praporshchik. The vehicle has a radio that is used as a communications link from the company commander's tank to the battalion headquarters when the tank company is out of direct communications range.

NBC equipment. All personnel have protective masks, and tanks are equipped with overpressured and filtration systems. Vehicle decontamination is supervised by chemical defense specialists. Soviet-made tanks have a smoke generating system for a defensive smoke screen.

The Tank Company Defense

Switching to the defense can take place either in or out of contact with the enemy. It is likely that the tank company will be expected to seize a linear position on tactically significant terrain. This initial position should be convertible into a stronger position when circumstances allow. Out of contact, a position in depth will be planned when ordered.

position should be convertible into a stronger position when circumstances allow. Out of contact, a position in depth will be planned when ordered.

Tank company tasks. A tank company used in the defense may perform one of the following roles:

- Holding an area.
- A counterpenetration or counterattack force.
- Reinforcing the AT defense of an MR unit, normally a battalion.
- A force to cover an area between NBC contaminated areas.
- A tank ambush.

Frontages. When employed in the defensive role as part of a battalion, the tank company defends a strongpoint 1,000 meters wide and 500 meters in depth. There are 300 meters between platoons. The arc of observation for a tank with a stationary turret is restricted to the gunner's and commander's sights, which gives an arc of 18 degrees. There are normally 150 meters between individual tanks (see Figure 3-40).

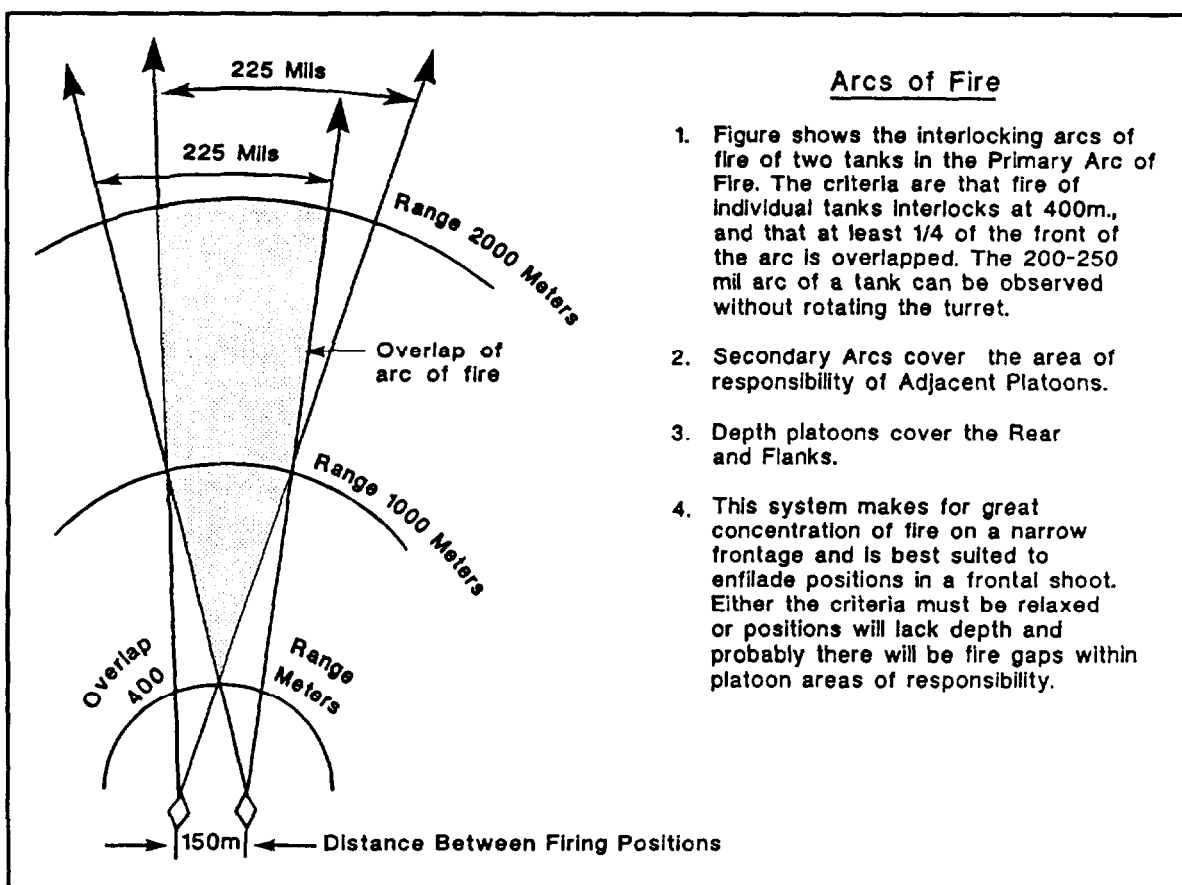


Figure 3-40. Arcs of fire.

Defensive configuration. A tank company commander considers the following in selecting defensive positions:

- Maintaining tank fire density while retaining all-around defense.
- Reverse slope positions.

Ž Mutual support within the company and with adjacent units.

- Secondary fire positions for tanks with covered routes from primary positions.

With conflicting requirements, the tank company commander places his platoons with two forward and one back. The rear platoon is to the center, right or left rear as dictated by terrain and threat. MR troops provide local protection to tanks and fill gaps within the position. Linear formations are acceptable in the second echelon. Within the defensive position a wandering tank is designated to move between gaps and flanks to confuse the enemy.

Tank fire from prepared positions. A tank company is expected to open fire at 1,500 meters with a 50 percent kill ratio. This style of defense projects that a tank company will approach at 15 kmph, which allows a 70-percent strength Soviet-style tank company to defeat 30 to 40 attacking tanks.

Engineer prepared defensive positions. When a company is out of contact with the enemy, engineers can work at preparing tank positions. The priority of work is usually as follows:

Ž Preparing positions for tanks and APCs.

- Clearing arcs of fire.
- Constructing AT and antipersonnel obstacles along likely enemy avenues of approach.
- Preparing alternate positions.
- Preparing ammunition storage facilities.

Fire plans are completed for those areas that cannot be covered by artillery and mortar fire. The flanks and the forward edge of likely enemy assault positions are priority artillery targets.

Sequence for Adopting a Defensive Position

Battalion orders. The tank company commander receives his order from the battalion commander either by radio or in person. He is given both the company mission and details of coordination with adjacent units.

Reconnaissance. If not in contact with the enemy, the tank company, platoon, and attached unit commanders make a reconnaissance of the company sector to site company tanks according to the procedures outlined earlier. The company commander makes a plan that includes the following:

- Company and platoon boundaries.
- Ž Tank primary and alternate firing positions.
- Ž Individual tank and platoon arcs of fire.
- Positions and arcs of fire for attached units.
- Means for securing flanks and gaps by artillery fire or construction of obstacles.
- Priorities for engineer work.
- Use of night-vision devices.

Company orders and coordination. Following his reconnaissance, the company commander estimates the situation and issues oral orders to the tank platoons and to attached and supporting units. If the company is in contact, orders are transmitted by radio on the company net.

Following final organization of the defensive position, the company commander sends a diagram of his position to the battalion commander (see Figure 3-41). This diagram includes the following details:

- Ž Prominent terrain features and a scale.
- Ž Enemy positions.
- Tank platoon and attached subunit locations and alternate positions.
- Ž Primary and alternate directions of fire.
- Obstacles.
- Location of company headquarters.

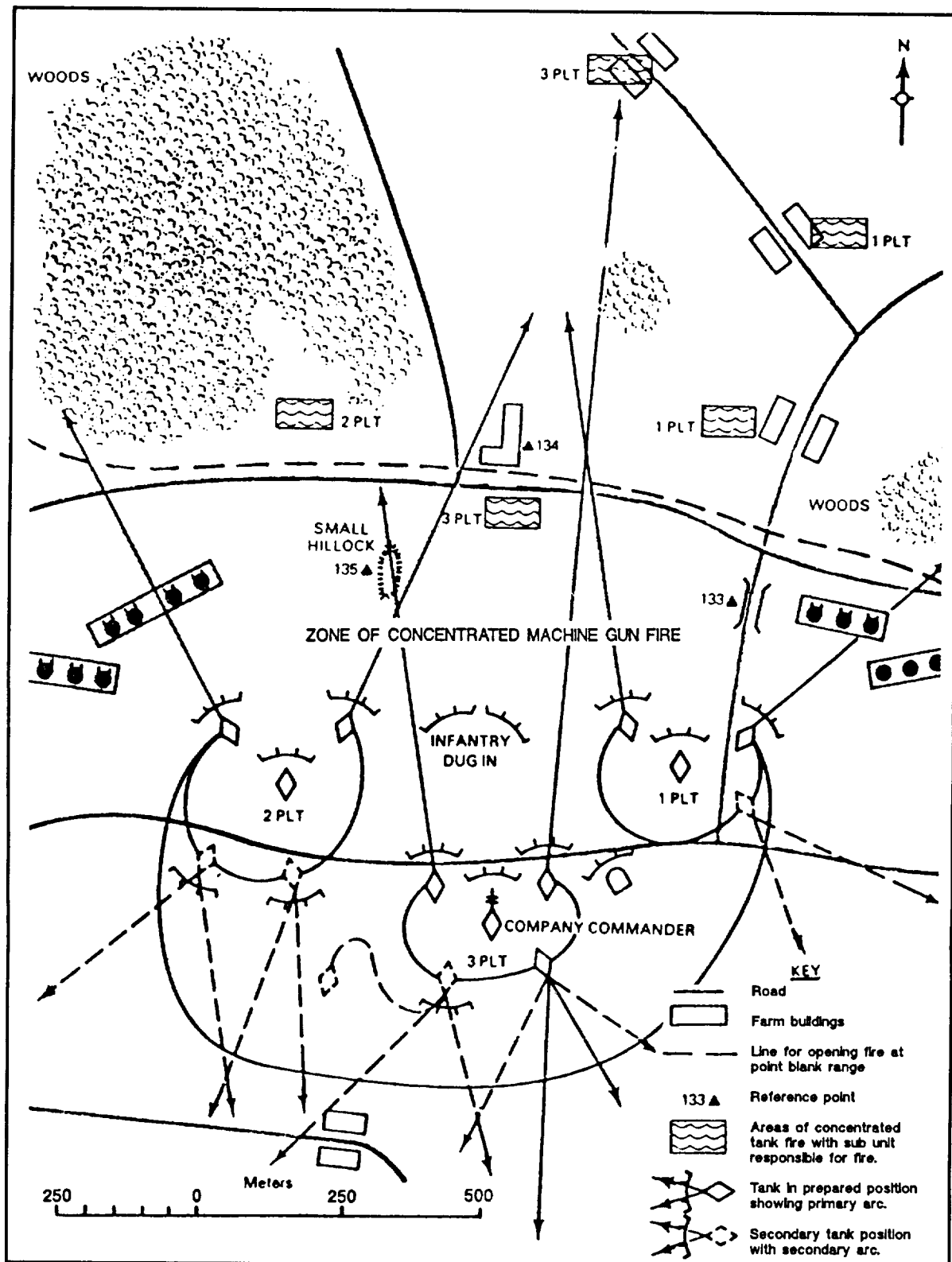


Figure 3-41. Tank company commander's sketch of defensive position.

Conduct of the Defense

Enemy probes. The enemy might attack with probing actions to locate tank firing positions. These probes will be followed by combined arms attacks. They expect the enemy may use tactical nuclear weapons and will use artillery prior to the main attack.

The tank company commander details a tank to engage enemy probes so that the main firing positions are not detected. This wandering tank moves and fires. During this period, readjustments of the company position caused by enemy fires are made. After readjusting his position, the company commander rechecks communications with both his own units and higher headquarters.

The main attack. During the main attack, the commander concentrates his tank fires on the most threatening portion of the enemy assault. Key points on the company front are designated as areas of concentrated tank fire. Attached infantry engage enemy infantry and APCs to isolate the infantry from the armor.

The commander will shift his firepower against units assaulting adjacent positions, if not engaged. If penetration is made, surviving tanks remain in position and support counterattacks ordered by higher headquarters. Only on order of the battalion commander will company tanks leave their positions to join a counterattack. Similarly, penetration by the enemy into an adjacent position is countered by fire and not by counterattack. Counterattack is normally a function of the battalion or regimental reserve.

The company commander may move tanks to alternate positions with the approval of the battalion commander, to cause the enemy to attack vacated positions.

Tank company in reserve. A tank company in depth is called the reserve company. This company will hold an area and have secondary tasks such as the counterattack force. Multiple routes to the forward company areas are reconnoitered, and LDs are resigned. The routes are marked for night use.

Defense at night. In night defensive operations, an illumination plan is prepared. Defensive and gunnery principles do not radically differ from those used during daylight. Improvement of night-vision equipment means there will be less need for battlefield illumination.

Antitank support of infantry. When a tank company operates as the AT defense force of an MRB, each platoon deploys within an MRC area or strongpoint. Tank platoon commanders give advice on location and coordination of the AT defense. The tank company commander remains with the infantry battalion commander and acts as his AT defense coordinator. The company commander retains authority to move the tanks within the battalion position.

Counterattack. The company is reinforced by MR troops when counterattacking. A tank company may also be employed as the regimental reserve. In this role it occupies a prepared position in the regimental second echelon of defense. The company commander prepares routes into the forward battalion's areas, and designates lines of departure and firing positions. Routes are marked by signs that are visible at night. Rehearsals are carried out on counterattack routes. Communications and fire plans are then coordinated with forward units.

When counterattacking, a tank company fires from place and then, on signal, rushes the enemy. The Company commander may not maneuver by platoon without the permission of the battalion commander. Movement must be rapid.

Tank ambushes. Exposed flanks, gaps in defensive positions, and enemy approach routes can be sites for ambushes. Tank companies are usually reinforced by additional AT weapons for this operation. They are in defilade and well camouflaged. Both primary and secondary tank positions are selected. Positions are dug and prepared before occupation. Reference points are designated. Engagement ranges are at 1,000 meters or less—surprise is the dominating factor. Small groups of enemy vehicles are allowed to pass through the ambush site until a suitable target is selected.

Movement to Contact/Actions on Contact

Planning

The battalion task force conducts a movement to contact to make or regain contact with the enemy and to develop the situation. TFs conduct movement to contact independently or as part of a larger force. The battalion task force will normally be given a movement to contact mission as the lead element of a brigade attack, or as a counterattack element of a brigade or division. Movement to contact terminates with the occupation of an assigned objective or when enemy resistance requires the battalion to deploy and conduct an attack to continue forward movement.

Key planning considerations for the movement to contact mission include—

- Movement.
- Task organization.
- Ž Integration of CS/CSS assets.

Each planning consideration must be looked at in detail during the planning phase of the operation to ensure the contingencies inherent in a movement to contact are addressed.

Intelligence

Movement to contact is characterized by a lack of enemy intelligence. The TF terrain analysis provides key decisions made about how to organize for and conduct a movement to contact. Commanders should concentrate on the military aspects of terrain analysis:

- Ž Observation and fields of fire.
- Cover and concealment.
- Obstacles.
- Ž Key terrain.
- Ž Avenues of approach.

Analyze each aspect in conjunction with intelligence updates as part of a commander's IPB during the estimate process. This allows the contingency planning that fosters flexibility during mission execution. A TF movement to contact mission is assigned a zone of action or an axis of advance and an objective. Inherent in the movement to contact planning is that enemy contact will be made and actions on contact must be immediate and successful. Correct analysis of the military aspects of terrain influences the commander's decisions about key planning considerations, movement, task organization, and integration of CS and CSS assets. Use the following training techniques to promote more accurate, thorough analysis of the situation.

TRAINING TECHNIQUE: Conduct a map exercise in which battalion/TF officers and senior non-commissioned officers are given an area of operations, BPs, and an orientation to the enemy force. Each man uses his own map and materials to conduct detailed LOS analysis. Only by meticulously conducting an LOS analysis do soldiers gain an appreciation for the subtleties the map can reveal. Maneuver commanders develop and then practice this skill to maximize useful map reconnaissance. On the ground, reconnaissance has no better substitute, but offensive operations limit a commander's ability to go forward. Therefore, map reconnaissance and LOS analysis become valuable planning tools. Battalion task force commanders can train officers and soldiers to use terrain analysis in mission planning.

TRAINING TECHNIQUE: Conduct a map exercise in which battalion officers and NCOs are given an area of operation, an enemy situation, and a requirement to identify correctly NO-GO, SLOW-GO terrain. By default, this leaves GO terrain, which must further be distinguished between mounted and dismounted trafficability. Each individual must do his own analysis, and have his work critiqued by a resident SME such as the battalion S2. The standards that determine the distinctions between NO-GO and SLOW-GO, as outlined in FM 34-130, must be studied and discussed prior to the exercise. The intent of this exercise is not to create surrogate S2 or engineer topography

The terrain analysis influences the scheme of maneuver used. Doctrine recommends organization into a security force comprised of the TF scout platoon conducting a zone reconnaissance 3 to 5 kilometers wide, then an advance guard of one company team, the main body, and flank and rear security. Flank security is normally accomplished with platoon-size elements from the companies in the main body. The trail company provides a rear security element to protect the TF.

The diagram illustrates a tactical formation for a Battle Division Element (BDE). The units are arranged in a central column, with additional units positioned to the left and right. The formation is organized into several distinct groups:

- Top Group:** A single unit labeled "SCT" (Signal Company) is positioned at the top center, flanked by two arrows pointing left and right, indicating communication or movement.
- TF ADVANCE GUARD:** A group of three units is positioned below the SCT unit. The first unit is a standard tank icon. The second unit is a tank icon with a "(-)" symbol next to it. The third unit is a tank icon with a "MORT" (Mortar) label next to it.
- TF MAIN BODY:** A group of four units is positioned below the TF ADVANCE GUARD. The first unit is a tank icon with a "MAIN" label next to it. The second unit is a tank icon with a "(-)" symbol next to it. The third unit is a tank icon with a "MORT" label next to it. The fourth unit is a tank icon.
- BDE ADVANCE GUARD:** A single unit is positioned to the left of the TF ADVANCE GUARD group.
- BDE MAIN BODY:** A group of two units is positioned to the left of the TF MAIN BODY group.
- BDE REAR GUARD:** A single unit is positioned to the left of the TF MAIN BODY group, below the BDE MAIN BODY.

The units are represented by various icons: a tank icon with a "MORT" label, a tank icon with a "MAIN" label, a tank icon with a "(-)" symbol, a tank icon with a "SCT" label, and a tank icon with a "MORT" label. The formation is organized into several distinct groups, each with a label on the right side of the diagram.

Open terrain with a wide zone of action, that is, one in excess of 5 kilometers, dictates supplementing the scouts with another element to provide security across the broad front. This causes a ripple effect within the other elements. If a tank or Bradley platoon are used up with the scouts and the battalion task force

maintains the same flank security, then the main body becomes depleted. C2 of the security force is made more complicated by the additional maneuver elements (see Figure 3-43).

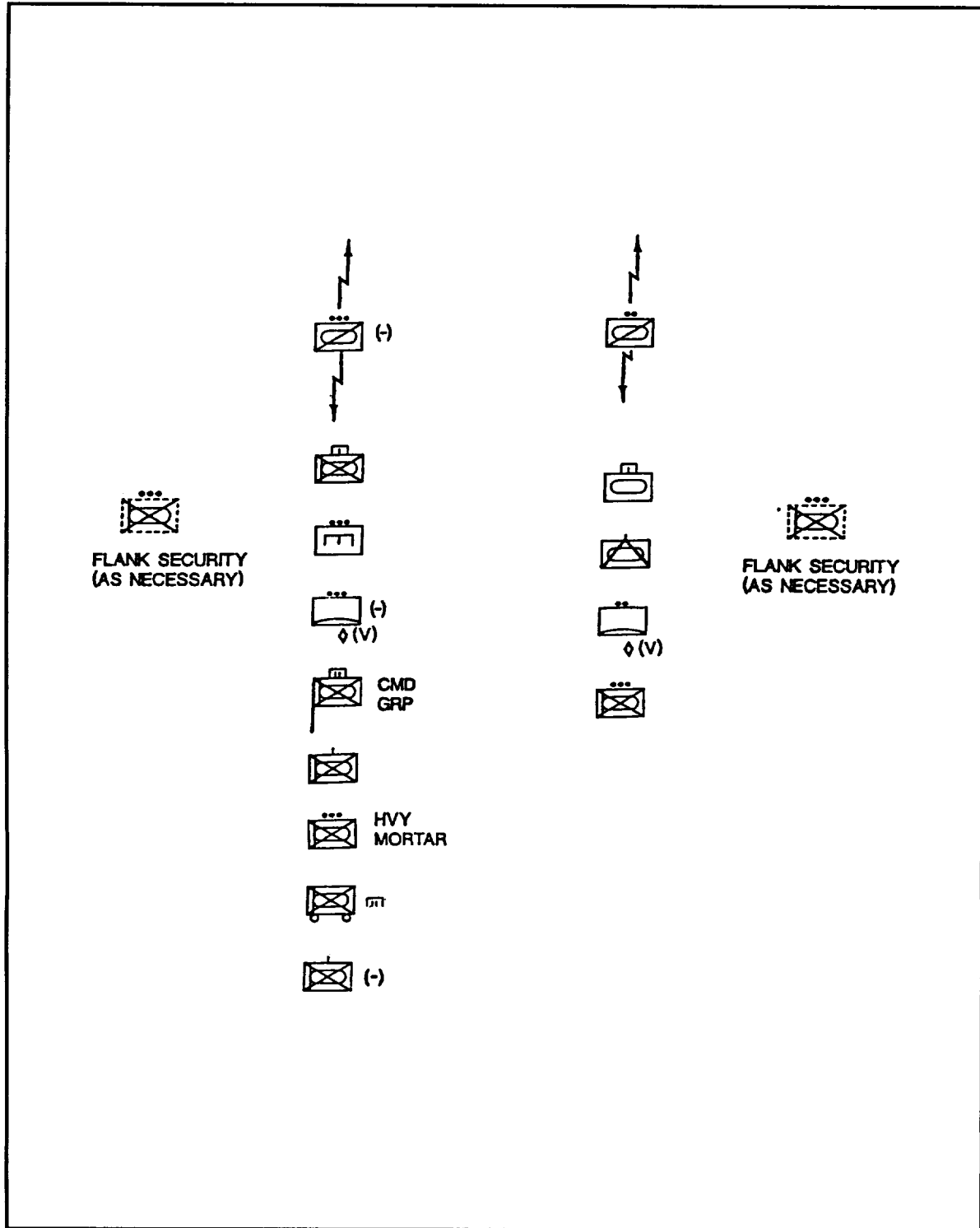


Figure 3-43. Battalion task force movement to contact in open terrain.



TRAINING TECHNIQUE: Anticipate conditions in which execution will deviate from doctrinal norms, then train elements how to assume the variety of missions possible in a movement to contact. Thus, tank and Bradley companies *must* train with respective scout platoons on how to conduct the security mission, both when the battalion task force acts independently and when the battalion task force operates as an element in a brigade attack. Implied in this training requirement is habitual task organization. Theoretically, each tank company should be prepared to be task organized to the sister infantry battalion and should be trained to operate as part of a security force with the infantry battalion scouts. Realistically, chances to train to any degree of proficiency are rare. Thus, the battalion commander must decide *early* which companies to “chop” to other battalions where they can get the training needed to math proficiency in mission execution.

Those elements that remain with the TF must practice movement to contact as part of the flank security, the advance guard, or the rear security element. *Anticipate* requirements, rather than reacting to them. Successful execution rests in making decisions early in unit preparation and task organizing based on demonstrated skills.

Land navigation is a key aspect of maneuver that impacts on mission success. Once in the planning stage for combat operations, assumptions are made about the ability of elements to move from point A to point B under a variety of conditions. Such assumptions are unwarranted unless land navigation is routinely practiced. Tactical plans will deteriorate if elements of the battalion task force get lost. Successful maneuver cannot occur without successful land navigation.

Fire Support

Movement to contact missions may present the greatest offensive synchronization challenge to the battalion task force commander because of the relative lack of hard intelligence and, therefore, the many contingencies for which he must plan. Integrating FS into the development of the scheme of maneuver requires a clear statement of intent by the maneuver commander one that is understood by all subordinate and supporting elements.

The central problem in synchronizing FS with the other battlefield operating system lies in the timing of fires. The ability to place direct, indirect, and close air support at the right place at the right time once contact is made presents a challenge in planning and execution.

TRAINING TECHNIQUE: If timing is accepted as the central problem in synchronizing FS then practicing how to integrate all the FS elements within a tactical situation represents the best initial step in solving the problem.

The relationships of the battalion task force FSO and the company team FSOs to the battalion task force commander, his staff, and his maneuver commanders become critical in training to synchronize FS.

Sound commander's intent, followed by realistic FS planning, cannot occur unless *everyone* involved understands the planning considerations and all the implications of decisions about priority of fires, effects of fires, targets, coordination measures, and the use of mortars and CAS. Therefore, commanders and staffs must constantly be challenged to practice fire planning in a variety of training events.

For example, consider the effects of fires. In developing a scheme of maneuver, the maneuver commander must understand the difference between asking for destruction of a target and requesting suppression. Proper training and constant coordination among the FSO, the commander, and the S3, helps ensure the FS plan is properly developed, is clearly understood, and is executed according to the commander's intent.

Combat simulation exercises, map exercises, CPXs, TEWTs, and scaled ranges provide excellent, low-cost opportunities for the commander and staff to practice FS planning and execution.

Mobility, Countermobility, and Survivability

Maintaining the mobility of the TF in a movement to contact is critical. The TF engineer must plan and allocate mobility resources to the security force, advance guard, and main body. The mobility resources to the security force are just enough to cover its own movement, and to complete the reconnaissance mission. The advance guard needs to be allocated enough resources to conduct breaching operations, possibly opening lanes through obstacles to pass the main body. If the obstacle is dense or covered by a relatively larger force, the main body deploys to conduct a breaching operation. The engineer task organization is based on supporting TF in-stride breaching operations, with minimal engineer assets under TF control to transition to a TF deliberate breach, if needed. Situational obstacles are used to attack an enemy's vulnerability or a specific course of action. Mobile obstacle detachments can be formed to help secure the TF flanks.

Air Defense

Stinger gunners should be put under armor, for example, a gunner with two missiles rides in a Bradley or in the company team XO's Bradley. The other member of the Stinger team would remain in the HMMWV and overwatch the main body from high ground on the same axis. The Vulcan platoon remains with the main body, where the Stinger gunner on each Vulcan provides coverage out to extended ranges. Air defense planning addresses organization for combat, and the organization is tailored to the situation. No easy solution exists for how best to employ ADA assets.

Combat Service Support

Doctrinally, offensive operations generate certain planning assumptions, such as increased fuel consumption and a greater casualty rate. Each planning assumption generates specific activity, such as altering the

push package to come forward. Further problems arise if it is uncertain when the TF will halt. Casualty evacuation problems represent the most critical logistics challenge. With trains poised to move and a shortage of dedicated evacuation vehicles, it is difficult to plan casualty evacuation. Planning for casualty evacuation must focus on the maneuver company medical teams making maximum use of casualty transfer points. Instantaneous decisions will be made about what vehicles will supplement the assigned medic tracks. Self-aid and buddy aid with trained combat lifesavers spell the difference between life and death.

Consolidation and reorganization planning center on unit SOP based on CSS actions before securing the objective. For example, a TF element providing flank security may make contact with a small enemy element. While developing that situation, the main body continues to move forward. After the main body is clear, the flank security platoon may be left with casualties needing evacuation, as well as combat vehicles requiring repair or evacuation. This drives decisions about committing medical and maintenance support assets that impact on the TF's ability to support itself.

Command and Control

Anticipating the numerous contingencies could affect the execution of the movement to contact, and the actions of TF elements once in contact will tax the planning process.

The ability to analyze "what if" situations during a war-gaming process allows the commander to anticipate the unexpected. For example, once a task organization is laid out and the formations are designated, war-gaming courses of action should force the commander and staff to deal with contact from unlikely locations. The intent of such war-gaming is not to cause the TF to become overly cautious, but to allow a realistic assessment of what may conceivably occur. Time available dictates the depth of analysis, but a trained staff can rapidly and accurately anticipate most enemy actions. The TF can outline the various company team drills for action on contact, and explain in detail what will happen within the remainder of the TF after contact. What are the actions of the security element, the advance guard, and the elements of the main body? Once contact is made, each element *must* know what its action will be. The attacker plans for how he will develop the situation.

Preparation

Intelligence

From reports of higher headquarters and from execution of the TF R&S plan, the S2 continually updates the enemy situation. The capability of piecing together shreds of intelligence into useful information is a significant factor in anticipating the enemy's actions. Intelligence gathering activity focuses on confirming enemy locations and activity. As information becomes available, the S2 disseminates the information and his analysis as rapidly as possible.

The S2's role during TF rehearsals is to portray the threat for the TF play. During the rehearsal, the S2 causes the unexpected to occur to show the reaction of TF elements. Rehearsal can reveal flaws in a plan early enough to make changes before execution, thereby raising the odds of successful mission accomplishment.

Maneuver

During the preparation phase of a movement to contact, several rehearsal techniques can be used to help ensure increased likelihood of successful mission accomplishment.

TRAINING TECHNIQUE: The TF must have first rehearsed how to rehearse. The time available will dictate the type of rehearsal most appropriate, and TF leaders must know immediately what rehearsal technique to use given the time available. The correct decision cannot be made without a working knowledge of the time and resources necessary to execute a variety of successful rehearsal techniques.

For example, ideally the TF could conduct a full-up rehearsal of the entire operation, but opportunities seldom exist. Therefore, less thorough techniques must be used. The commander must decide where the biggest payoff exists—should the rehearsal be at TF level, should it be done at company

level, or should the two be combined. Also, consider how scouts can be rehearsed when they must immediately begin to execute an R&S plan to gather intelligence.

Fire Support

In the preparation phase, the rehearsal of FS focuses on timing it in conjunction with maneuver. For example, the movement to contact is a phased operation in which the phases are terrain oriented-movement to LD is Phase I, movement from LD to PL Jane is Phase II, and so forth. The FSO addresses shifts in the priority of fires and time required to put steel on target for preplanned targets and targets of opportunity in each phase of the operation. The procedure to prioritize calls for fire are looked at to prevent overloading the mission queue by executing low-priority missions at the expense of the most critical missions.

By rehearsing all contingencies, the FSO, the S3, and company team commanders can see whether or not the FS plan supports the commander's intent. Company team commanders must understand the priorities, ensure all calls for fire are weighed against the overall priority, and make sure guns are available to fire the commander's most critical missions.

Mobility, Countermobility, and Survivability

Using time available during the preparation for a movement to contact, elements within the TF *must* rehearse breaching operations. Rehearsals will confirm the location of attached engineers within the TF formation and tell whether the engineers are positioned to respond to the encountered obstacle. The rehearsal will refine techniques and procedures used to conduct the breach and subsequent assault through the gap in the obstacle. Even if an obstacle is not expected, units should still rehearse in-stride breach, because of the enemy's scatterable mine capability. The rehearsal incorporates the FS assets and emphasizes the criticality of timing. Breaching obstacles requires synchronization of all combat assets during a movement to contact.

Air Defense

No matter how the commander decided to task organize his air defense assets, the Vulcan/Stinger personnel should rehearse the procedures they anticipate using to acquire and engage targets. If air defense assets are decentralized and placed under armor, then target engagement will have to be practiced with the vehicle crews now carrying the Stinger gunners. Since the gunners will be separated from their communications system, early warning throughout the TF will be particularly critical. Rehearsal of the warning system will maximize air defense assets during execution.

Combat Service Support

CSS rehearsal cannot occur until all other elements in the TF are logistically prepared for the mission. CSS elements can then rehearse their plans and procedures for subsequent supply, medical and maintenance requirements. The CSS plan must be disseminated as early as possible.

Command and Control

Once the commander decides on a rehearsal technique, the focus centers around C2 at all levels. Every step taken to facilitate C2 will aid in mission execution. The commander can practice synchronization of his assets and make adjustments. Rehearsal is the rule rather than the exception, and refining rehearsal techniques is an integral part of unit preparation. The rehearsals include all commanders, primary staff, and specialty platoon leaders. Good detailed maneuver graphics will aid significantly in controlling all combat, CS, and CSS elements.

Execution

Intelligence

The vertical and horizontal communications systems will be severely tested during the execution of a movement to contact. The information provided by unit spot reports must be translated into intelligence as rapidly as possible. From time to time, the S2 will come up on the task force command net to update the commander and company team commanders as to where the enemy is and what he will do next.

Maneuver

A key to mission execution lies in the detailed planning and preparation that precedes execution. The most difficult aspect of movement to contact execution is potentially in development of the situation once contact is made. Much of what occurs depends on the reaction of the element making initial contact. According to doctrine, the element must return fire, deploy, report, and develop the situation. The value of training units to take actions on contact under a variety of circumstances will pay dividends once contact is made.

Fire Support

The major FS execution problem is maintaining target priorities. For example, once contact is made, spot reports will bring a torrent of calls for fire, some of which will need to be weeded out, given the scheme of maneuver and plan for supporting fire. The discipline to keep FS assets poised for the main effort's crucial moments will allow FS to achieve its mission. If the mortars are correctly positioned throughout the movement to contact, their support can be extremely responsive. The FSO must use good judgment in deciding which missions to give to the mortars.

Mobility, Countermobility and Survivability

The speed with which battalion task force elements react to enemy obstacles during a movement to contact is critical. Attached engineer assets in the TF assist the element that hits an enemy obstacle. The element must lay the immediate groundwork to counter the obstacle. Assuming the enemy has the obstacle covered with direct and indirect fires, the lead force must protect themselves and the TF breach force. The battalion task force's ability to synchronize combat power at a critical moment is tested at this time. Successful execution of obstacle breaching is achieved if the TF elements are drilled in *all* aspects of the operation. Implied in this training is that each element within the TF has been drilled to be either the support, breach, or assault force, since any element could be required to execute any of those missions during a movement to contact.

Air Defense

If the Stingers have been put under armor, their internal communications capability has been degraded. his trade-off is worthwhile if the res of the TF is vigilant to the air threat. The protection afforded is at the cost of early warning.

Combat Service Support

Increased consumption of fuel, increased maintenance problems, and the potential for casualties are spread throughout a wide, deep sector. Proactive leadership that closely monitors the battle can preclude shortfalls in support. The displacement of critical CSS elements such as combat trains, UMCPs, LRPs, and casualty transfer points should be event-driven by PLs or other control measures to ensure those elements remain responsive to the task force at all times. Because of the distances involved, units should resupply on the move during all pauses.

Command and Control

The TF will use its scouts to assist in C2 by guiding the maneuver units, finding and visually fixing the enemy, and conducting coordination with flank units. TF leaders need to be well forward to react to a hasty attack. Succession of command procedures will prove crucial due to potential leader losses.

Hasty Attack

Planning

The hasty attack is conducted either as the result of a meeting engagement, when bypass has not been authorized, or the enemy force is in a vulnerable position.

Intelligence

Intelligence planning for the hasty attack will occur as part of planning the movement to contact. The scout platoon will be relied on to acquire information about the enemy. R&S elements are tasked both to find the enemy and to determine his vulnerabilities in time for the main body commander to maneuver his force.

The S2 ensures the scout platoon leader knows areas that will be occupied by the enemy and has a copy of the IPB situation template. The scout platoon must look for likely flank avenues that might favor enemy use. The R&S plan is the best tool the TF commander has. He must ensure it will confirm or deny enemy courses of action.

Maneuver

In planning for the movement to contact, the TF must be prepared to execute two categories of hasty attack: attack against a moving force and attack against a stationary force.

If the enemy is caught by surprise, an immediate attack is launched to gain the most advantage from the situation. The scouts and/or the leading company team must develop the situation quickly. They must provide enough information to the commander for him to develop a scheme of maneuver. In planning for the hasty attack the commander must decide how far forward of the TF the reconnaissance elements should travel. The actions of the main body are executed drills in response to a FRAGO. To execute, the TF will either take up a hasty defensive position oriented on the enemy's approach or conduct a hasty attack against the vulnerable flank of a moving enemy. If the enemy is stationary, the TF conducts a hasty attack against an identified weakness in his defense.

Fire Support

FS planning for the hasty attack is conducted with the movement to contact planning, and may be modified once the TF begins movement. The enemy may be stationary or moving. Terrain features that support defense, and open areas that support maneuver are targeted. FIST should be placed with the reconnaissance element to augment the effectiveness of initial indirect fires. The mortar platoon may travel in split sections behind the scouts. Keep in mind that if the mortars travel as a unit, the initial response for fire will be slower than if a section is stationary.

Mobility, Countermobility, and Survivability

Engineer assets are task organized to support a task force in stride breach, but remain responsive enough to transition to a deliberate breach if needed. In a hasty attack against a stationary enemy, the engineers must be prepared to conduct a breach of hasty protective and delaying obstacles. Situational obstacles are planned to protect the task force's flanks and to help isolate the enemy forces.

Air Defense

As the TF moves deeper into enemy territory, the likelihood of enemy air attack increases. Stinger under armor is necessary as the force receives artillery suppression before sighting the enemy. A prior terrain analysis will have determined the best ADA positions throughout the length of the axis.

Combat Service Support

The battalion field trains move under the direction of the FSB commander. It is essential that the FSB is kept out of the fight. Combat trains move in echelon, moving continuously until contact is made or other events warrant the establishment of a fixed post, such as an aid station. The initial movement will need maintenance and Class III support. UMCPs and LRPs should be planned to support the movement all the way to the TF's final objective. Evacuation forward to on-call collection points should be planned for. Once contact is made, the TF expends large amounts of Class V, and vehicle and personnel casualties increase. Reloaded emergency and push packages reduce lag time between requisition and resupply.

Command and Control

In planning the movement to contact and its likely outcome, the hasty attack, the TF commander must determine which formation grants flexibility without sacrificing security. A key to his ability to command the TF is his ability to maneuver with as few changes possible and launch into a rapid hasty attack. He commands the TF by maneuvering with as few changes as possible, and launching a rapid hasty attack. He places the scouts forward to allow him time to make a decision and execute commands. He must strike a balance between formations and terrain driving that will protect the force.

The difficulty in the hasty attack is massing direct fires at the right place and right time. The TF commander must prepare complete and accurate graphic control measures that support direct fire. He must

war-game how to position his forces quickly to gain the advantage from terrain in a limited amount of time. He must be in constant communication with scouts, monitoring the enemy's progress and making quick time-distance assessments. Accurate reporting will enable the commander to follow the enemy until the moment of contact.

Preparation

Intelligence

The S2 develops an enemy situation template to support preparation of the command's estimate. This shows the probable disposition of the enemy force, including likely occupied enemy positions in depth. The S2 assists the commander in seeing the enemy as a whole as well as reporting known enemy locations. The commander must plan for its destruction within the parameters of a possible defensive belt. The S2 gives the commander the location of the enemy's exploitable weakness.

Maneuver

The TF prepares for the hasty attack as it conducts its rehearsal of the movement to contact. The commander must ensure that the TF is able to execute any one of five missions beyond the movement to contact. They are—

- Occupying a terminating objective.
- Hasty attack against a moving enemy.
- Hasty attack against a stationary enemy.
- Becoming a support by fire for a brigade attack.
- Hasty defense.

These missions are listed in order of increased enemy resistance; this section addresses only the two types of hasty attack.

Hasty attack against a moving enemy. To get there "the firstest with the mostest," contingency planning, developed TSOPs, company team formations, and platoon battle drills enable our forces to speed the conduct of the attack and wrest the initiative from the enemy. The following series of illustrations show a TF conducting a drill against a moving enemy force.

The TF scout platoon makes initial contact with the enemy and attempts to develop the situation and determine the enemy force's size, disposition, intentions, and vulnerabilities. This is done by moving to the flanks of the enemy force and adjusting artillery and mortars to suppress and confuse the enemy force. The scouts must be on the lookout for enemy elements that may be trying to envelop our force (see Figure 3-45).

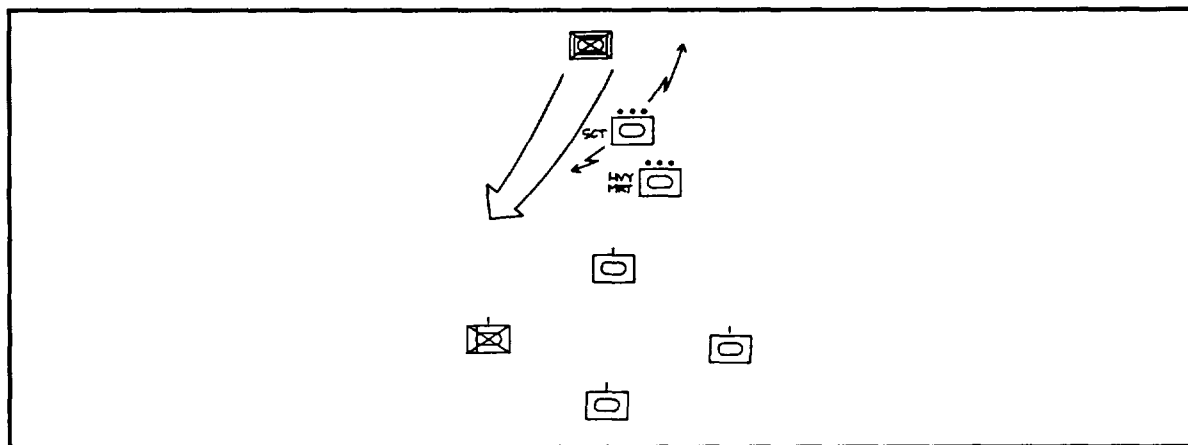


Figure 3-45. Initial contact with moving enemy.

The lead company team will quickly adopt a hasty defensive posture as perpendicular as possible to the enemy direction of movement. This is meant to blunt the enemy's movement or attack. Artillery and mortar fires will continue to suppress the enemy force while the scout platoon maneuvers to identify an enemy weakness (see Figure 3-46).

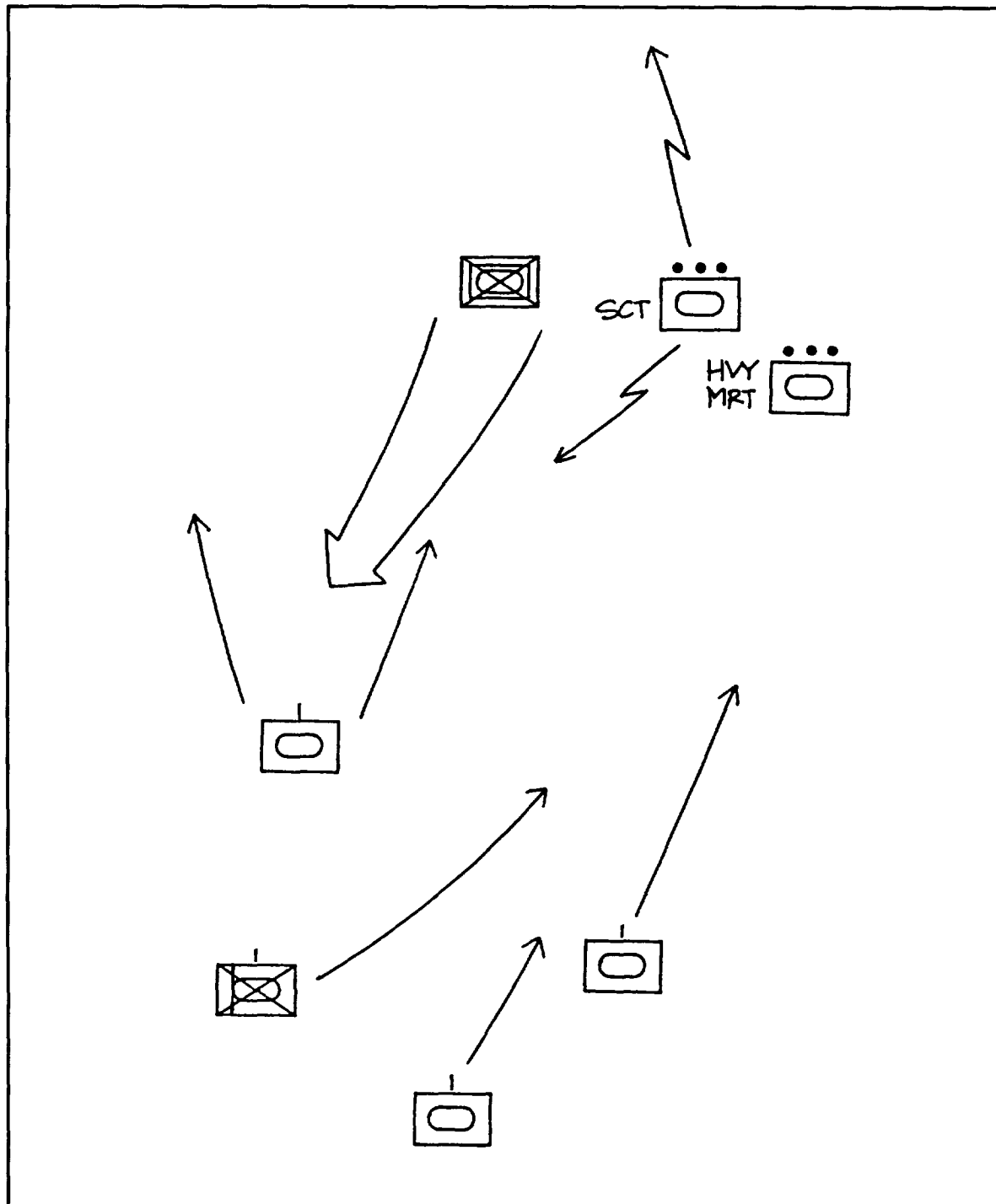


Figure 3-46. Fixing the enemy force.

The scouts have identified an assailable flank and relayed that information to the TF commander. The commander will maneuver the remaining companies against the exposed enemy flank. In the meantime, the scouts will guide the leading company teams into position with one section, and screen the flank of the maneuvering force with the other. Detailed preparation must be made through either SOPs or rehearsals to reduce the chances of fratricide during linkup between the scouts and the maneuvering company. The TF commander will issue direct-fire instructions, having company teams orient on TRPs, TIRS points, or easily identifiable terrain features. It is important that the TF achieve massed overlapping ties at the most lucrative enemy location. The TF commander may identify a reserve with the mission either to block any enemy penetration of the fining force, or prepare to maneuver against the flank of any enemy forces that try to bypass the TF engagement area (see Figure 3-47).

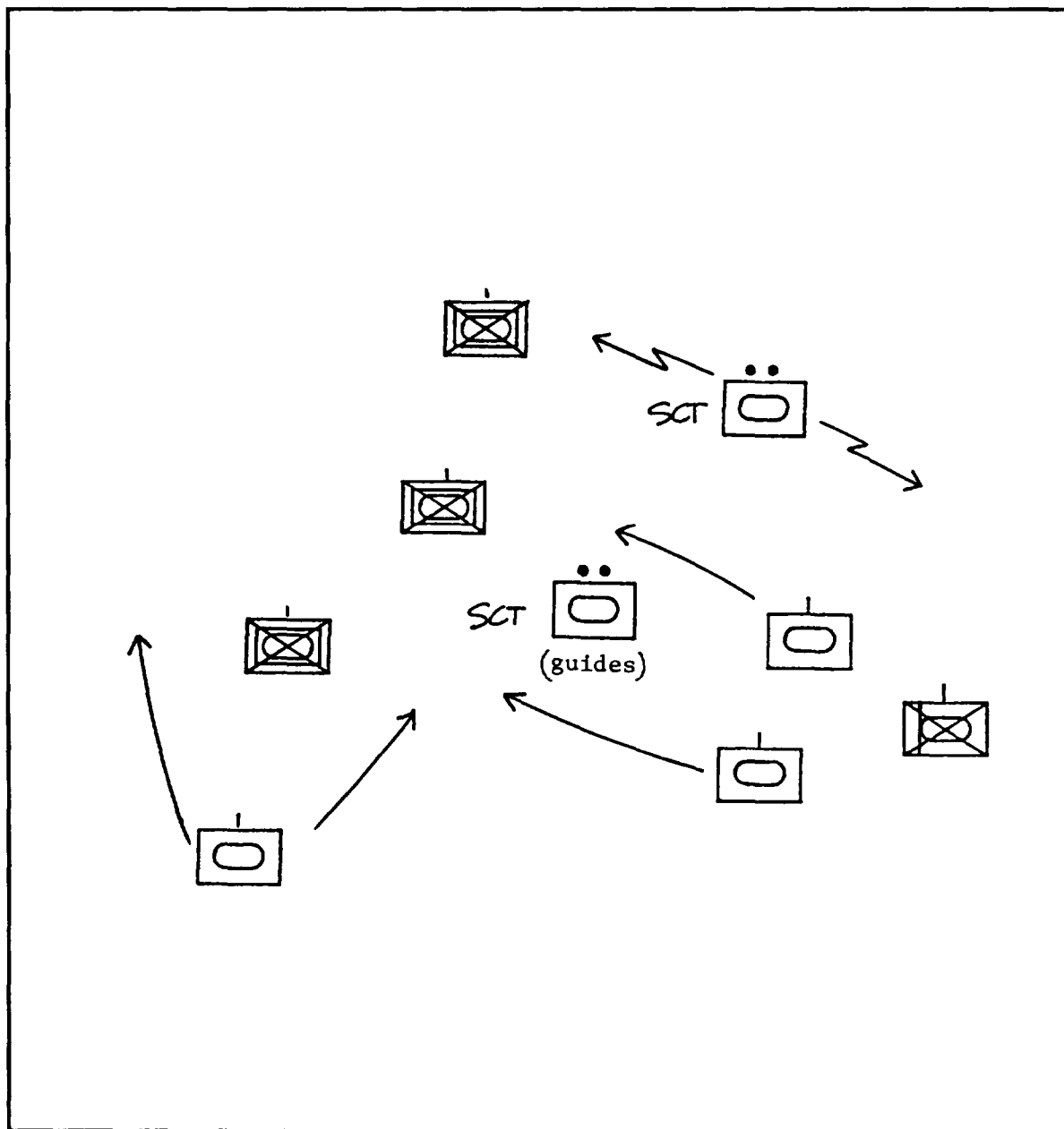


Figure 3-47. Maneuvering against the enemy.

Properly executed massed fires of the TF should destroy most of the enemy force. If the commander wishes to commit the reserve he must perform a quick time-distance analysis so that the reserve will arrive in position at the most advantageous time. As the attack begins, the commander should coordinate with the reserve commander to ensure the time, position, and orientation are clearly understood (see Figure 3-48).

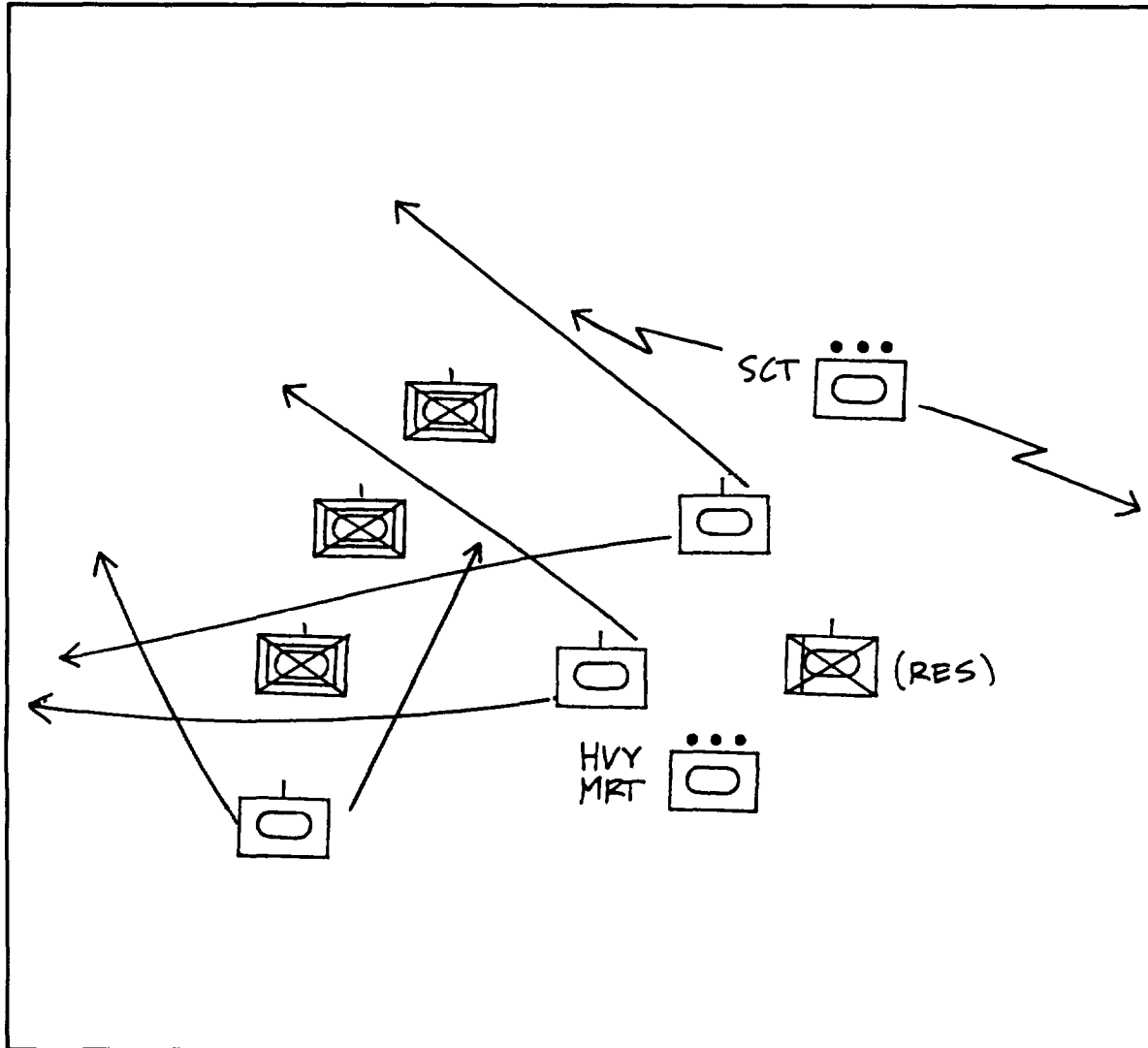


Figure 3-48. Destruction of the enemy.

Hasty attack against a stationary enemy. There are several possibilities to consider when facing a threat position on a movement to contact. For example, the position could be an attempt to delay our force so the enemy main body can make a clean break, or it could be the beginning of a main defensive belt security zone. The higher commander will have issued bypass criteria at the onset of the movement to contact mission; this will drive the subsequent mission of the TF.

Once the scout platoon identifies the enemy position, its first mission is to determine the size of the stationary element (see Figure 3-49). If the enemy force is smaller than the bypass criteria, the position will be reported, fixed and bypassed by the main body. If the force is stronger than the bypass criteria, then the scout platoon must quickly identify the position's exploitable weakness. Time is critical, because the hasty attack should be launched before the enemy has time to react.

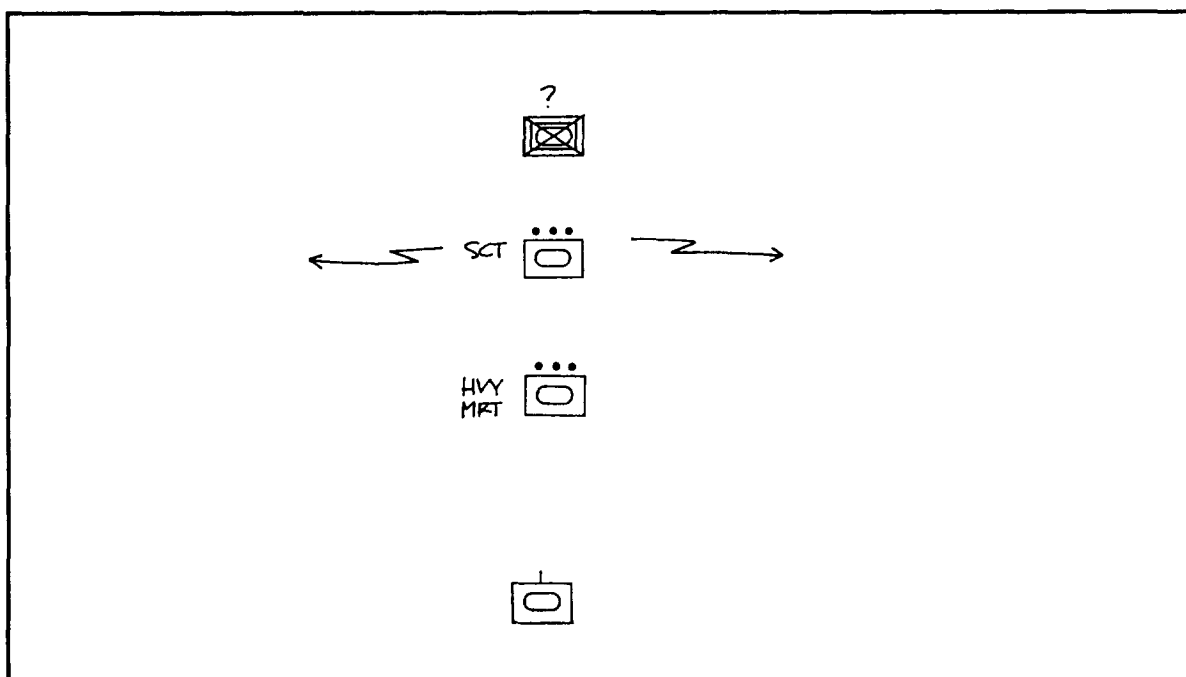


Figure 3-49. Initial contact with stationary enemy.

The scout platoon will adjust indirect fires against the position to suppress the enemy. Mortar and artillery-delivered smoke should be emplaced to isolate the position from possible enemy positions (see Figure 3-50). In the meantime, a section of the scout platoon should reconnoiter the best direct route for the TF to use to maneuver against the enemy position. The TF commander will instruct the lead company to lay down a base of direct fire against the position in support of the hasty attack. The remaining company teams will be given an axis of advance, objective, and orientation on seizing the objective.

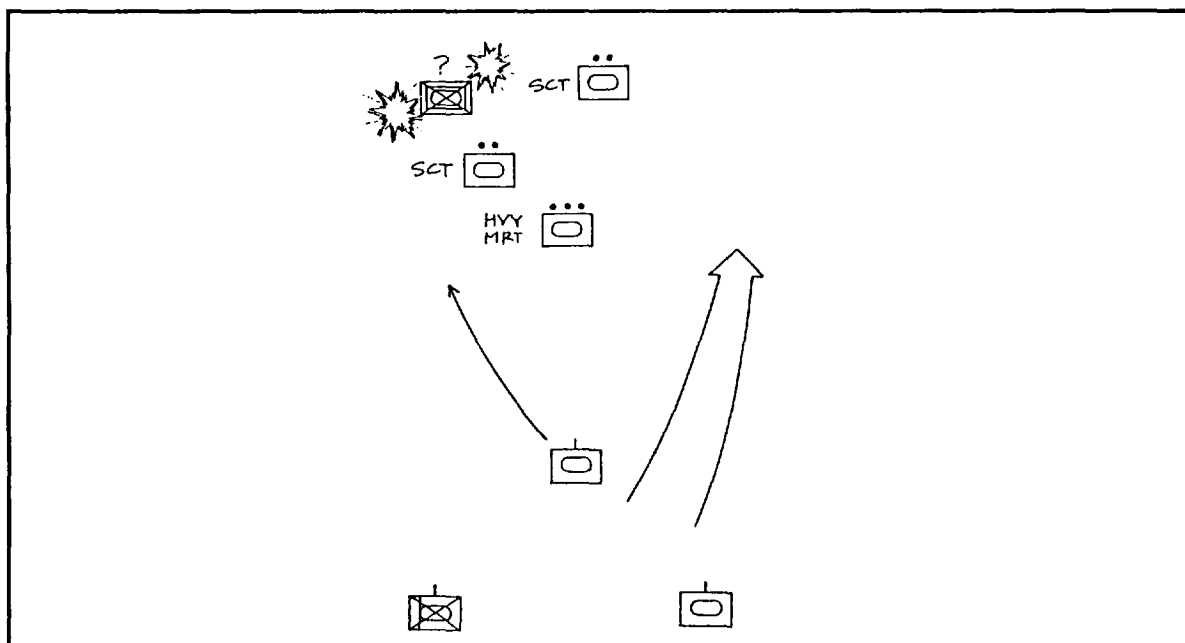
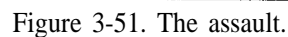


Figure 3-50. Isolation of the objective.



3-92

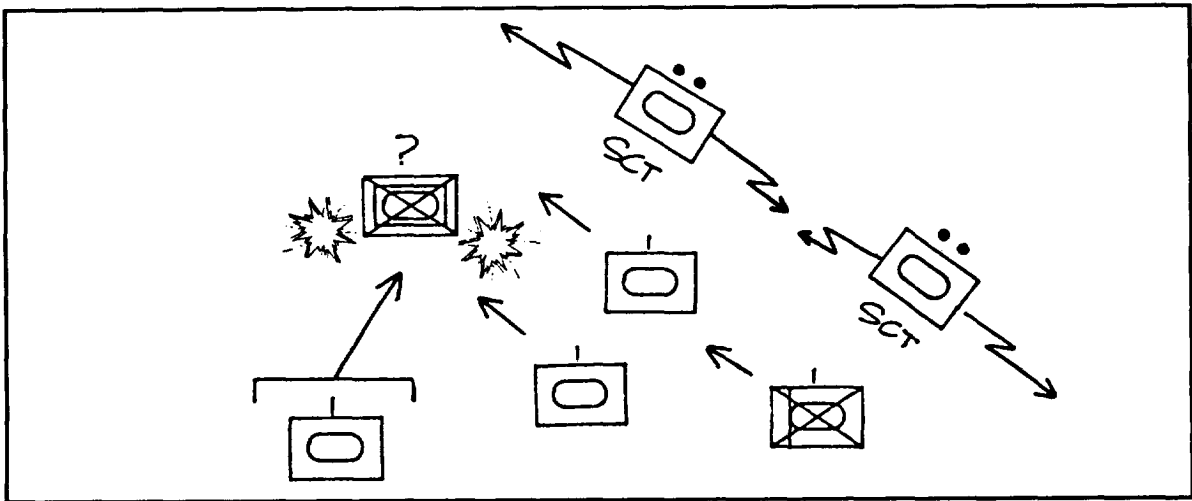


Figure 3-52 Actions on the objective.

Once the position is overrun, infantry may dismount to clear the position, but only if time allows. Some IFVs may just return back across the objective as an expedient. Company teams may adopt a hasty defensive posture oriented on likely enemy mounted and dismounted avenues of approach. If the position seems to be an enemy rear guard or delaying action, the TF should attempt to press on so as not to lose contact with the enemy main body (see Figure 3-53).

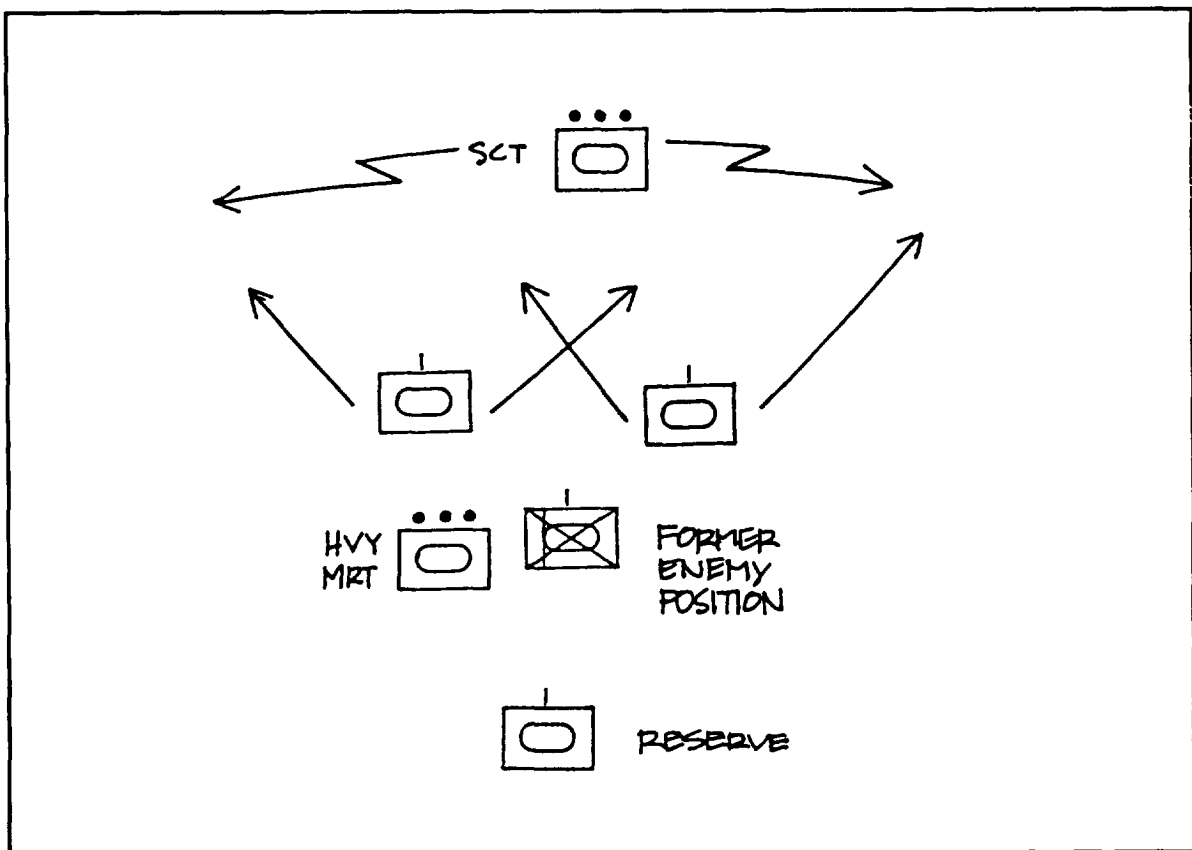


Figure 3-53. Consolidation.

Fire Support

The DS battalion and mortar platoon must be prepared to fire HE and/or smoke very quickly. Quick fire nets may be established to shorten response time. Possible enemy positions identified by the S2 should be plotted prior to the execution of the movement to contact. A FIST may be placed with the scout platoon to assist in directing accurate fire against the enemy.

Mobility, Countermobility, and Survivability

In the assault of an enemy position, the engineers must be prepared to conduct breaching operations. In preparation for the hasty attack, therefore, the TF must conduct breaching drills with the full combined arms team. The TF engineer must ensure that the current obstacle intelligence is reported to all elements supporting the company teams. He should also ensure that the final coordination, with the TF XO and S4, for Class IV and V push packages matches the commander's intent with allocation of resources.

Air Defense

As the TF conducts rehearsals, the air defense elements must practice how they will maneuver to support the TF. Vulcans will maneuver easily with the TF and provide close-in protection to selected elements. On the other hand, Stingers must be placed under armor to maintain survivability.

Combat Service Support

CSS assets prepare for the hasty attack by reviewing the location of the MSR. Obvious nodes (road intersections) should be avoided as locations for UMCPs. They may be targeted by enemy artillery. Push packages consisting of Classes III and V are prepared in advance. Each unit should be topped off and brought up to its basic load supply strength before beginning movement. Shortages are noted and any unit less equipped or supplied than the others are considered for first priority resupply.

Command and Control

The commander prepares for the hasty attack by rehearsing hasty attack against a moving enemy and hasty attack against a stationary enemy as described earlier in this section. He ensures each company is able to execute its part of the mission. Each company commander must know the mission of the other commanders and how their responsibilities interrelate.

Execution***Intelligence***

As the TF scouts make contact with the enemy, the S2 marks the position on his situational map. Organization of observed forces may indicate the type of organization encountered and this information will assist the S2 in his situation template. Due to the lack of time and the TF commander being physically separated from the TF main CP, the S2 must quickly assess the size, disposition, overall enemy situation, and recommended point of attack directed against the enemy's suspected weakness. He must relay this information to the TF commander as soon as he is able to make a credible judgment. This information will drive the plan of attack.

Maneuver

Regardless of the disposition of the enemy, there are several key points that the commander must remember. First he is directing his scheme of maneuver against a known enemy. He must maintain security throughout the operation. This may be achieved by the scout platoon establishing a screen line or company teams emplacing OPs. Second, this maneuver is not being made in isolation. What are the other brigade TFs doing? How does the TF scheme of maneuver relate to theirs? Third, the enemy in contact with the TF is part of a larger force. What is the enemy trying to achieve?

Fire Support

The execution of the FS plan will depend on the ability of the FO to make accurate and timely calls for fire. Once contact has been made, calls for fire are generally shifted from TRPs. Indirect fire must suppress the enemy while the TF approaches the objective, and the objective must be isolated from observation by

enemy positioned on adjacent positions. Once the assault force reaches the objective, fires should be shifted to block enemy retreat and reinforcement and to suppress possible enemy positions in depth.

Mobility, Countermobility, and Survivability

In the advance to the objective and the assault, engineers may be called on to conduct breaching operations. The lead assault element will become the breach force, and if conditions warrant, also the assault force. Follow-on forces must be prepared to become the assault force for the breach and possibly the objective.

Air Defense

Once enemy air attack is imminent, a warning should be issued over the command net. Particularly in the case of helicopter attack, tanks designated by SOP should prepare to engage while the remainder of the TF completes destruction of the enemy's ground forces.

Combat Service Support

CSS operations will closely monitor the operations of the maneuver force. As the TF moves to attack or prepares a hasty attack from battle positions, critical supplies and services will be pushed forward as much as possible.

Command and Control

The commander must avoid two pitfalls: initiating an attack without developing the situation first, and committing the TF piecemeal. In each case, the TF commander must allow his subordinate elements time to perform their missions properly. Anticipation, warning orders, and FRAGOs will prevent last minute decisions and sloppy execution.

Deliberate Attack

The conduct of the deliberate attack will generally follow the sequence below:

- Rehearsal.
- Reconnaissance.
- Movement to the LD.
- Maneuver.
- Deployment.
- Attack.
 - Break-in.
 - +Approach.
 - +Penetration.
 - +Assault.
 - Fight-through.
- Consolidation and reorganization.
- Continuation.

Rehearsal

Rehearsals are essential to the execution of a deliberate attack. They help to ensure synchronization of the attack. All levels of command will rehearse their portions of the attack. A detailed discussion of rehearsals is in Chapter 2 of this manual.

Reconnaissance

Reconnaissance begins on receipt of the mission. Information critical to development of the estimate is acquired as rapidly as possible. Avenues of approach, key and decisive terrain, trafficability restrictions, and obstacle information are types of information gathered. Information on enemy composition and disposition is reported immediately to the S2. Coordination is made for occupation of forward AAs or attack positions, road movement, forward passage of lines, CSS, and FS. Reconnaissance by security missions and reconnaissance of other enemy positions continues throughout the attack.

Movement to the Line of Departure

Forward AAs and/or attack positions are selected and reconnoitered, and advance parties are sent to secure and prepare each area for occupation by the main body. At the same time, coordination is finalized between units for passage forward of the FLOT. This coordination includes marking passage lanes, selecting passage points and contact points, collocating main CPs, exchanging recognition signals and frequencies, finalizing support provided by the unit in location, and designating and assigning routes for company teams to follow from the AA to the LD.

Maneuver

Once the forward passage of lines is complete, the unit maneuvers to accomplish the commander's intent, which may include breaching operations and changes in formation or movement techniques. Changes in the enemy situation are reported by reconnaissance elements, and FRAGOs are issued to ensure units respond to the changing situation.

Deployment

The unit deploys to attack the enemy or fix the position for bypass. The unit may briefly occupy an assault position while other elements occupy attack-by-fro positions. At this point, final adjustments and instructions are carried out to maximize unit effectiveness during the attack. Because of the proximity of the enemy, the amount of time spent in the assault position must be minimal. If the unit mission is to fix and bypass the enemy, similar measures must be taken to make sure the enemy cannot respond to friendly maneuver. Enemy hand-over to follow-on forces must occur with minimal confusion.

Attack

The attack consists of the break-in and the fight-through phases.

The break-in phase. TM is the most critical aspect of the attack the attack will fail if the unit is unable to penetrate enemy defenses. During this phase, the commander must conserve his dismounted infantry assets because they are a limited resource in a BFV company. The break in is further divided into the following three steps.

The approach. This includes isolation of the objective by indirect and direct fire and movement from the attack position to the objective. During this step, artillery fires smoke missions to isolate the objective from supporting fires and observation of adjacent positions. Artillery and mortars provide suppression of the objective in support of the assault. Armored vehicles assault in attack formation while friendly elements provide supporting fire from overwatch positions.

The penetration. This involves the actual penetration of the enemy defensive position. During this step it is the responsibility of the breach force commander, who has been task organized with specific assets, to accomplish the breaching of the obstacles. As the mineroller/plow tanks breach and approach the enemy trench line, they will suppress the enemy position with coax while also searching for lethal hard targets, such as tanks, BMPs, and bunkers. The BFVs will follow close behind, adding to the suppression as they approach the trench line.

The assault. This is the actual assault on the enemy trench line. While both tanks and BFVs suppress the trench system, the infantry dismounts, breaks into its three-man assault teams, attacks, enters the trench line, and clears it.

Dismounted break-in. This is an alternative to the mounted break-in depicted in the previous paragraphs. Conditions must exist such that the enemy defensive position cannot be reached by armored vehicles or is vulnerable to a dismounted approach. More time is required to conduct the approach movement to the objective. In this method, the infantry uses its dismounted stealth instead of speed to penetrate the enemy position. All the stages of the assault are the same as the mounted assault with the suppressive fire provided by vehicles that are not up close to the trench line. This necessitates active control of the suppressive fires by the leader of the assault force through direct communications. If the assault element can identify and clear a mounted approach onto the defensive position, this will assist the assault force in medical evacuation, short-range support of heavy weapons, and increased support.

The fight-through phase. Once the infantry enters the trench line, the battle on the objective literally becomes divided. The trench line battle is fought below ground by the infantry in the trenches and enemy bunkers. The BFVs engage enemy IFVs with 25-mm cannon fire and suppress with coax, carry needed ammunition, and evacuate wounded. Tanks will fight the aboveground battle by destroying hard targets and AT systems. Tanks will also assist in sealing off the objective, suppressing adjacent enemy positions, and preparing to defeat counterattacks. FOs will continue to keep the objective isolated by shifting suppressive fires and adjusting smoke missions on other enemy positions. The commander will position himself where he can best control the operation, probably aboveground. Synchronization will be especially difficult, as he must monitor both actions simultaneously. He must be prepared to commit reserves to both the infantry and armor, while also protecting the objective from the influence of other enemy positions.

Consolidation and Reorganization

Once the enemy has been destroyed, units quickly consolidate on the objective using enemy positions to prepare for the expected counterattack and as protection against artillery suppression. Reorganization activities will occur as the unit assists follow-on units. It is not likely that the unit which conducted the assault will be able to continue with another mission because of the limited number of dismounted infantry available after the belowground fight. However, the armored vehicles can provide support by fire to follow-on forces.

Continuation

If the unit is able to destroy the enemy with minimal loss of men and equipment, it may be called on to continue the mission or respond to a mission change. Under most circumstances in which a deliberate attack is required the unit will most likely retain the objective, transition to the hasty defense, and assist with the forward passage of another follow-on unit.

NOTE: The following is a clarification of terminology already found in FM 71-1, FM 71-2, and their respective MTPs.

Support and Attack/Counterattack by Fire

This mission requires engaging the enemy with direct fire to destroy, fix, or suppress. Destroy, fix, and suppress are not synonymous, and reflect the intent of the commander when assigning support-by-fire or attack-by-fire missions.

Destroy. As defined in ARTEP 71-1-MTP, destroy means killing 75 percent of the enemy force. If a commander wants a subordinate element to destroy an enemy force, he allocates sufficient combat power and ammunition to accomplish this intent.

Fix. As defined in FM 101-5-1, fix means preventing the enemy from moving any part of its forces and preventing their withdrawal by surrounding or holding them. If a commander wants a subordinate element to fix the enemy and prevent it from maneuvering, he understands that the friendly forces must surround the enemy.

Suppression. As defined in FM 101-5-1, suppression means to prevent the enemy from bringing effective fire on friendly forces. The component tasks of destroying an enemy and suppressing an enemy are very similar.

Support by Fire

This mission is done in conjunction with a maneuvering force. Supporting by fire is accomplished in one of two ways: overmatching or establishing a base of fire.

Support by fire by overwatching. This consists of observing known or suspected enemy locations, and engaging the enemy if he is visible or tries to fire on the friendly maneuver element. Overmatching frequently transitions into suppression of known or suspected enemy locations.

Support by fire by establishing a base of fire. This actively suppresses an objective with direct and indirect fire, even though the enemy has not shown himself and is not firing on the friendly maneuver element. The base of fire always fires at the objective to support a moving unit's assault. When establishing a base of fire, the commander must always consider Class V expenditure.

Attack/Counterattack by Fire

This mission requires engaging a moving or stationary enemy force with direct fire. The friendly force attacks the enemy only through the use of direct and indirect fires and not in conjunction with a maneuvering force.

Regardless of the mission, support by fire by overmatching, support by fire by establishing a base of fire, or attack/counterattack by fire, the intent of the fire must be stated; that is, destroy, suppress, or fix the enemy. The most common support by fire intent is suppression. Destroying is the most common intent for an attack-by-fire mission. If fixing is the intent, the battlefield must be shaped to enable the friendly force to accomplish this intent.

Planning

Intelligence

Figure 3-54 depicts the type of intelligence a commander would receive under perfect conditions. All trench lines, vehicles, weapon systems, CPs, and obstacles are shown, as are their exact locations.

From this intelligence, the commander and S2 must determine how the Soviet-style commander intends to fight. This requires knowledge of both direct and indirect weapons employment, particularly with respect to obstacles and terrain. The identification of likely fire sacks, weapons trigger lines, and air avenues of approach, as well as the use of alternate and supplementary positions plays an important role in developing the plan of attack. The war-gaming that results from this intelligence provides the basis for the plan, on-order missions, and anticipated FRAGOs.

Figure 3-55 illustrates the Soviet-style commander's actual defensive plan. Note the extreme detail and use of combined arms. The plan is designed to defeat a Soviet-style attack, where units move from columns to on-line. It is conspicuously devoid of the assailable flank.

The responsibility of the S2 is to use the intelligence information to determine the Soviet-style commander's actual defensive plan. This is not an easy task and will require knowledge of how Soviet-style fighting is conducted, not just their doctrinal disposition on the battlefield. The TF engineer can assist the S2 in compiling this information. This is the information the TF commander will have to know if he is going to plan a successful deliberate attack.

Maneuver

Deliberate attack planning requires validated knowledge of the enemy situation. The location of enemy positions and known or suspected obstacles must be located and classified with a high degree of certainty. Based on the intelligence, deliberate attack planning is more detailed than hasty attack planning. Task organization is based on the order and type of obstacles, as well as what happens during the break in and fight through of the position itself.

The commander's scheme of maneuver is based on the estimate of the situation. A key factor in planning an attack is time. The more time available to the enemy for the preparation of defensive works, the more

difficult it becomes to breach the obstacles and destroy the enemy. Knowledge of enemy strength, equipment, and resources available becomes extremely important in judging his ability to prepare defenses. This is critical to the proper task organization and order of the elements conducting the operation. The commander must ensure that reconnaissance provides him enough information to allow sufficient flexibility in choosing his point of main effort, and that he masses the amount of combat power needed to defeat the enemy.

Location and composition of obstacles determines the types of equipment required to negotiate the barriers and how that equipment is organized for commitment. The more detailed the intelligence on obstacles and enemy dispositions, the more timely and efficient the employment of combat assets. Breaching assets are placed in order in the approach march based on the sequence the obstacles are encountered.

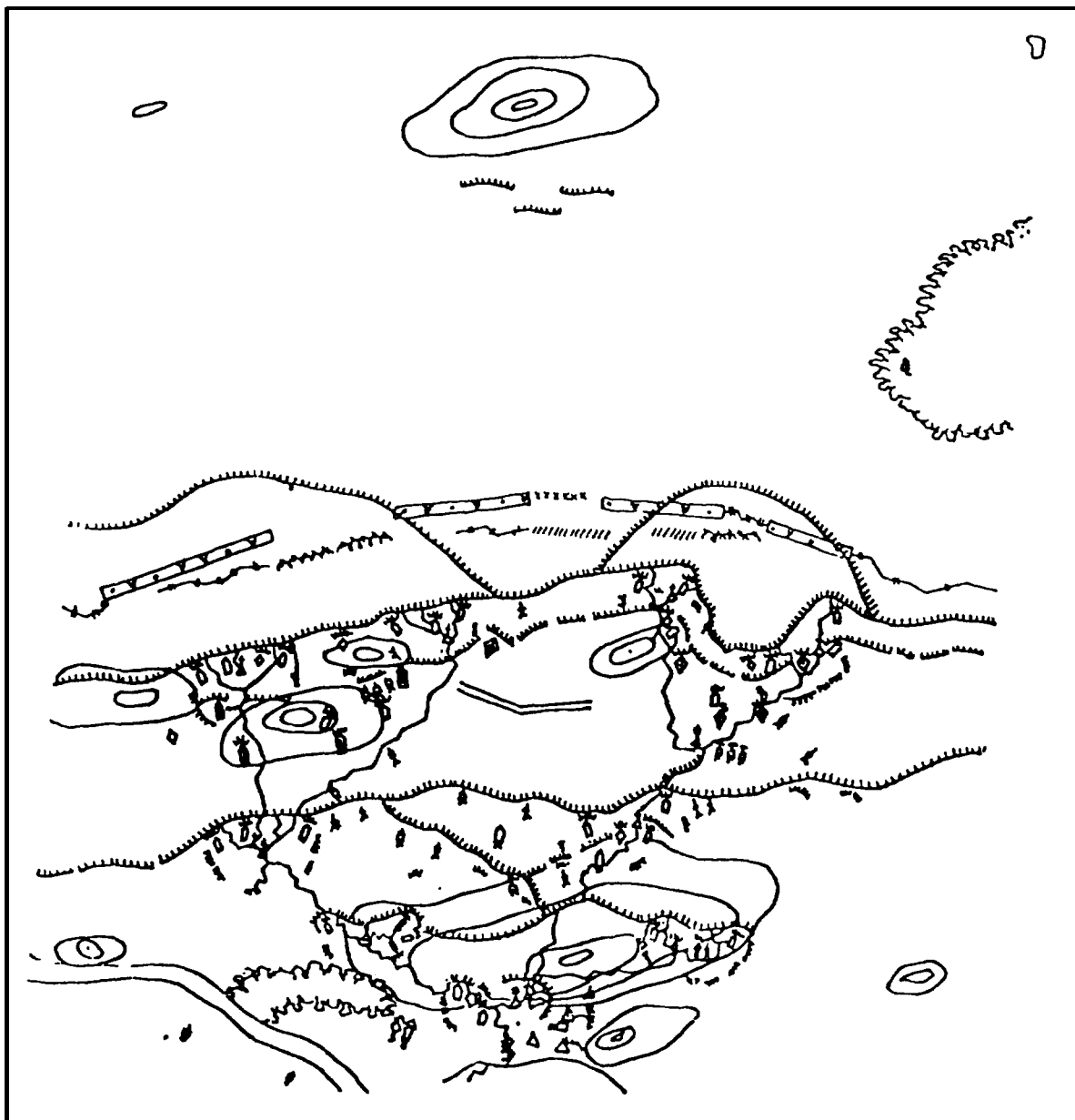


Figure 3-54. Intelligence report of enemy position.

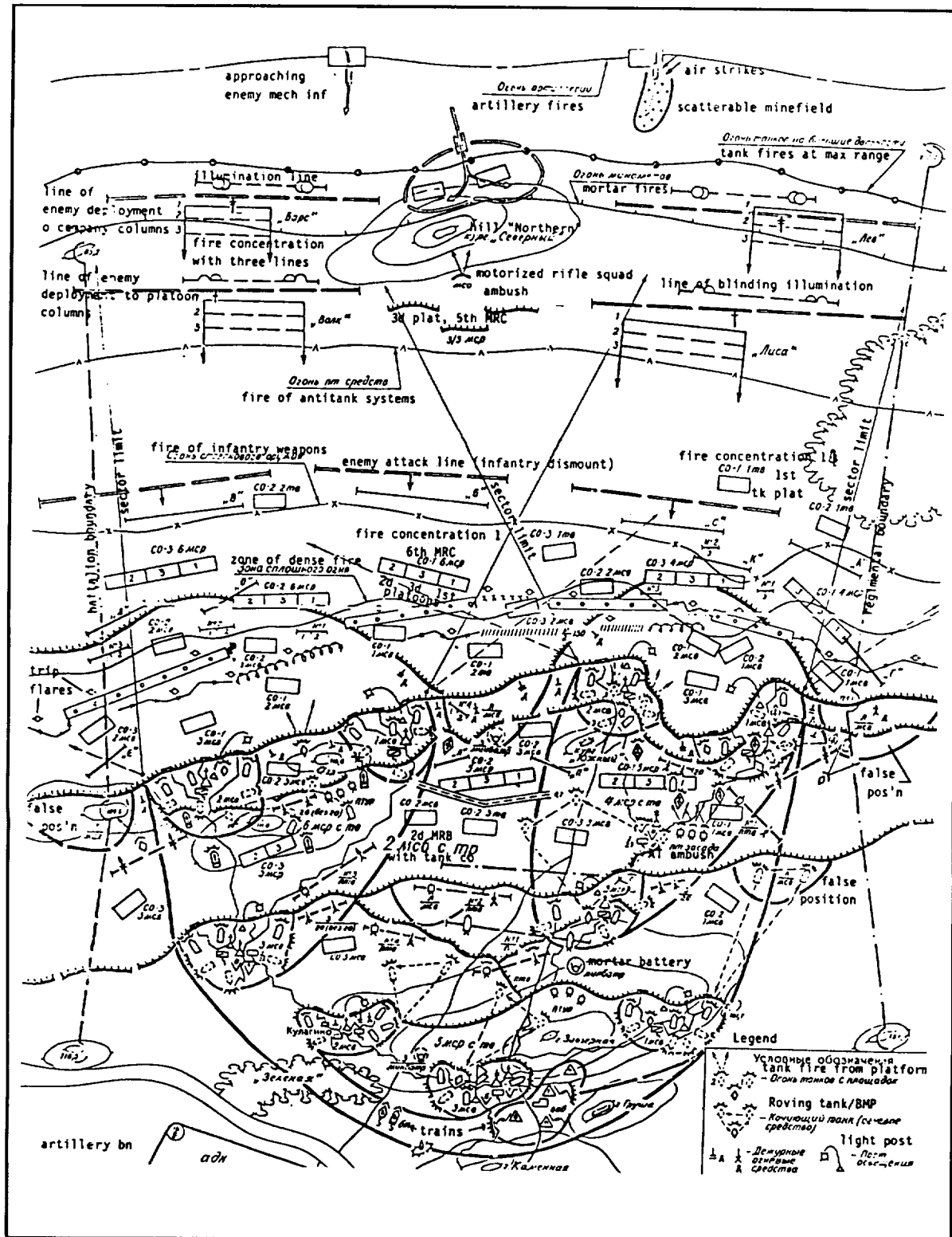


Figure 3-55. Soviet-type commander's defensive plan.

Minefield breaching equipment should be placed in the lead, but protected as much as possible by over-matching armor. Minefield equipment is followed by gap-breaching equipment that is used in case an AT ditch is encountered. The commander should organize and plan breaching operations so that the element which is to support by fire is set first and has suppressed the enemy before the breach element moves forward to begin breaching. Since the obstacle will be covered by both direct and indirect fire, any soldier not under armor will be at risk. Should an obstacle require dismounted breaching, a nighttime prebreach is preferred to a daylight deliberate breach. Refer to Chapter 6 for a detailed discussion of breaching operations.

The commander exploits an enemy weakness by massing combat power against it. Weak points in enemy disposition occur where terrain prevents the physical tying-in of defenses, or where terrain provides defilade from enemy direct defensive fires. Caution must be observed in this case, as deadspace will be covered by indirect fire or mines. Other weak points in the enemy's defense are unit boundaries. An ideal location for an attack is along the boundary between two larger units. Along this boundary, coordination is usually weak; however, AT reserves are often used to strengthen this area.

EXAMPLE: BREACHING SCENARIO

Task organization. A balanced TF is organized into three major elements: support, breach, and assault elements. Each element has several missions to perform within the overall scheme of maneuver. The elements are organized for their missions and given assets necessary to complete their tasks (see Figure 3-56).

Breaching a tactical and protective obstacle system and assaulting a fortified objective requires a force that includes the following elements: support, breach, and assault, each with subelements. For example, the breach team might require a support group for close-in security, as well as an assault group to negotiate enemy security positions forward of the objective. A subelement's organization will vary with the situation. If the situation is not clear, subelement detachments can be assigned contingency missions.

The TF, in this particular example, is a balanced mechanized infantry battalion. Consisting of two mechanized infantry companies, two armor companies, and an engineer company. The tank companies are each organized with three mineplows and one mineroller in one platoon.

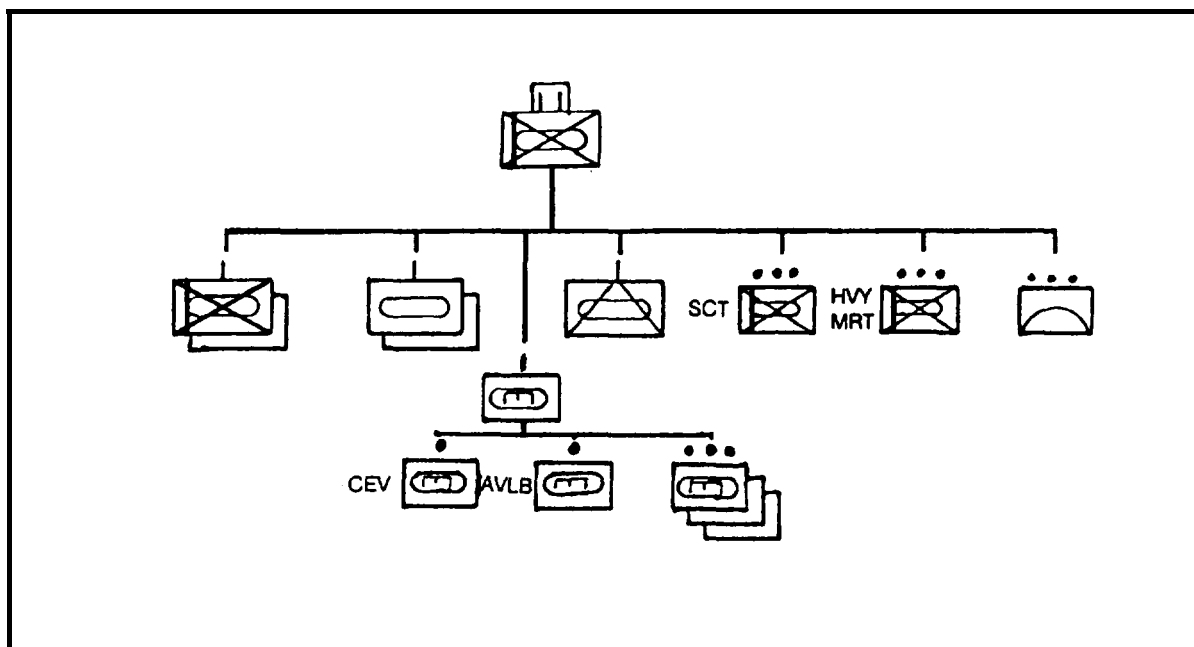


Figure 3-56. Task force organization.

The composition of the support team should be heavy in armor/antiarmor weapons to overwatch and support the breaching and assault teams. ITVs and tanks are given fire control measures and priority of target engagements. ITVs may use their fires to destroy armored vehicles and to engage hard-to-hit point targets such as bunkers.

Support team. The support team is organized with a tank company, the ITV company, an ADA section, and a heavy mortar platoon (see Figure 3-57). It is commanded by one of the company commanders and can be monitored to overall synchronization by the TF S3. The support team is the first in march order in the move toward the objective, so armor-heavy forces are able to lead the TF and position themselves first to provide the base of fire in support of the breach and assault teams.

The mission of the support team is to provide covering fires for the breaching and assault elements by destroying enemy armor and AT weapons. The support team also has the task of sealing the flanks of the objective to deny enemy reinforcement of the position or counterattack. Once the support team has completed its overwatch/support mission, it will join the assault team and assist in exploiting the breach in the forward echelons of the enemy's defense, under the control of the TF commander.

The support group of the support team consists of the ADA section and the heavy mortar platoon. The support group is responsible for providing indirect fires to assist in suppressing the enemy or sealing off the flanks of the objective against enemy reinforcements or counterattack. Responsive obscuration fires are available for short periods of time. ADAs will be sited to protect the approaches to the intended breach site. Air defense weapons should have overlapping EAs in the vicinity of the breach site.

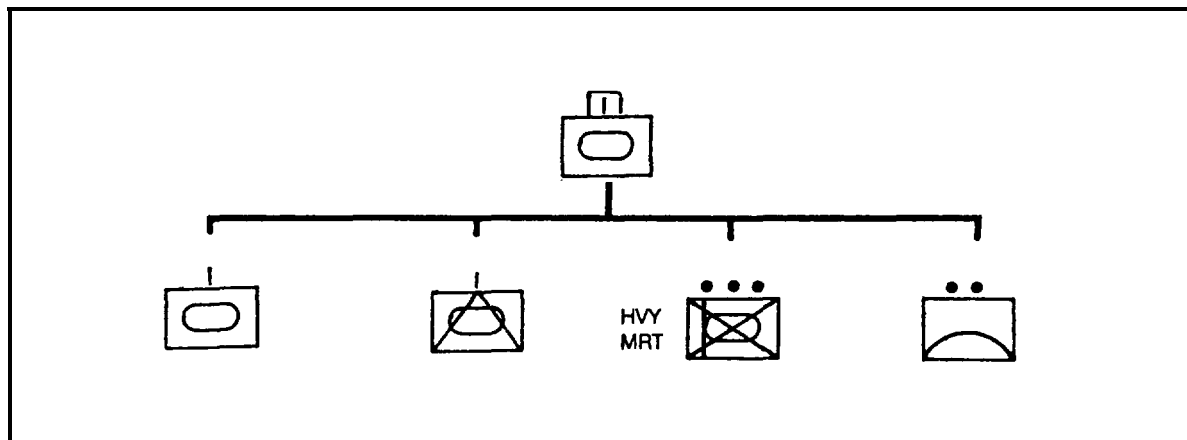


Figure 3-57. Support team.

Breach team. As a technique, the breach team will not begin its breach until the support team has established suppressive fire. The breach team will create a lane or lanes in the enemy's protective minefield, penetrate the fortification itself, then fight the aboveground battle.

The breach team is composed of a close-in support group and a breach group. The breach group consists of six plow tanks, two roller tanks, CLAMMS marking device, a CEV, and two ACEs with MICLICs. The close-support group is composed of the remaining tank platoons.

It is unlikely that the AVLB will be used in the close breach due to its vulnerability. However, it may be used to span gaps such as an AT ditch when it can be properly protected. A tank equipped with a mineroller can cross an AVLB, but it is a risk crossing because it exceeds the weight classification. For a mineroller to cross an AVLB, the AVLB's side skirts must be removed.

The CEV can be used to backfill the AT ditch while assault vehicles cross the AVLB, but its use is not limited to earthmoving operations. The demolition gun provides an excellent means of reducing hardened AT barriers made of metal, concrete, or logs. Log cribs are easily destroyed by several rounds from the 165-mm gun. Use of the CEV on the objective must be weighed against possible damage or loss.

TF recovery assets may be task organized with breaching elements; however, to prevent congestion during the assault, each vehicle must be prepared to conduct recovery of a like or smaller vehicle. Tow cables should be premounted to the rear of the vehicle, and grappling hooks should be handy in case of extensive wire on the objective.

The assault team. The assault team consists of a mechanized infantry company and may be followed by the reserve (a second mechanized company). The assault team is third in the order of march and follows the breach team. Once the breach team has penetrated the enemy position, the assault will attack the enemy trench line and conduct the belowground battle, eventually clearing the enemy strongpoint (see Figure 3-58).

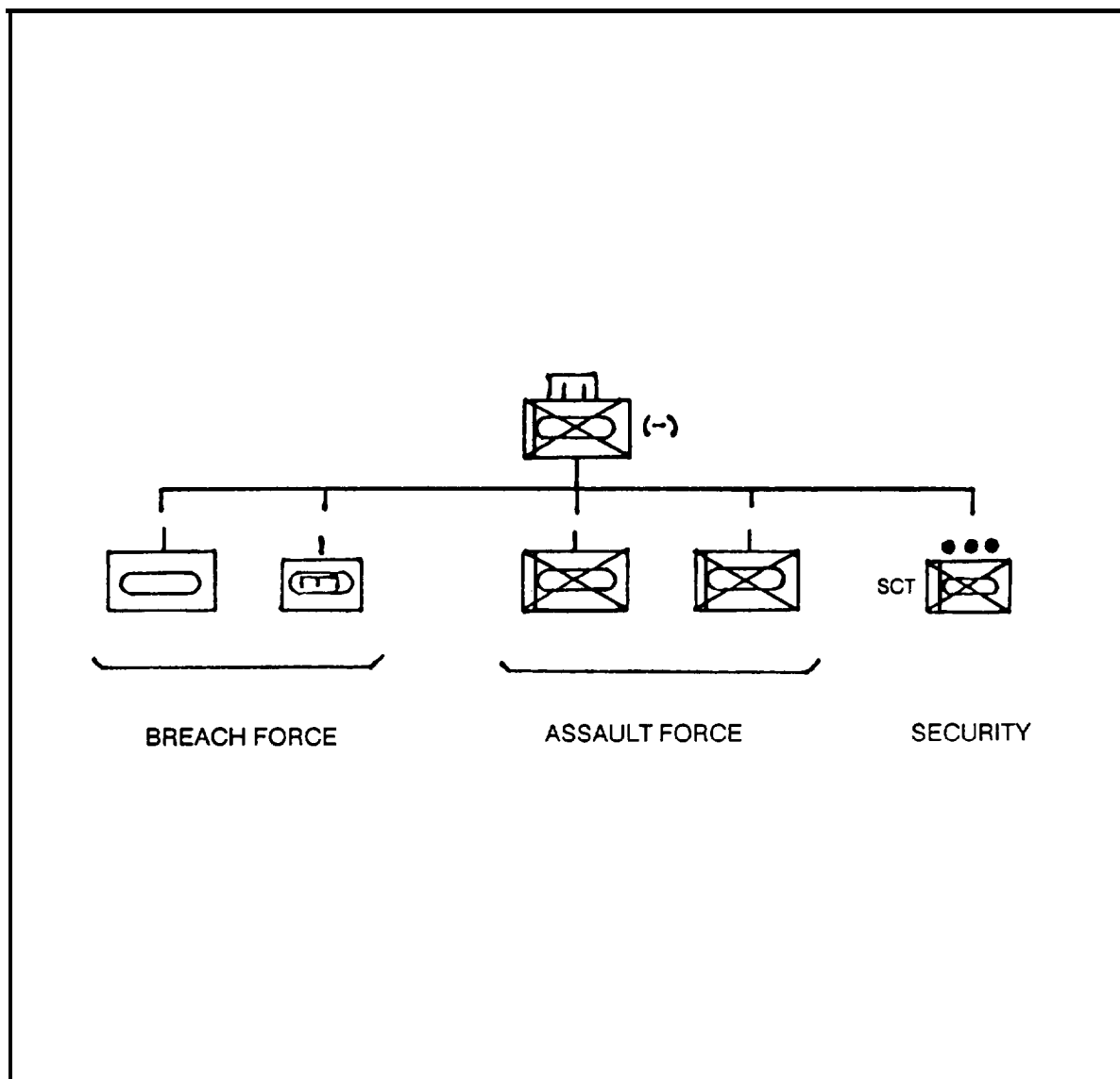


Figure 3-58. Deliberate attack organization.

Figure 3-59 is the commander's plan of attack. He has identified objectives, support positions, a screen line, the axis of advance, and artillery targets for suppression and smoke. This is by no means a complete operational graphic, but it is sufficient to illustrate the attack. Subsequent paragraphs will walk through the attack from approach to fighting through.

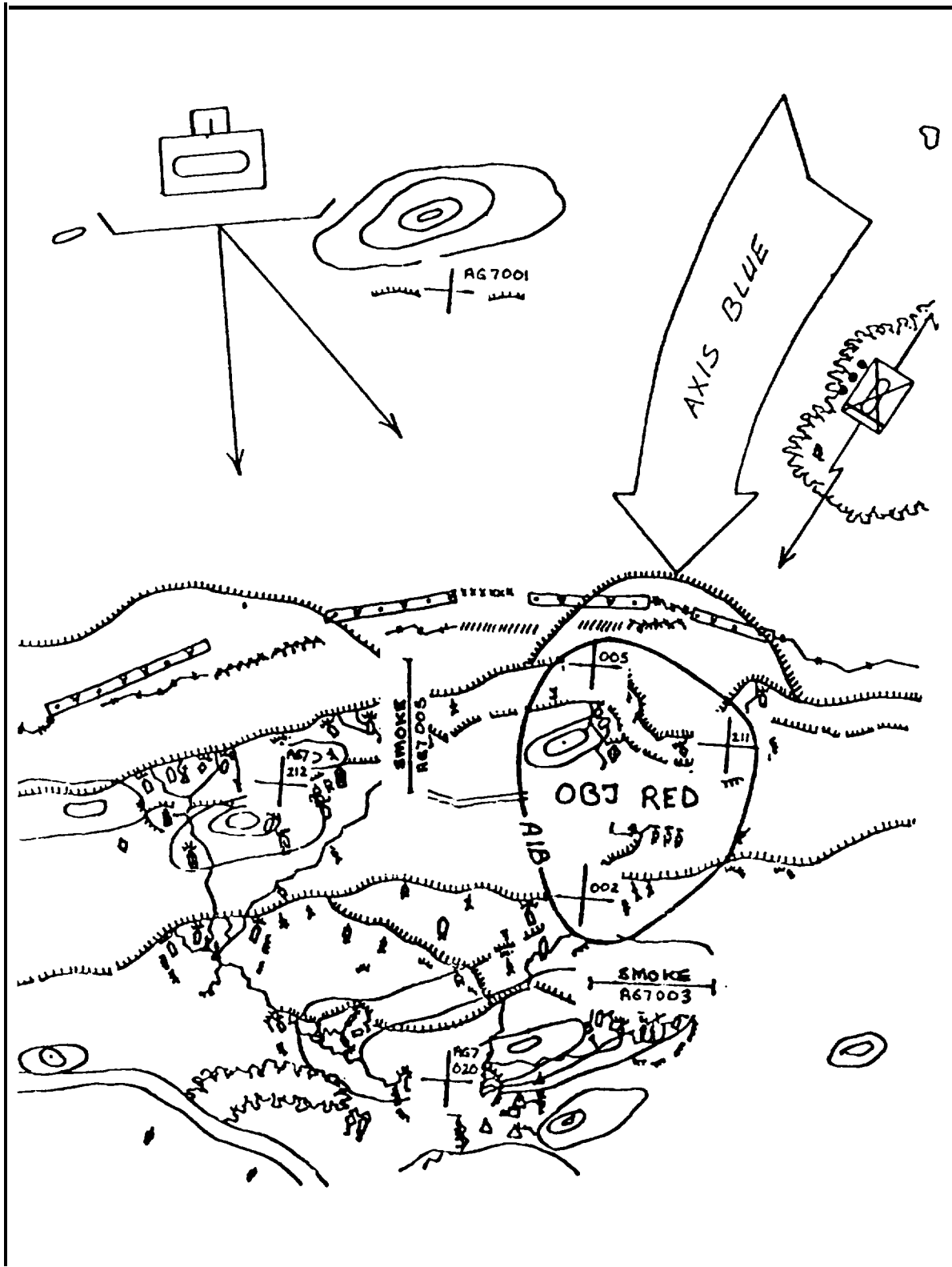


Figure 3-59. Task force commander's attack plan.

Fire Support

The correct use of obscurants prevents direct observation of the attacking force. Smoke placed between mutually supporting enemy positions decreases the accuracy of suppressive fires or completely blinds the defender. Smoke is used best when placed on or just in front of the defender's position. The ability to acquire targets is degraded by a factor of about 75 percent when smoke is placed directly in front of the enemy. It is only about 25 percent effective in obscuring the enemy's view if placed on friendly forces. Vehicular smoke generators and smoke grenade launchers provide temporary protection, observation, and acquisition.

Mobility, Countermobility, and Survivability

Due to the availability of breaching equipment (minerollers and plows) and the requirement for the infantry to conduct the assault in the trench line, task organization will be of specific importance to the brigade commander. He must allocate the right resources to the units with the specific missions of breaching obstacles en route to the position and the assault. Armor-heavy TFs are best suited for breaching obstacles en route, but balanced TFs are most effective in the assault. Infantry-heavy TFs can do either but must have augmentation for breaching operations.

Air Defense

Air defense elements will find it difficult to position themselves without exposing themselves to enemy direct fire. If the attack is shallow, air defense elements maybe able to cover the area from the relative safety of the FLOT. However, if this is not possible, the ADA assets accompany the TF. Some security may be possible if the ADA elements are positioned with the support-by-fire force.

Combat Service Support

Combat trains must position themselves as far forward as possible to support the attack. The combat trains may be able to take advantage of the security offered by another friendly force. The stationary force through which the TF passes may also assist in supporting CSS operations with evacuation and medical support. The MSR must be secured and maintained throughout the attack, and CSS elements must be prepared to move forward on order in support of the maneuver forces. The combat trains will not displace forward until the objective is secure; however, in deeper operations this may not be practicable.

Command and Control

Once the companies are committed to the fight, there is generally no turning back. A unit that attempts to withdraw after an unsuccessful attack is ripe for an enemy counterattack in addition to harassing fires. The commander must direct the attack against the enemy's most vulnerable area but keep in mind that this is not always a possibility. Deception becomes important, as the enemy must voluntarily weaken his position to commit forces to repulse an imminent attack elsewhere.

C2 of the deliberate attack requires the commander to move with the lead elements. He avoids becoming a part of the fight, as it will distinct him from the primary mission of commanding. He plans to be in position, which will allow him to assess the effectiveness of the support by tire force FS, and the TF maneuver.

Preparation

Intelligence

It is critical for the S2 to collect detailed information about the enemy from higher, lower, and adjacent units. Sources of information include patrols, reconnaissance by fire, aerial photographs, prisoners, deserters, EW, radar, sensors, and other means. Information about terrain can be collected from many of these same sources. Leaders at ail levels should reconnoiter the actual terrain in daylight, and if the attack is to be conducted at night, they should look at it at night also. In the reconnaissance, special attention should be paid to finding—

- Enemy armored vehicles (these will be dug in and camouflaged).
- Enemy machine gun positions.
- Enemy AT positions.

- Enemy fortifications.
- Location of enemy close-in protective fires (direct and indirect).
- Obstacles.
- Covered routes into or around the enemy position.
- Positions from which direct-fire weapons can support the assault.

Small probing attacks will often be necessary to gain this information.

Maneuver

In preparation for the deliberate attack, the TF itself may be reorganized and will often change internal organization to optimize each company for the task it will be assigned. New units may be attached to or placed in support of the TF or the company teams. The commander carefully assigns and coordinates the missions of tank, mechanized infantry, CS, and CSS assets.

Tank and infantry teamwork during the approach. The commander welds the capabilities of infantry and tank units into one effort. His reconnaissance and rehearsal point to an effective course of action. Throughout the operation, he will consider the following relationships between tanks and infantry in the approach:

- When possible, tanks lead the attacking formation to take maximum advantage of their capability for mounted combat.
- It is desirable that the infantry remain mounted as long as possible so that—
 - Movements can be conducted at the speed of the tanks to close with and destroy the enemy.
 - The battlefield mobility of elements of both the tank and teams will be retained.
 - Casualties will be minimized in areas covered by small arms, mortar, and artillery fire.
 - Artillery airbursts can be employed over the attacking force.
 - The infantry can conserve energy to be better able to fight dismounted when needed.

Ž Infantry normally dismount when it is necessary for them to—

- Assist in the neutralization or destruction of AT weapons that are holding up the forward movement of the tanks and IFVs.
- Lead an attack through heavily wooded areas or over very rough terrain.
- Lead an attack across defended rivers that cannot be crossed by armored vehicles.
- Take part in an attack through fortified areas or defended towns and villages that cannot be bypassed.
- Assist the tanks' forward movement during certain conditions of low visibility and restricted fields of fire.

Mounted infantry.

- Tank and mounted infantry elements are coordinated by task organizing. The brigade commander selects the task organization of his battalion task forces based on the missions each is to accomplish. Mounted infantry prepares to fight their vehicle as a member of the combat formation. IFVs are positioned according to the tactical situation. The commander considers the primary requirement of having the mechanized infantry readily available. He must also consider the vulnerability of the IFV to enemy fire.
 - When enemy interference is not anticipated, the IFVs will follow more closely behind the tanks.
 - When hostile AT fires are encountered, the location of the IFVs with relation to the tanks will depend partially on the type and caliber of the hostile AT weapons. If the enemy is equipped with only

short-range AT weapons, such as rocket launchers, the IFVs may follow the tanks more closely than if the enemy were using long-range, high-velocity AT weapons.

- The distance between tanks and IFVs must not become so great that mutual support between the tanks and mechanized infantry is lost.
- In terrain affording numerous defilade positions, the mechanized infantry may follow the tanks more closely.
- The IFVs may follow the tanks more closely under conditions of limited visibility.

Ž The rate of advance of mounted infantry is based on the actions of the leading tank units.

- When the tanks are advancing in mass, the following mounted infantry may advance in mass or by bounds. Mounted infantry moving by bounds stay behind the tanks and move forward rapidly from cover to cover as the advance of the tanks uncovers successive defilade positions.
- When tanks are employing fire and movement, mounted infantry will move at the same rate, so as not to become separated by enemy fire.

Dismounted infantry.

Ž When mechanized infantry is required to dismount, tanks, IFVs, and infantry operate close enough together to provide mutual support. The infantry may move between vehicles, or immediately to the rear of them. As the advance progresses, the relative position of tanks and infantry are adjusted according to the enemy resistance and the terrain. This permits close coordination and maximum mutual support but sacrifices speed, making the tanks more vulnerable to AT fire.

Ž When terrain, obstacles, or enemy AT weapons restrict or stop the movement of the tanks but permit infantry to move forward, tanks may support by fire while the infantry advances. As conditions permit, the tanks should move forward, pass through the infantry, and lead the assault on the objective.

Ž The IFVs should follow close enough behind infantry to be available when needed to continue the attack mounted or to assist in consolidation of the objective. They may move forward by bounds, or closely follow the attacking force and augment the fires of the tanks and infantry with their weapons.

The assault. The desired goal in the assault is to bring the maximum combat power of tanks, mechanized infantry, and suppressive fire to bear on the enemy simultaneously and to destroy him as rapidly as possible with minimum casualties to friendly forces. The assault on a defended position by tanks and mechanized infantry in coordination with the support team may take one of three forms:

- Tanks and dismounted infantry assault in coordination (TF organization).
 - Regardless of the method of attack used to bring the force into the assault position, the assault is conducted as a coordinated effort. As the force approaches the objective, the objective is under heavy direct- and indirect-fire suppression from the support team. The tanks maintain their rate of advance and increase the volume of fire on the objective. As the tanks approach the objective, the IFVs move quickly to dismount positions to support the tanks. Fire from the support team is lifted and shifted as the tanks move on to the objective. Mortar and artillery fires are shifted to the flanks and far side of the objective to cut off enemy retreat or reinforcement. The commander determines when and where the mechanized infantry dismount, taking maximum advantage of defilade for the IFVs.
 - As the tanks continue their assault to the far side of the objective, the infantry follows and protects them by engaging infantry-type targets, including individual AT weapons and tank-killer teams. Coordination should be accomplished before the attack to maximize infantry support of tank elements during the assault. When possible, the weapons of the IFVs are used to support the assault. They are used to suppress adjoining enemy positions or are oriented to repel possible enemy counterattack. Riflemen use assault fire to close with the enemy. The shock effect of assaulting tanks and infantry is multiplied by rapid movement and heavy volume of fire. As the tanks arrive at the far edge of the

objective, fire is directed on the enemy positions beyond the objective area. During the assault on an objective located on high ground, care must be taken to acquire and destroy enemy AT and automatic weapons sited on the reverse slope. These weapons are normally positioned to engage tanks and dismounted infantry as they crest the hill.

- Once the assault team has cleared the objective, the IFVs may be moved forward to remount their squads for continuation of the attack, or to occupy defensive positions. They should be moved forward under control to avoid cruising to the objective searching for their squads. The following techniques may be employed to move IFVs forward under control:

- +Radio. The range and terrain of the transmitting station must be considered with respect to the position of the IFVs.

- +Messenger. A dismounted messenger may be sent to the position occupied by the carriers to guide them to their respective units. This is the slowest method and depends on a route clear of the enemy.

- +Pyrotechnic devices. A pyrotechnic signal may be fired to indicate to drivers the time to move and the approximate location of the unit. This technique requires constant scanning of an area by the IFV crew members. Note: Any pyrotechnic observed by friendly forces is most likely also observed by the enemy.

- Tanks and dismounted infantry assault mounted. In some situations, because of the nature of the terrain or of limited enemy resistance, it may be unnecessary to dismount the mechanized infantry. The decision to keep the infantry mounted is up to the local commander at the time. The mounted assault differs from the dismounted assault in the employment of supporting fires. In the mounted assault, integrated forces may assault the objective under cover of overhead artillery and mortar fire. Tanks and mounted mechanized infantry overrun the objective. If necessary, supporting fires may be shifted to isolate the objective, and mechanized infantry dismount, as required, to mop up.
- Tanks support by fire. Terrain or obstacles may make it impossible for tracked vehicles to join in the assault. In this situation, dismounted infantry will conduct the assault, and tanks and IFVs will support by fire with full consideration given to the long-range and rapid rate of fire of the tank weapons and the precision and control with which these fires can be delivered. As soon as the situation permits, tanks and IFVs will rejoin the mechanized infantry, and if appropriate, again lead the attack.

Support team. The support team conducts reconnaissance to determine the best position to assist the breach and assault teams. Depending on the depth of the attack and the position of obstacles along the axis of advance, the support team may have to plan several locations to support the attack (for example, an initial position to support the breach, a second position to support the assault, and a third position to suppress enemy positions to the flank and rear of the objective). Each of these positions require the same in-depth direct-fire planning as a BP; however, the fire control (lifting and shifting of fires) will require coordination. The lifting and shifting of fires essentially occurs as a result of one out of two possibilities: on order or event driven. In the first case, regardless of the method used to transmit the instruction, the lifting and shifting of fires is executed on the command of the support team commander. In the second case, the maneuver will drive the action. For example, once the lead element crosses a particular terrain feature, the fires will be lifted and shifted.

Breach team. The breach team prepares for the deliberate attack by rehearsing breaching drills. Because their responsibility rests in penetrating the enemy defenses and fighting the aboveground battle, this will normally be a tank company equipped with minerollers and mine plows and/or augmented with combat engineer assets, such as ACE, MICLIC, CEV, and AVLB. The breach team must be prepared to execute the close-in breach without hesitation, because a loss in momentum could expose the force to enemy fire longer than necessary.

Using the situational template of the enemy position, for conducting rehearsals the breach team should construct a model or select terrain that is similar to the objective area. The breach team commander must next determine where the penetration of the enemy position should take place within the parameters of the TF commander's guidance, and how many lanes must be cleared for the assault. The greater the number of lanes,

the faster the assaulting teams will be able to reach the enemy, and the less likely the teams are to pile up waiting to cross the obstacle. The breach team will then rehearse emplacing the lanes and fighting the above-ground battle.

Assault team. The assault team must rehearse its mission with the breach team; coordination between them is critical for success of the mission. The assault team is generally a mechanized infantry team that follows the success of the breach, enters the enemy trench line, and fights the belowground battle. IFVs serve a multiple role: they protect the tanks from enemy dismounts, assist in suppressing enemy positions in depth, support the dismounts in clearing the trench line, and possibly defend the position for enemy reinforcement or counterattack. Missions must be identified and rehearsed before execution. The assault team rehearses alone first. It then rehearses with the breach team to finalize coordination and ensure that both teams know what the other is doing.

The TF maneuver plan must be rehearsed to avoid confusion at an obstacle or on the objective. The entire TF slice should rehearse its mission in preparation for the attack. Remember that the execution may not happen exactly as planned, but it is a common, understood point from which FRAGOs may be given. In an operation this complex, rehearsals and coordination are essential.

Fire Support

First, the TF commander verifies that the DS artillery and mortars will be able to accomplish their mission with both target effect and duration. (Ammunition on hand may prevent portions of the TF plan from occurring if CSS operations were not given advance warning.) Second, the commander ensures the FS plan adequately suppresses, isolates, and blinds the enemy forces in and about the objective area. This should be checked during the rehearsal, as line-of-sight or duration may need to be modified.

Mobility, Countermobility, and Survivability

The breach team prepares for the deliberate attack by rehearsing breaching operations. For example, if the TF is having difficulty penetrating the close-in obstacles, how should the engineer augmentation best be used to succeed? Contingency planning is a part of rehearsals so that leaders under fire can issue timely FRAGOs. Signals and quick execution code words assist in speeding the response time of the subordinate elements.

Air Defense

There are essentially three phases of the attack in which the air defense assets may have to modify their disposition: passage of lines, movement to the position, and actions on the objective. The commander ensures that his task organization adequately protects the TF main effort throughout the operation.

Combat Service Support

A CSS rehearsal prevents confusion. The S4's support plan must be executed with minimal instruction. Event-driven actions are the best. For example, once the TF reaches PL Blue, the combat trains jump, and UMCP/LRP locations are moved by the phase of the operation. CSS elements must anticipate possible emergency resupply or evacuation requirements. Push packages must be prepared and ready to respond, especially during critical phases of the operation.

Command and Control

The TF commander's greatest challenge in preparing for the deliberate attack is ensuring that everyone knows what to do and when to do it. The TF key players need to walk through the mission slowly, explaining their actions every step of the way. After it is clear that each member of the TF understands his mission, the rehearsal should be conducted faster with minimal guidance, and then at actual speed with no guidance. Contingency plans are discussed and rehearsed if possible; but this must be done carefully so as not to confuse the TF players. The TF commander must have contingency instructions prepared in advance. Any aid that will save time in deciding on a course of action will give more time to make an assessment, and will give company teams more time to execute a new mission.

Execution

Intelligence

The S2 will orient his efforts toward the enemy's reactions. The repositioning of enemy forces and commitment of a reserve or counterattack must concern the S2. He ensures the scouts are positioned to provide early warning to the TF and observe NAIs. Current information concerning enemy actions must be transmitted to the TF commander so that he will not create vulnerabilities and so that it can be used to exploit advantages.

Maneuver

The following example will examine the execution of the deliberate attack from approach to consolidation.

The approach. The support team will provide both direct and indirect suppressive fires to the objective. Obscurants will be used to isolate the position from the observation and influence of adjoining positions. The suppressive fires will degrade the enemy's ability to observe the attack. Once the support team has sufficiently suppressed the enemy force, the breach team will move forward (see Figure 3-60).

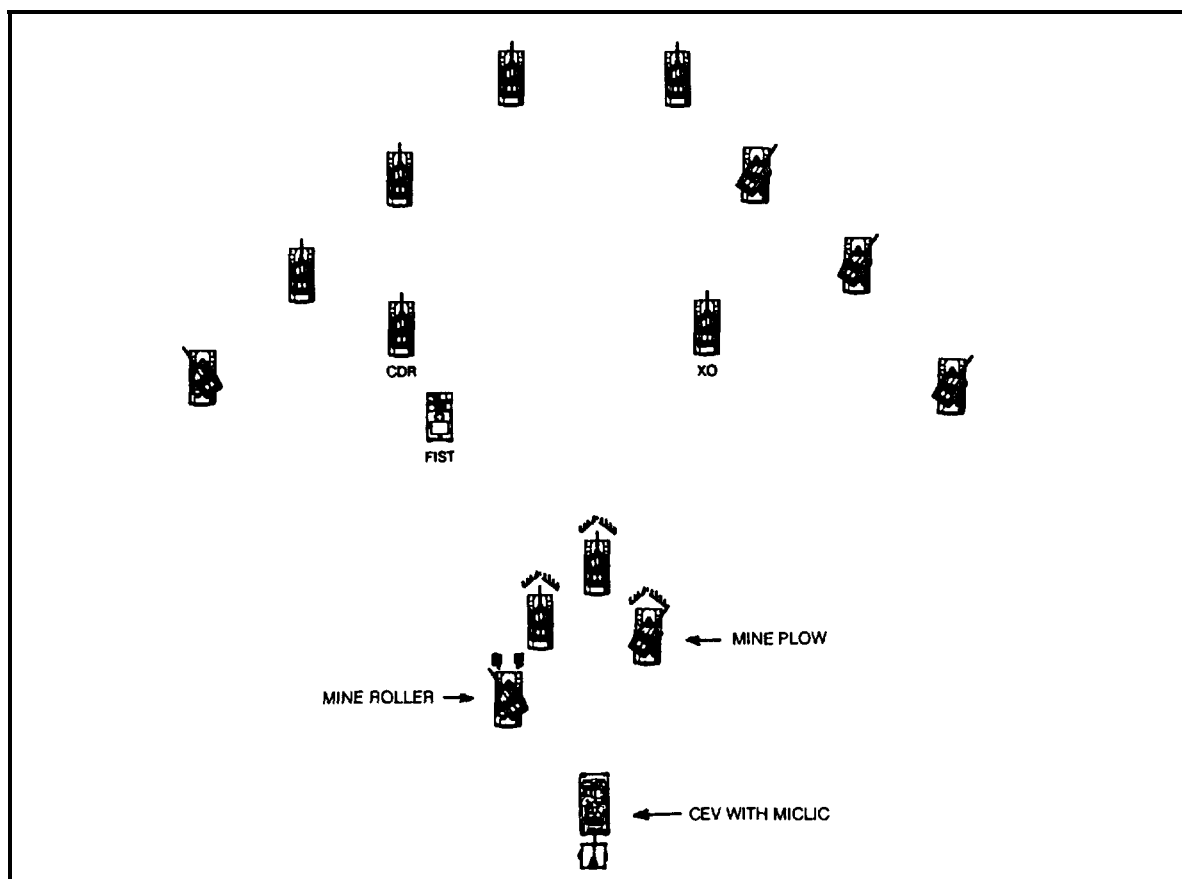


Figure 3-60. Breach team attack formation.

The breach team will initially protect the breaching assets, such as mineplows, minerollers, ACEs and MICLICs. It must be prepared to cross the enemy's EAs and negotiate obstacles situated to exploit handheld AT weapons. Due to the doctrinal disposition of Soviet-type forces, the ability to launch an attack against the flank of a strongpoint in the main defensive area is doubtful. The breach commander must expect to receive enfilade fire from adjoining positions at ranges of 400 meters to 600 meters, as well as fire from the defensive position. It is the responsibility of the support team to prevent as much enemy fire as possible from

being effective. If the enemy has adopted a reverse slope position, it may be impossible to establish an effective direct-fire base. Extensive reconnaissance may guide to the best point of attack, but freedom of maneuver will be very restricted.

The penetration (see Figure 3-61). Prior reconnaissance should have identified protective obstacles, but good enemy camouflage or a reverse slope position may prevent knowing their exact size, location, and complexity. The breach team commander must be prepared to breach obstacles even when they are not apparent.

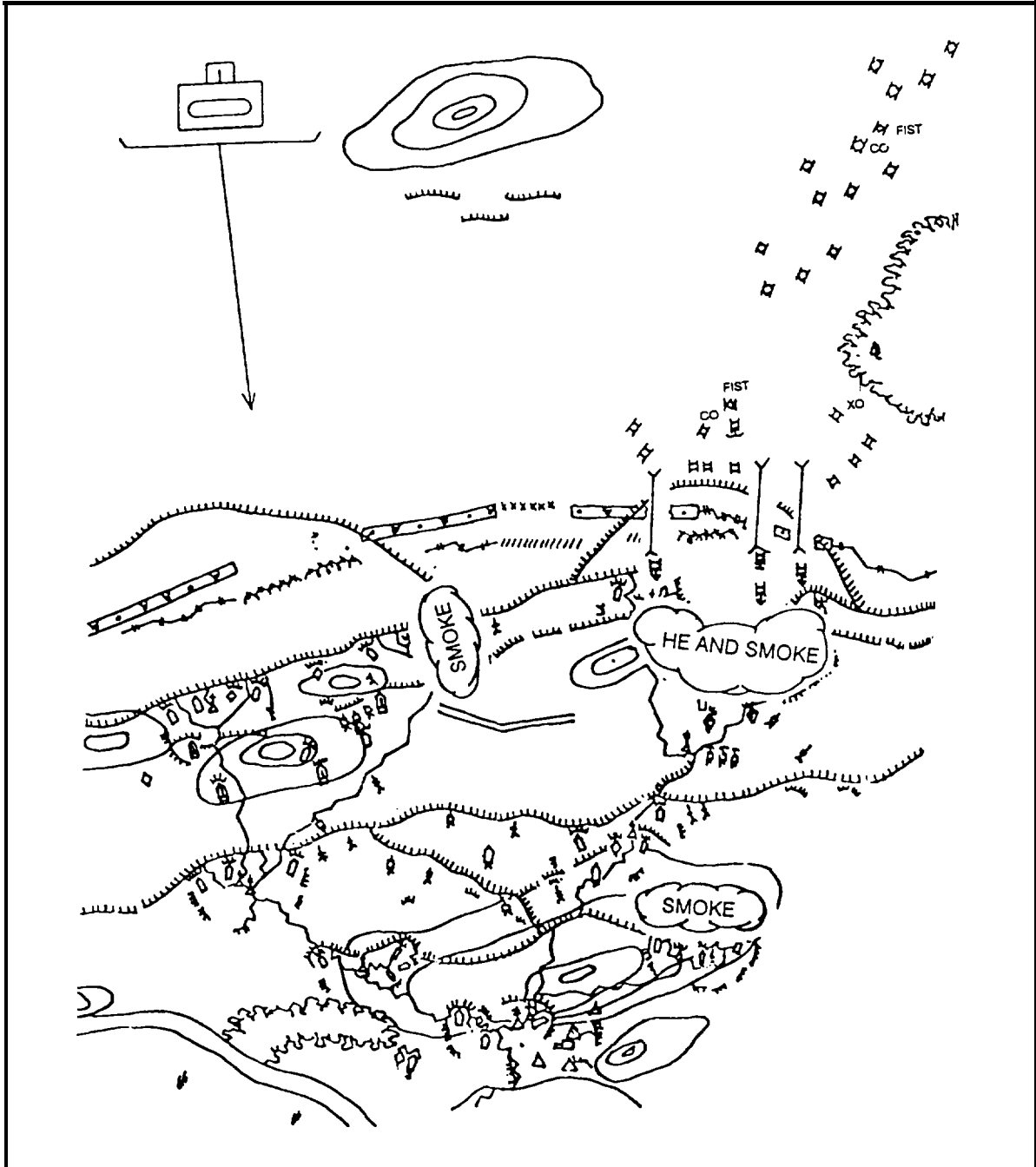


Figure 3-61. The penetration.

The breach team is organized into a breach element and a support element. The breach element has ACEs with MICLICs, AVLBs, CEVs and a tank platoon in which all plows and minerollers are consolidated. The maximum cross-country speed of a tank equipped with a roller is 5 to 10 kph, and the commander must take this into account when planning the breach. This is important when considering the amount of exposure time in the enemy EA. Tanks equipped with the mineplow can travel at normal speeds until the plow is lowered, then their speed is reduced to 15 kph.

The support element consists of the remaining two tank platoons which have the mission of protecting the breach element, with direct-fire support as lanes are created in the enemy protective minefields. The commander remembers to continue to integrate the combat support arms in the execution of the breach. Smoke on the obstacle and suppression of likely enemy locations is maintained. Air defense assets will also be positioned on the far side of the obstacle after the breach.

The breach element moves forward to the minefield, with minerollers leading to identify the leading edge of the minefield. ACEs with MICLICs will follow the rollers and, once the edge is identified, will move forward and fire their MICLIC to create a lane. Mineplows will then proof the lanes created by the MICLIC. The plow tanks maintain dispersion so as not to become a lucrative target, yet close enough that they can support one another with direct fire. The remaining tank platoons will provide close-in direct-fire support, suppressing enemy elements attempting to defeat the breach.

Other assets follow to support the breach. For example, if one mineroller is destroyed, a mineplow moves forward and completes the breach. In this manner, two lanes are created in the enemy protective minefield, allowing the support teams and follow-on forces to move with little degradation of movement.

At this point, the breach commander is the commander closest to the enemy. His reports are vital to the TF. He and his FIST are in the best position to call and adjust suppressive fires on the objective. He should provide the TF commander with as much information about positions as the situation will allow,

The assault (see Figure 3-62). The breach team will continue to penetrate enemy defenses. The plow tanks will lead, eliminating wire obstacles and suppressing the enemy trench line, while the support tanks move on line. When a plow tank leads through wire obstacles, however, there is a chance that the plow's wiring harness will be damaged. The assault team (Bradley company) will follow closely behind the tanks to contribute suppression and protect the tanks from dismounted infantry.

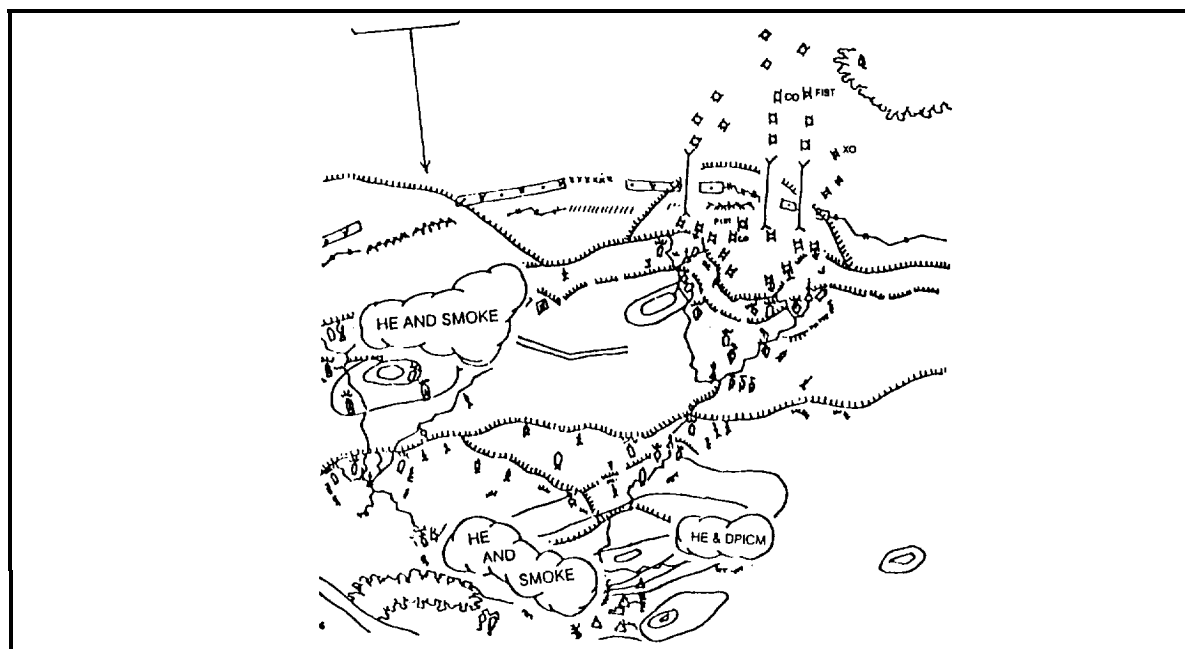


Figure 3-62. The assault.

Indirect fires should be lifted at the last possible moment so the enemy will not have time to recover from the effects of the suppressive artillery and mortar fire. Ideally, a continuous rate of effective fire should be placed on the enemy so he is unable to respond to the assault. Once indirect fire is shifted it is used to suppress those enemy positions that are of the greatest threat to the attack. Smoke will continue to isolate the position from enemy observation.

Once the assault team has joined the breach team on the objective, the Bradleys will move on line with the tanks and suppress the trench line. The tanks will also continue to suppress the trench line, while others search for AT systems, such as tanks, BMPs, BTRs, and ATGMs. The vehicles will stop as close to the trench line as possible without forfeiting the effectiveness of their weapon systems in suppressing the trench line; that is about 15 meters for the Bradley and 10 meters for a tank. The Bradleys should attempt to identify and destroy the prepared enemy firing positions (see Figure 3-63).

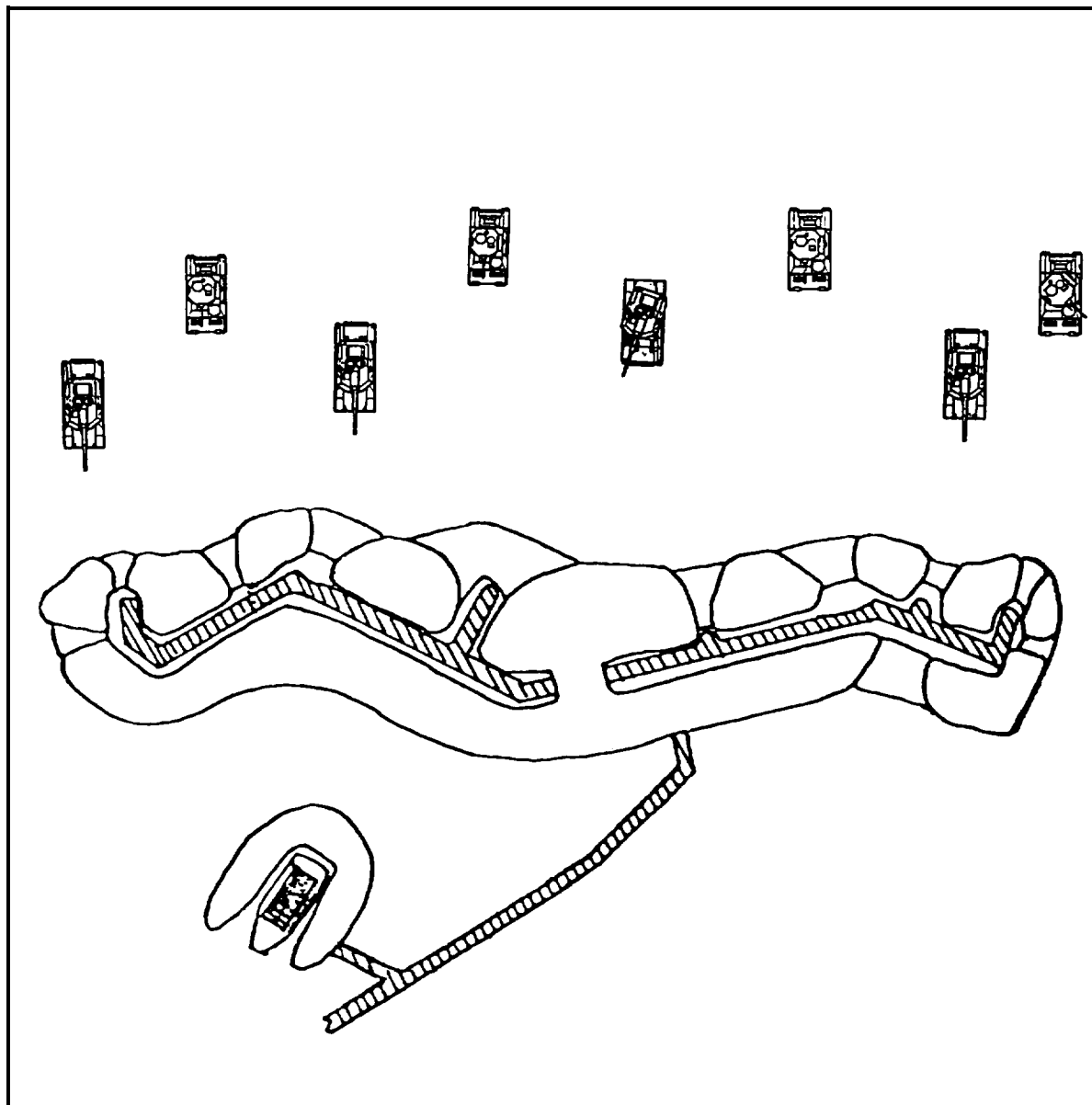


Figure 3-63. Approaching the obstacle.

At this point, the platoon leader or company commander will give the command to drop romps and begin the assault. The infantry will dismount ensuring that the three-man assault teams are the first to leave the track. It is highly probable that the assault team will begin to receive enemy artillery once on the objective; therefore, it is important that the infantry get into the trenches as quickly as possible (see Figure 3-64).

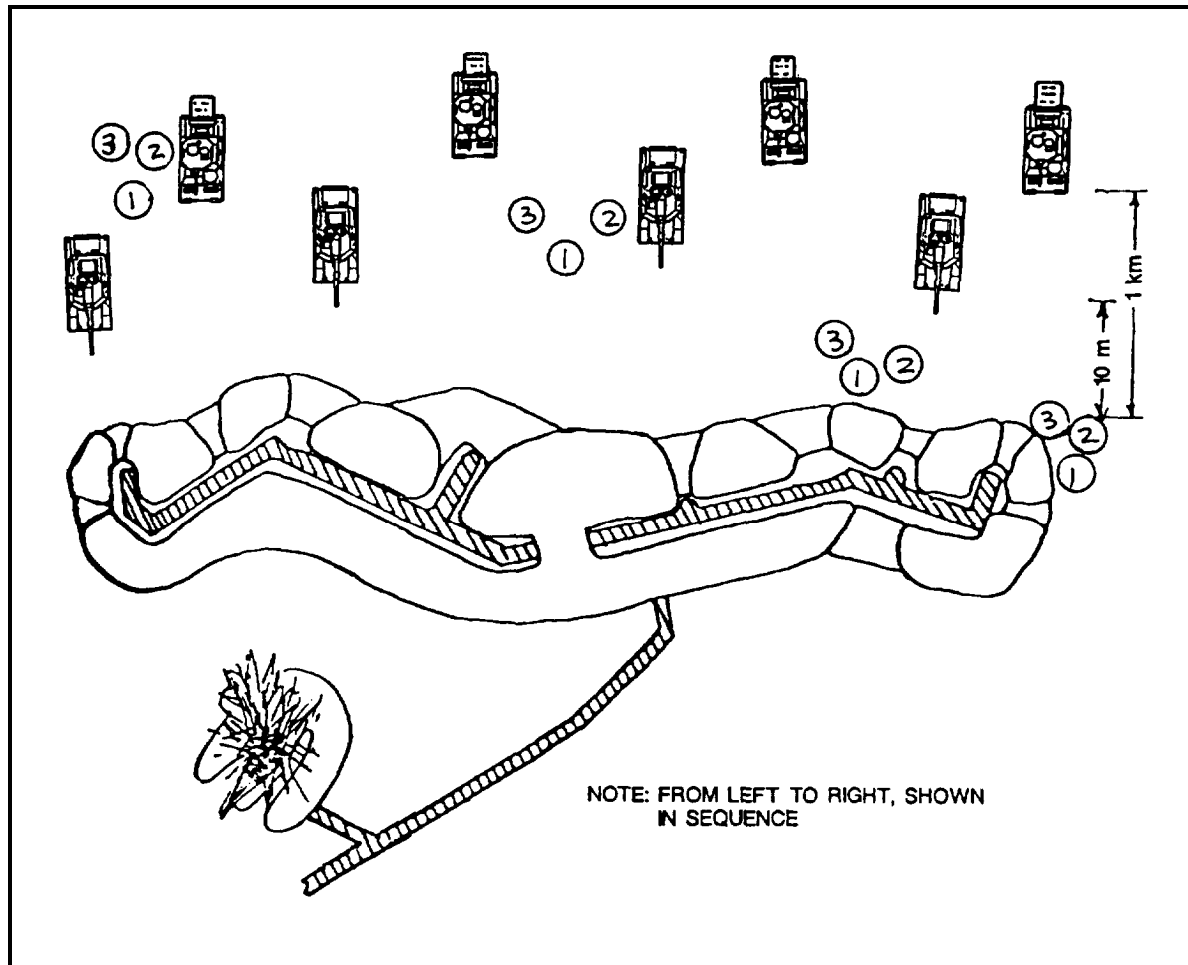


Figure 3-64. Beginning the assault.

Fighting through.

The aboveground battle. Once the tanks have penetrated the enemy defensive position and the infantry has entered the trench line, the tanks will move forward to destroy AT systems. Target priority outside of immediate threat should be: tanks, IFVs to include mobile AT systems, other heavy weapon systems, bunkers, and man portable AT systems. Some tanks may be used to support the infantry, but only when the infantry cannot destroy the target.

The primary concern of the tank company commander fighting the aboveground battle is fire from adjacent and depth positions and the imminent counterattack. Therefore he must destroy lethal targets on the position as quickly as possible while tasking a platoon or two to orient on those known or suspected positions from which fire can be brought to bear against the attack (see Figure 3-65). Ultimately, the position must be secured and the tanks positioned to cover the enemy counterattack avenues of approach (see Figure 3-66). This may include both mounted and dismounted avenues of approach until the infantry have completed clearing the trench line and can prepare defensive positions oriented on the dismounted avenue of approach.

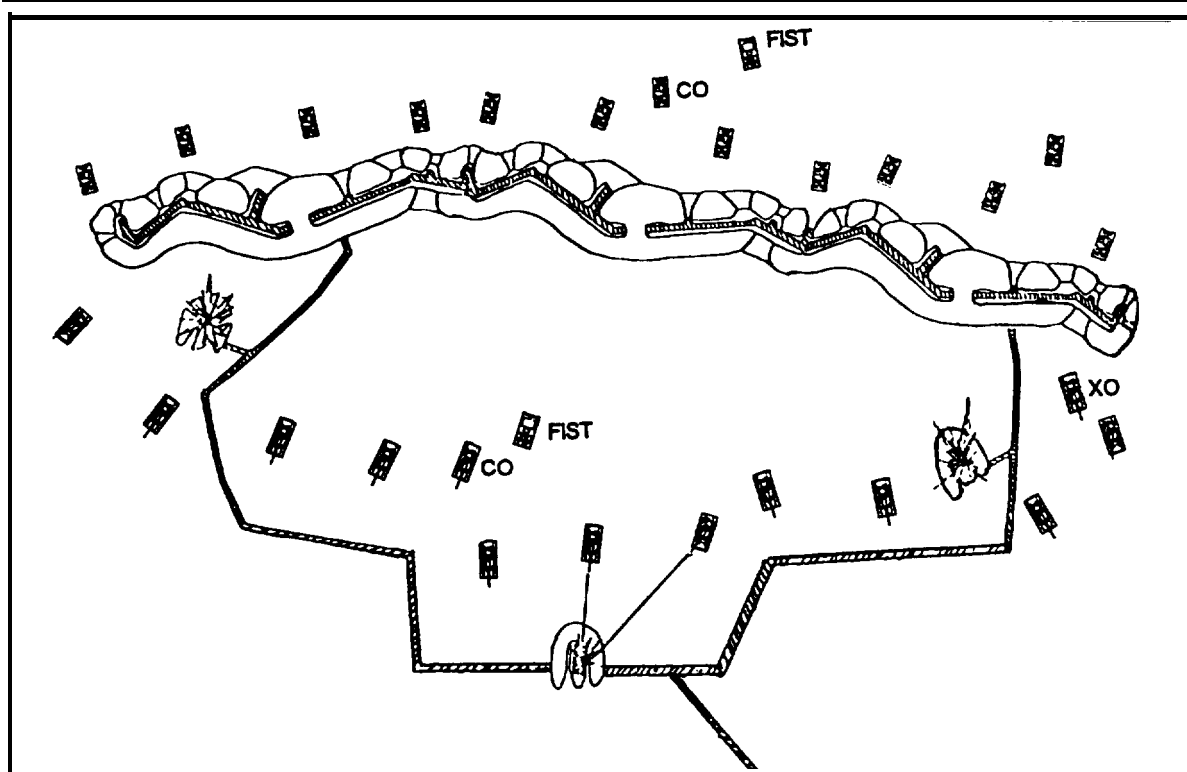


Figure 3-65. Fighting through an obstacle.

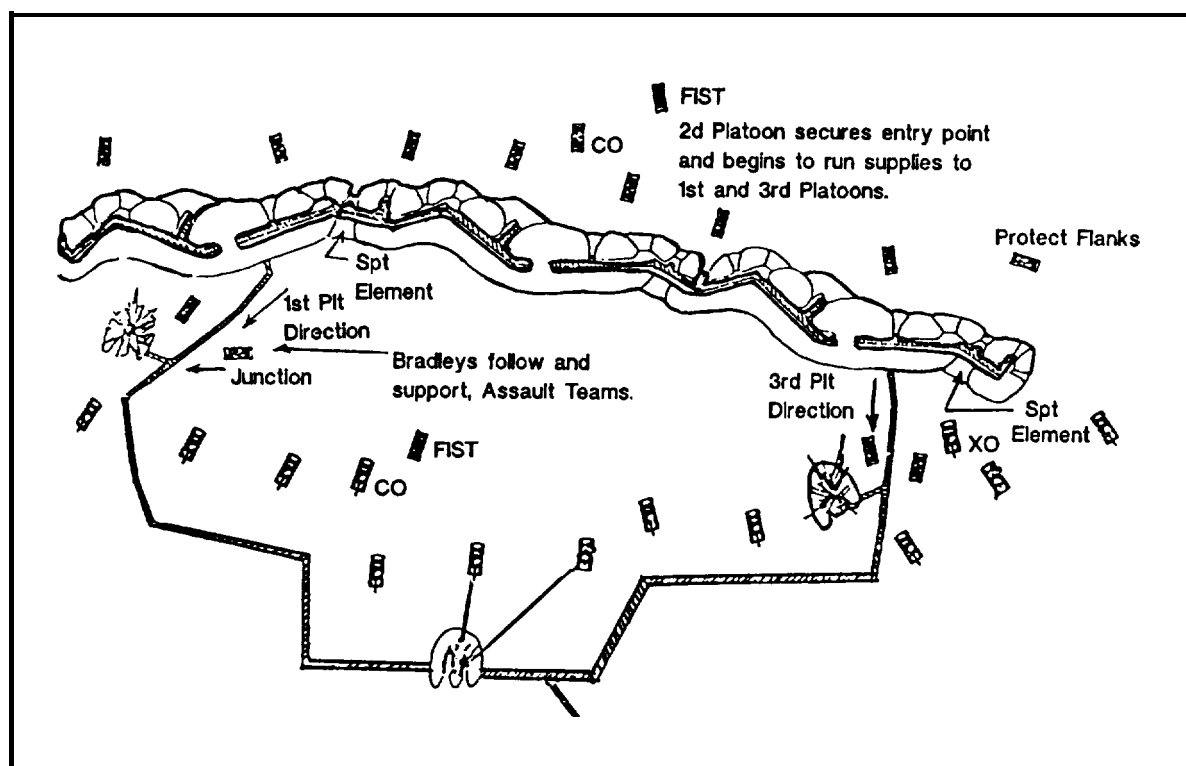


Figure 3-66. Securing the obstacle.

The belowground battle. To ease control of the operation, the company commander will normally designate a single entry point from which to operate. Assault teams will clear the trench line in a methodical manner, for example, envelop the enemy and work in, move straight to the enemy CP and work out, or move from front to rear. The actual conduct will be determined by the intelligence received from the S2. The company commander will monitor the progress of the belowground battle as assault teams mark their positions periodically.

IFVs will accompany the assault teams providing suppression when appropriate. The remaining IFVs will help the tanks fight the aboveground battle by suppressing adjoining enemy positions and using the TOW launcher to defeat enemy mounted counterattack.

Uncommitted elements. Uncommitted platoons form supply lines and continue to feed ammunition and replacement personnel forward along cleared sections of the trench line. As they work their way forward, following platoons can replace assault platoon members at securing sites, junctions, and bunkers, allowing them to rejoin their forward assault teams. The company commander may also commit the follow-on platoon to a bypassed trench line should the situation warrant.

Consolidation. Consolidation is conducted as the fight through is still in progress. If the aboveground or belowground battle is over, the infantry or tanks begin preparations to meet enemy counterattacks. When the threat from within the position is eliminated, a hasty defense is achieved and the attacking force is ready to receive a new task when consolidation is complete. The best task to give an attacking force is to assist in the forward passage of follow-on elements. The infantry will either stay in the captured enemy trenches or mount up to move to the next defendable terrain. They must be protected from the enemy artillery fire that would follow the attack. Digging new positions forward of the old enemy position is not a viable option given the threat of indirect fire.

Fire Support

The goal of the commander is to lift the suppression from the objective at the last possible moment, which allows the tanks to arrive on the enemy, without a break between indirect- and direct-fire suppression. The isolation of the objective prevents the assault team from being engaged from enemy in adjoining positions. Company team FISTs are responsible for adjusting this suppression. The support team is not in the best position to adjust artillery accurately in depth.

Mortars stay forward, prepared to fire smoke missions throughout the operation. Once the objective is secure, the mortars should move quickly to position themselves in support of the hasty defense.

Mobility, Countermobility, and Survivability

The engineers are prepared to conduct deliberate and hasty breaches in the operation. Once on the objective, hasty protective minefields are emplaced. Lanes through obstacles are widened and more permanently marked so follow-and-support forces can reduce the obstacle.

Air Defense

Once the objective is secured, ADA assets will position themselves to orient on the most dangerous air avenues of approach. Despite the enemy's possible inability to counterattack with ground forces, the enemy's air threat may still be a viable alternative.

Combat Service Support

The combat trains' CP monitors the battle, anticipating support requirements and adjusting the CSS plan. LOGPACs are prepared to conduct immediate resupply of the maneuver elements. Vehicles, lightly wounded personnel returned to duty, or replacements accompany the LOGPACs to the units.

Command and Control

The C2 problems associated with coordinating the aboveground and belowground battles are such that they are fought by pure units. The commander positions himself in the best position to observe the battle, commit the reserves, and react to events. That means he will be aboveground, where he can provide direction

to company commanders. He remains detached from actual fighting so that he can assess the situation and act accordingly. It is easy to become fixated on the action in the objective, but the commander must be thinking about the next action, whether it be a hasty defense or exploitation.

Follow and Support

Follow-and-support forces are employed in exploitation and pursuit operations to maintain the momentum of the attack. They are also used in a penetration. A force with a follow-and-support mission is a committed unit.

Planning

Intelligence

When given a follow-and-support mission, the S2 undergoes the same IPB process as the lead TF S2. The follow-and-support force may have to take over the mission of the lead battalion, and there will not be time to conduct staff planning. In addition to IPB, the S2 of the follow-and-support force must monitor the activities of the lead battalion as it conducts its mission.

Maneuver

The tasks given to the follow-and-support force are unknown until the situation is developed. The TF can expect to destroy pockets of resistance that were bypassed by the lead battalion. Additional tasks, such as secure flanks of a penetration, will arise as the consequences of the overall operation. As a result, the commander must maintain flexibility. The formation selected is similar to a movement to contact. Modifications are made based on the enemy situation or tasks required of the follow-and-support force. For example, if it is a requirement to secure LOCs, the TF may have to travel on multiple axes. Other missions, such as secure key terrain or protect key installations, have the potential to fragment the TF, a balance must be struck between maneuver tasks and the capability to support stationary tasks. Keep in mind that the lead TF may be separating from the follow-and-support force, which makes the brigade vulnerable to enemy counterattack.

Fire Support

FS planning is conducted the same as for the offense. The lead battalion has priority of fires in the brigade. When destruction of a bypassed enemy position is required, the mortar platoon is in the best position to respond. They should travel behind the lead company.

Mobility, Countermobility, and Survivability

Engineer planning for the TF follow and support mission is oriented toward every type mission except survivability. The engineers conduct road maintenance and obstacle reduction, and emplace obstacles along threatening flank avenues of approach. A different engineer unit will conduct each of these missions, but will report the status of each operation to the TF engineer representative.

Air Defense

Air defense assets will usually be task organized to provide support to specific maneuver elements (for example, the Vulcan platoon will move with and protect the TF main CP). Priority of protection, warning status, and weapons control status are issued. ADA assets must also be prepared to protect point targets. Choke points along the LOCs, key terrain features, and installations require ADA support.

Combat Service Support

The S4 must pay special attention to the location, duration, and nature of each task given to the TF. As the TF accomplishes each of these missions, support requirements change. EPWs, refugee control, and casualty collection management pose further problems to the S1. Throughout the entire operation, the CSS system must be prepared to assist the lead element with evacuation and transportation as available. CSS operations of the follow and support force must address the lead battalion requirements, internal TF requirements, and external requirements, such as refugees.

Command and Control

The greatest problem in a follow and support mission is balancing resources against tasks. The commander must obtain clear guidance from the brigade commander concerning the TF's responsibilities. He must ensure that the follow and support force maintains pace with the lead battalion and stays abreast of the situation. To accomplish this, he can collocate his TAC CP with the lead battalion's CP.

Preparation***Intelligence***

The S2 prepares by obtaining the latest enemy information from the battalion in contact and the brigade S2. All known positions are plotted, and likely positions are templated. Of concern is the enemy's will to fight. This will impact on the TF's ability to destroy or capture bypassed enemy elements. The S2 must coordinate with brigade S2 for interrogation support.

Maneuver

The TF commander will rank order his task list. Those tasks considered most important will be rehearsed, for example, the handover of fixed and bypassed enemy. The primary maneuver formation for the movement to contact will be rehearsed so each TF member understands his position and area of responsibility. Choke points or other areas that cause the TF to change formation are identified.

Fire Support

Preparation of the FS plan will be the same as for a movement to contact; however, the mortars will probably receive most of the missions because the DS artillery will be supporting the lead battalion. The mortars should travel behind the lead company team. They suppress the bypassed enemy and provide support to the assault team.

Mobility, Countermobility, and Survivability

Those engineer assets task-organized to a company team will conduct necessary rehearsals, such as hasty breaches. The TF engineer will coordinate with the S3 to ensure engineer operations are tracked throughout the depth of the axis. It is important that once an engineer element completes a task, it knows where to link up with a TF representative.

Air Defense

The preparation of the air defense plan will occur as it would for a movement to contact. Particular danger areas will be plotted and marked for temporary area coverage. Route security takes on importance as the TF travels deeper into the enemy rear area.

Combat Service Support

Stretched supply lines may present increased problems as support requirements increase. The battalion S4 must ensure that the main CP is periodically apprised of the support situation.

Command and Control

The commander establishes liaison with the lead battalion and effects exchange of information. The follow-and-support force will receive information regarding the enemy situation, and the lead battalion will receive information concerning the follow-and-support force capability to support the operation. An example of the types of information the follow-and-support force is likely to provide include the following: speed at which they will be able to travel, size and number of bypassed enemy elements they can destroy, length of the LOCs that can be secured, and ability to provide CSS assistance to the lead battalion.

Execution.***Intelligence***

The S2 monitors the OI net of the lead battalion and the brigade. Attention is directed toward enemy elements being fixed and bypassed. The S2 will obtain as much information as possible about these elements

and ensure that it is relayed to the TF S3. The S2 will identify the enemy's exploitable weaknesses. He will also monitor the situation of each enemy element until the assault force reports that the enemy has been captured or destroyed.

In addition to bypassed enemy that the follow-and-support force faces, the S2 keeps abreast of the enemy situation before the lead battalion because the follow-and-support force may be called on to take the lead.

Maneuver

The tasks of the follow-and-support force will be on call, since this type of operation usually follows an exploitation or pursuit. The most likely task will be the destruction of bypassed enemy pockets of resistance. The following example demonstrates how the follow-and-support force accomplishes this task.

EXAMPLE: INITIAL FIXING AND BYPASSING BY LEAD ELEMENT

The lead battalion will identify a force that should be fixed, bypassed, and handed over to the follow-and-support force. Information about the enemy is reported by the fixing force to the lead battalion CP, from where it is relayed to the follow-and-support force S2 (see Figure 3-67).

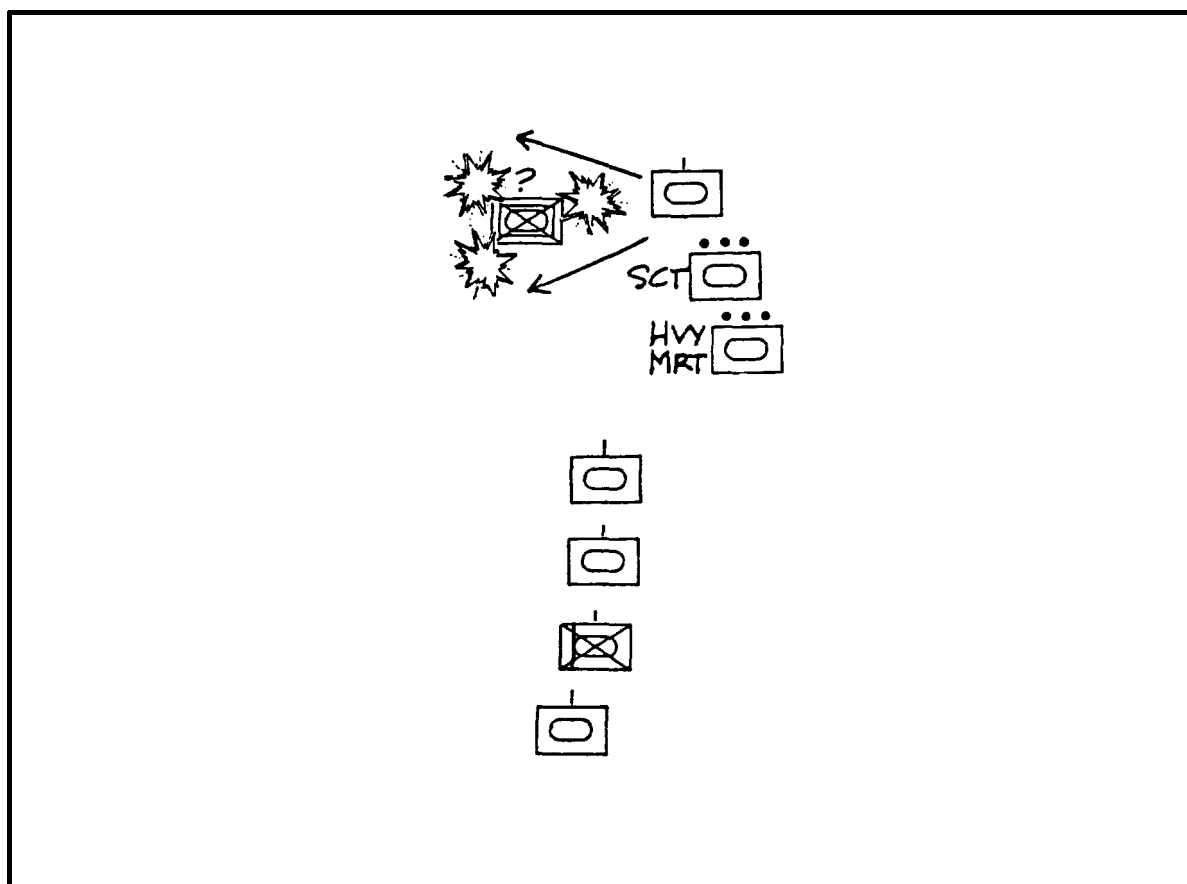


Figure 3-67. Handover of enemy to the follow-and-support force.

Once the enemy location is plotted, the commander issues a FRAGO to destroy the enemy position. The scout platoon will generally be the first to arrive at the position and receive information from the fixing force. Next the scout platoon will reconnoiter the position to ensure that the enemy does not have an escape route. In the meantime, the mortar platoon will register its tubes on the enemy location, in an effort to keep the enemy fixed.

In this example, the bypassed enemy was a depleted platoon; therefore, a company team was given the mission to destroy it (see Figure 3-68). As the company team arrives at the location, the company commander coordinates with the fixing force commander, scout platoon leader, and mortar platoon leader. Once all information is exchanged, the fixing force is released to rejoin its parent battalion. The company team commander then conducts an attack against the enemy position.

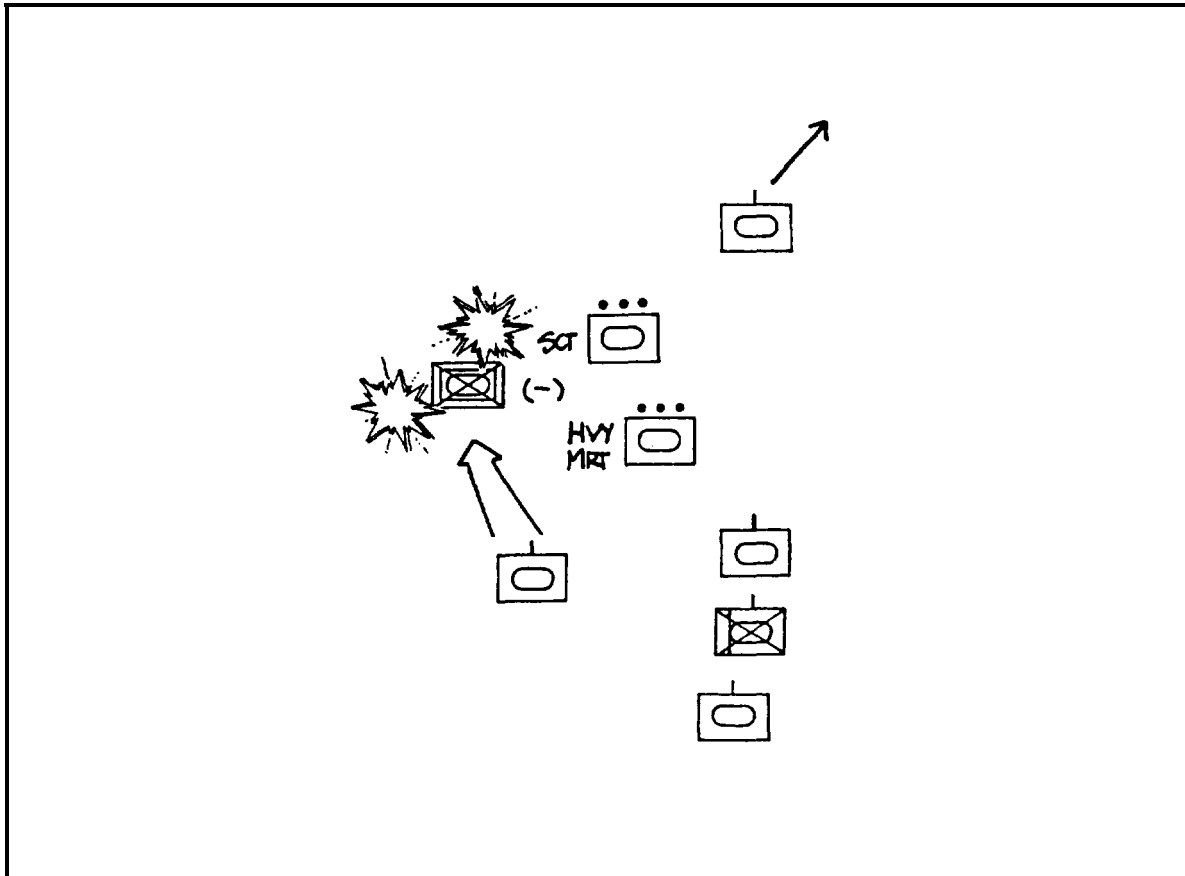


Figure 3-68. Destruction of the enemy position.

Fire Support

The FS plan will probably not be executed unless the follow-and-support element is given the mission to replace the lead battalion, so most fire missions will be on call. As in the previous example, the company team FSO will adjust indirect fires to suppress the enemy in support of the attack. Most likely, these will be exclusively mortar fire unless the size and disposition of the enemy requires otherwise.

Mobility, Countermobility, and Survivability

Engineer assets that are attached to the assault force must be prepared to conduct hasty breaches in support of the assault. The remaining engineer elements will improve the trafficability of the road network and reduce obstacles that have been breached by the lead forces. There probably will not be enough time for a 100 percent solution, or the engineers, the follow-and-support force, and the lead battalion could become separated.

Air Defense

Air defense assets will accompany the TF as they would in a movement to contact. In addition to providing point target protection as required, ADA assets must be prepared to provide protection to those maneuver elements conducting the assault against bypassed enemy forces. As the TF fragments to accomplish its

assigned tasks, the major concern of the air defense commander will be that the air defense umbrella will have to be large enough to protect the force while extending itself as the follow-and-support force maneuvers deeper into the enemy's rear area.

Combat Service Support

CSS operations will be executed as they would for any offensive operation, with the combat trains CP jumping periodically, aid stations moving in echelon, and LRP/UMCPs activated on order to support the TF's maneuver. EPW and refugee evacuation must be on routes separate from the MSR. Ambulance exchange points should be established to assist the lead battalion with its evacuation of wounded. Likewise, our own TF aid station may be able to assist in the treatment of some of the lead battalion's casualties. CSS assets must also be prepared to move laterally to perform other tasks within the TF area of operations.

Command and Control

Throughout the operation, the TF commander must monitor several operations simultaneously. He must be knowledgeable of the situation facing the lead battalion (he may want to locate with their CP), and he must ensure that his assets do not become parceled out to the point that the follow-and-support force loses its integrity. Generally, the TF CP will manage all of its given tasks, freeing the commander to concentrate on those tasks he feels are essential and to look toward future operations.

SECTION III. COMPANY TEAM OFFENSIVE OPERATIONS

Threat Defensive Doctrine

The mission of defending forces is to repel offensive operations launched by superior enemy forces, inflict significant losses on them, and hold specific points or areas on the ground. Once the attacker sustains significant losses in men and equipment, the defenders revert to the offensive.

Organization

Whether BMP- or BTR-equipped, the Soviet-style platoon will have three squad vehicles with the same individual weapons configuration (see Figure 3-69).

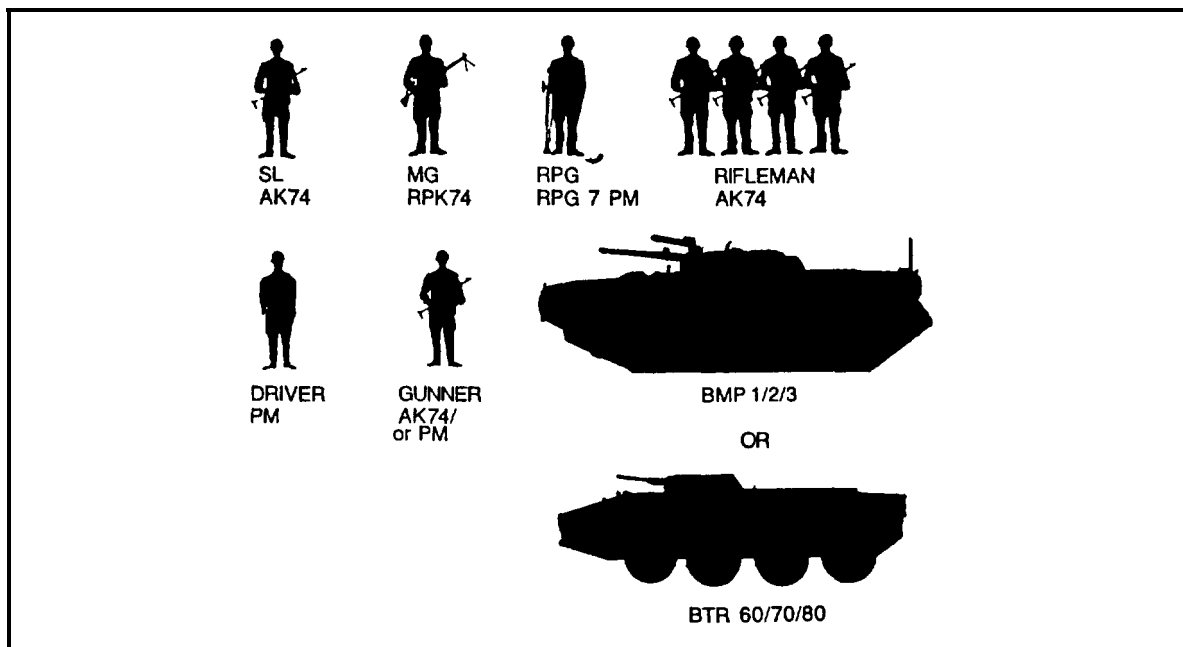


Figure 3-69. Motorized rifle squad (BMP- or BTR-equipped).

How the Threat Defends

Principles of the Defense

Success in defensive operations is predicated on two interdependent principles, which are stability and aggressiveness.

Stability. Stability in defensive operations is the ability to withstand enemy strikes using all types of weapons, repulse attacks by superior enemy forces, prevent the landing and operations of airborne/air assault forces, hold important areas, and eliminate enemy elements upon penetration.

Defending units are not authorized to abandon their positions and withdraw without orders from the senior commander. They must be prepared to operate when isolated, encircled, or cut off.

Aggressiveness. Aggressiveness is the ability to deliver continuous strikes with all resources against the attacker, imposing one's will on the enemy, creating conditions unfavorable to him, conducting maneuver, and counterattacking. This means that the defense is organized in enough depth to provide maximum fire-power and freedom of internal movement and maneuver.

Siting and Frontages

The following two factors predominate siting decisions:

- A defense is always prepared for operations in a nuclear environment. This means increased dispersal, perhaps with reduced mutual support, and a requirement for units to fight autonomously.
- Ground is of extreme importance, and every possible advantage must be squeezed out of it.

Siting factors.

Dispersion and depth. Ideal positions are dispersed so that a nuclear strike destroys only one platoon. A battalion will defend in two echelons, with a second echelon of one company. Companies and platoons are deployed in one echelon. On adverse terrain, such as plains and steppes, a battalion defends in one echelon. On terrain the attacker finds difficult, the defense is broadened frontally and reduced in depth. Gaps between companies increase, but gaps between platoons do not.

Deception. The location and size of the defense must be concealed. Methods include—

- Use of dummy positions.
- Use of alternate positions.
- Camouflage and communications security.
- Use of forward positions/battle outposts.
- Use of terrain, especially reverse slopes.
- Use of active reconnaissance and patrolling to deny the enemy the ability to reconnoiter the position.

Direct-fire planning. Positions are sited to use organic weapons at their maximum effective ranges. This suggests the use of forward slopes, commanding heights, and so forth. Soviet-style leaders recognize the dangers for doing so and state “the advantages and disadvantages of setting up defenses on commanding heights (forward slopes) must be evaluated in every case.” Reverse slopes will often be preferable since they facilitate surprise counterattacks.

Use of natural obstacles. The use of natural obstacles is stressed to slow the advance and canalize the enemy. It is common practice to choose lines of defense that lie behind water obstacles, swamps, ravines, various types of defiles, and other obstacles so that these obstacles are under constant observation and fire from the defending force.

Frontages. Guidelines for defensive frontages are just that—guidelines. The following measurements should be used as just planning guidance. In siting a defense, key factors which will increase or reduce these measurements include, in priority—

- Nature of the terrain.
- Time available to defenders to prepare positions.
- Estimated size, strength, and intentions of enemy forces.

Battalion Defense

A battalion defends in an area that is 3 to 5 kilometers wide and up to 3 kilometers deep. It is in two echelons. The interval between the two first-echelon companies and the depth company is approximately 500 meters. In Soviet-style doctrine a two-echelon battalion defense is preferable, but circumstances can dictate a single-echelon deployment.

Company defense. A company position is planned up to 1,500 meters wide and 1,000 meters deep. The interval between company positions is from 500 meters to 1,000 meters.

Platoon defense. A platoon position is 300 meters wide and 300 meters deep. Intervals between adjacent platoons can be up to 300 meters. The platoon defends in one echelon.

Section/squad defense. An MR section/MR squad defends as part of a platoon and occupies a frontage of up to 100 meters. If the section trenches are not interconnected, intervals between them are normally 50 meters but can extend up to 150 meters.

Calculating frontages. The Soviets treat frontage measurements as guidelines. Frontages and depths vary at all tactical levels. Terrain will dictate deployment in the defense. The lieutenant knows that a platoon in the defense is assigned a strongpoint 400 meters wide and 300 meters deep. In sizing up the situation, he concludes that his platoon can defend a frontage of up to 500 meters. If the platoon leader ignores the advantages of terrain and restricts himself to textbook dimensions, he wastes time and effort in defensive fortifications and winds up with less effective defensive fires.

Trench Works

Key to an undemanding of a Soviet-style defense is an appreciation of trench system designs. With the advent of IFVs, continuous trench lines are now only at platoon and company level.

Section trenches. The MR section/MR squad typically has a continuous trench line extending up to 100 meters along its front. Within this trench line, section members occupy a 30 meters' wide section of the trench. The remainder of the trench and the communications trench to the rear contain alternate firing positions and ammunition recesses. Soviet-style leaders believe that preparing and equipping the unoccupied areas of the trench allows the section to maneuver along the front and depth of the position (see Figure 3-70).

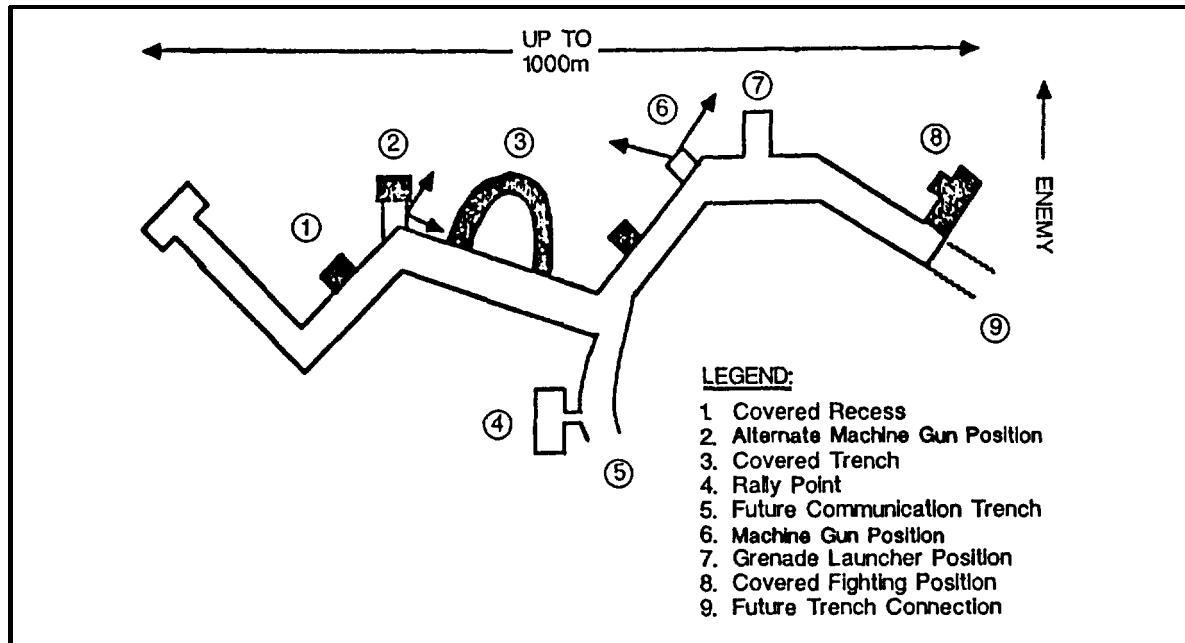


Figure 3-70. Section trenches.

The platoon trench system. Within the platoon position, the three section trenches may be connected or there may be gaps (usually of 50 meters, but up to 150 meters) between section trenches. In the depth and flanks of the position, fall-back positions will be prepared for the three sections and their vehicles. Each platoon position will have a communication trench 110 meters deep that extends from the main trench line rearward toward the platoon commander's COP (see Figure 3-71).

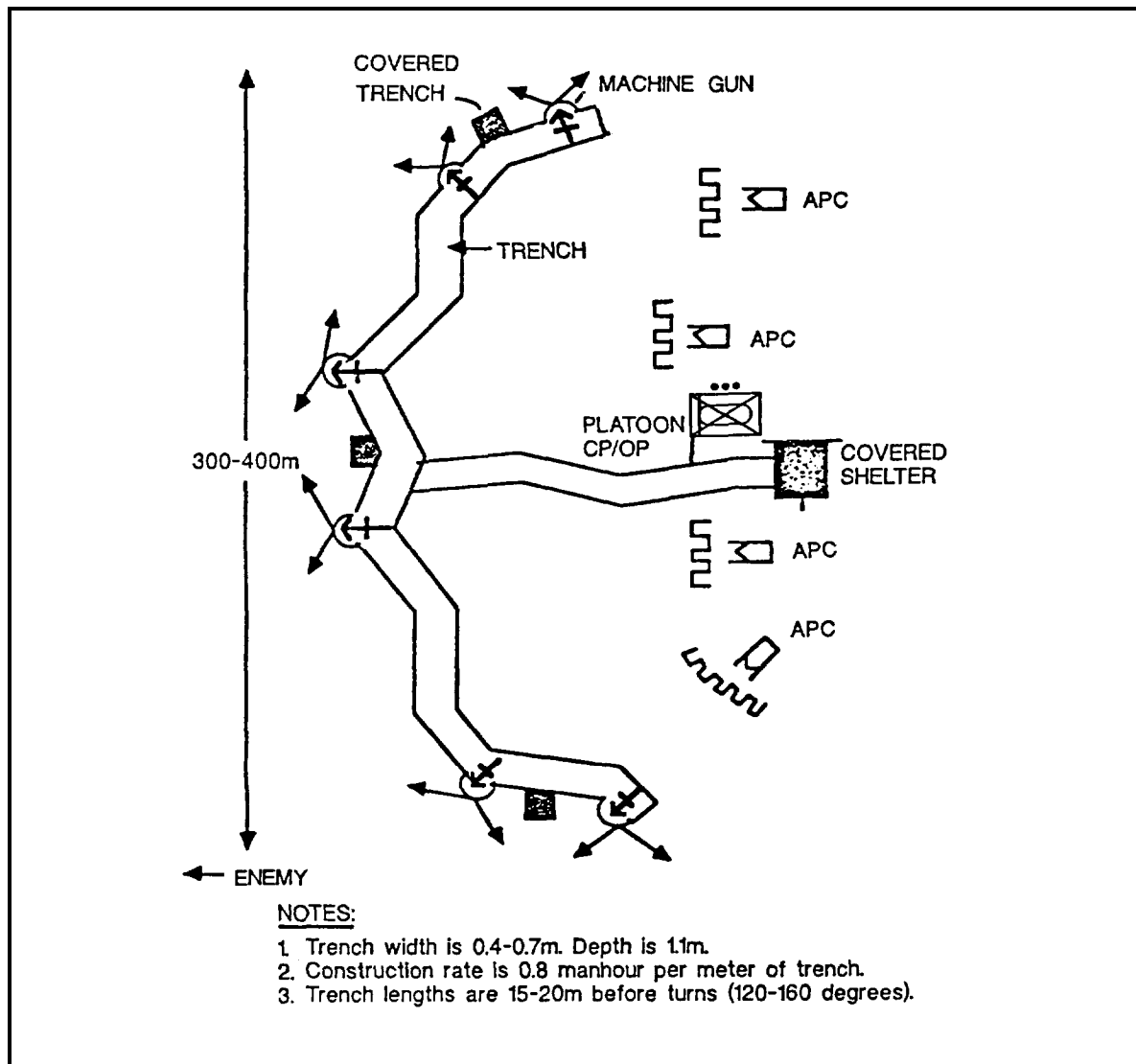


Figure 3-71. Platoon trench system.

Guidelines for positioning section/platoon defenses are addressed in the following paragraphs

The section occupies a frontage of 100 meters, and mans a 30-meter-wide section of trench. The BMP/BTR firing positions are set up inside, behind, or on the flank of the section trench. Alternate IFV fighting positions are set up. IFV positions are chosen on slopes, behind elevations, or behind cover so the enemy is continuously observed and engaged at maximum ranges. The section locates trenches for its IFV and weapons using existing terrain features, such as rivers, streams, ditches, buildings, and so forth. The section must be able to engage the enemy at maximum ranges without dead ground/concealed areas within 400 meters to 500 meters of the position.

The platoon strongpoint should be on advantageous terrain, built up using engineer assets and adapted for all-around defense. It must meet the following requirements:

- Personnel must be able to engage enemy forces frontally and on the flanks to the full effective range of the platoons weapons.
- Sections are sited to provide mutual support, flanking fires, and cross fires.
- The terrain must be exploited to the maximum extent to conduct AT, antiarmor, and antihelicopter fires.
- The position must be developed to the extent that personnel are protected against nuclear or incendiary (Napalm/FAE) attack.

Construction Sequence

Orders of work from shell scrape to full overhead cover have been established. The sequence for preparing the defense follows:

First order of work:

- Observation and firing sectors are cleared of debris/obscuration.
- Individual trenches or two-man trenches (foxholes) for crew-served weapons are dug (see Figure 3-71 for the section-level first order of work).
- COPs are prepared.
- Primary and secondary positions for IFVs are established.
- One open shelter is prepared for each platoon.
- Positions are camouflaged.

Second order of work (see Figure 3-72):

- Individual trenches are combined into section/squad trenches.
- Secondary positions are prepared for heavy/crew-served weapons.
- Communication trenches are dug to the primary fighting positions and to the shelters (dugouts).
- Cover is prepared for vehicles, ammunition, and supplies.
- One covered slit trench or dugout is prepared for each vehicle.

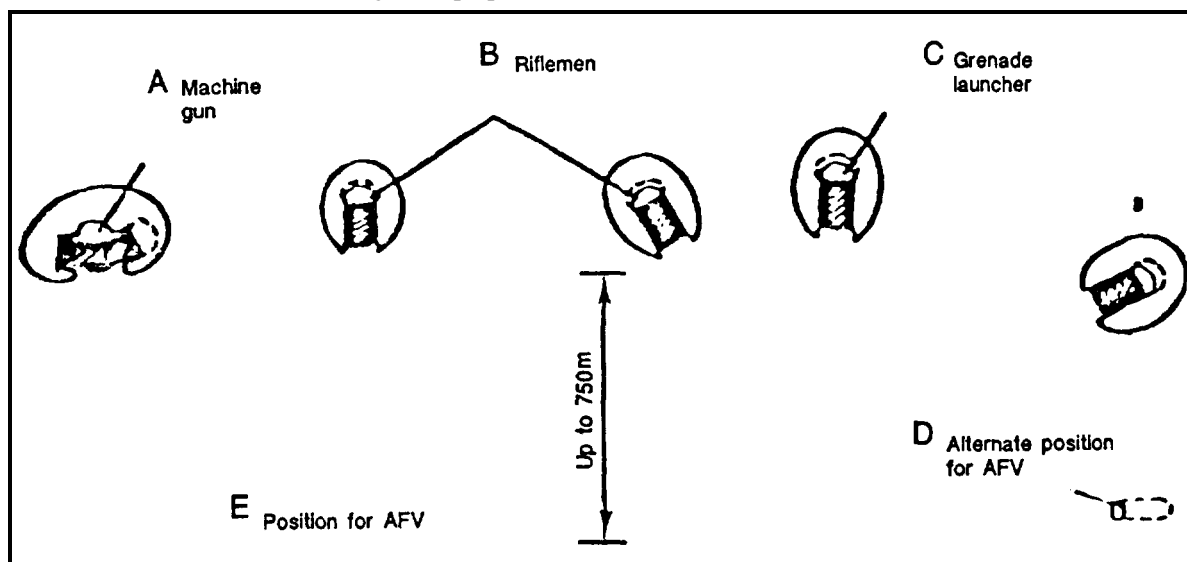


Figure 3-72. Second order of trench work.

Third order of work (see Figure 3-73):

- Section trenches are interconnected into a continuous platoon or company trench system.
- Communication trenches to the rear are dug, first to 0.6 meter deep, then 1.1 meters.

Ž Fighting and communications trenches are fully equipped. They have attached and individual foxholes, machine gun emplacements, recesses for ammunition, and some parts of the trench system are covered. Figure 3-74 shows a completed trench work.

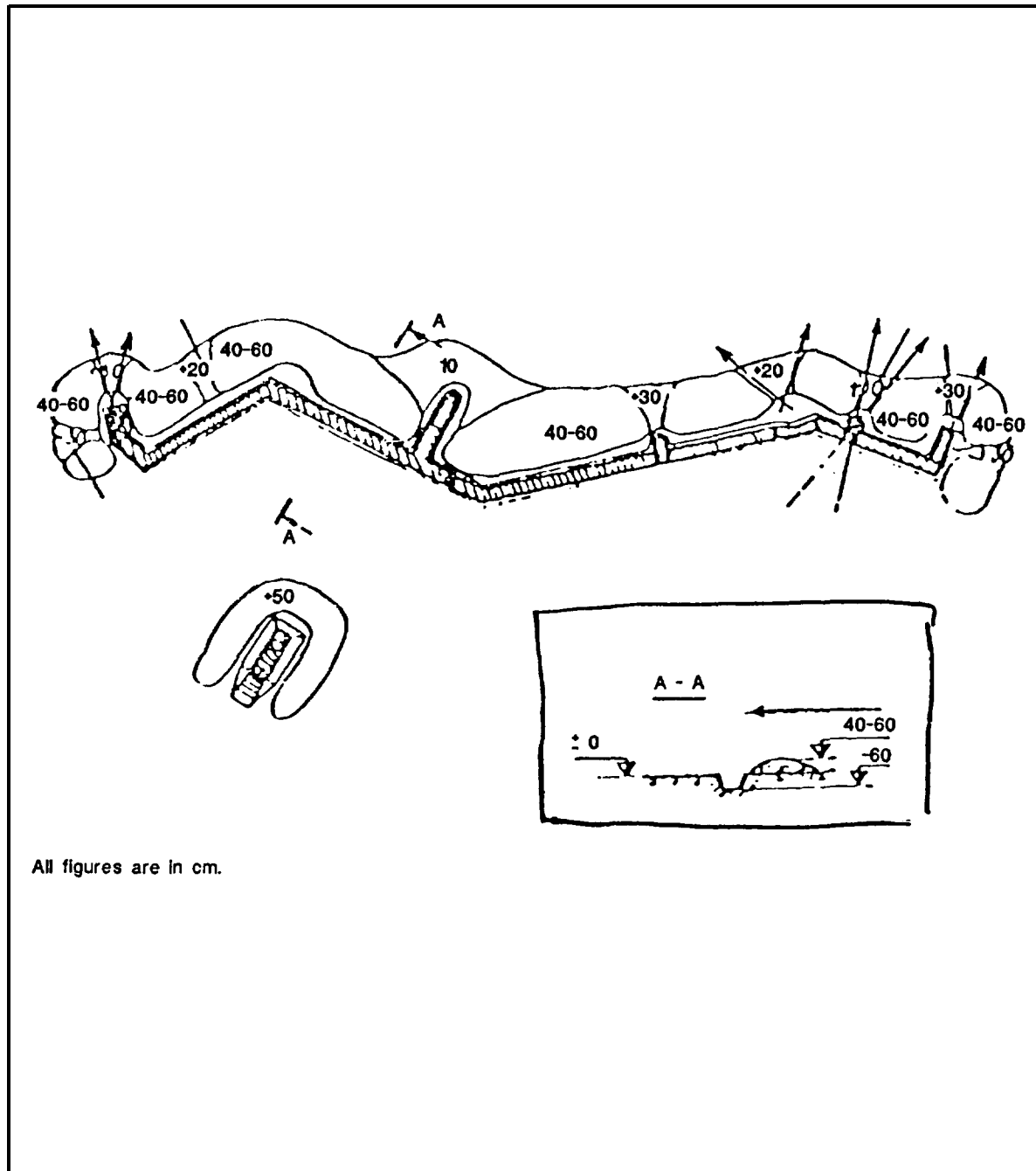


Figure 3-73. Third order of trench work.

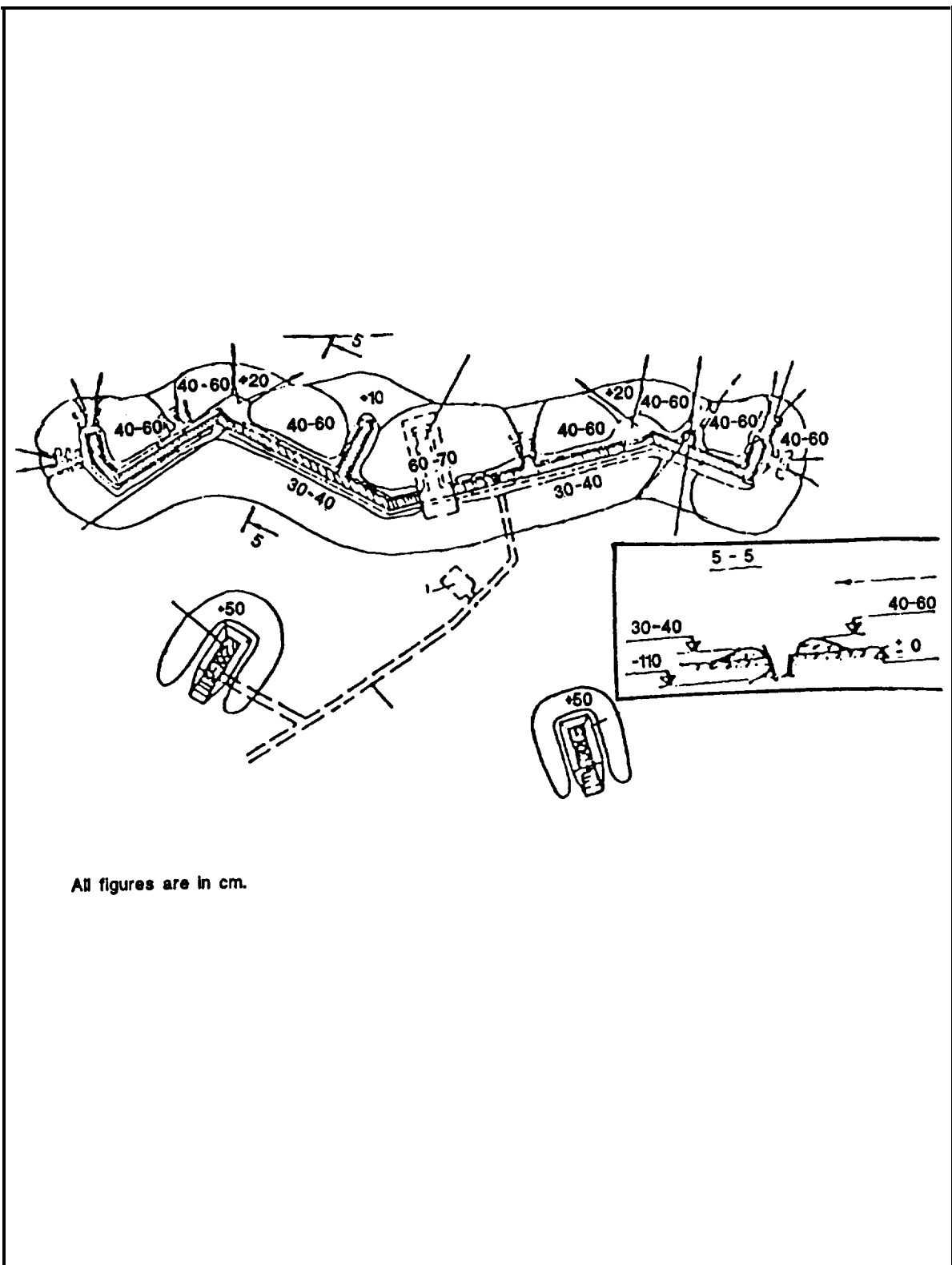


Figure 3-74. Completed trench work.

Platoon Positions

Fortified, reinforced MRP strongpoints. Construction requires 840 man-hours or 21 machine hours, excavation of 1,540 cubic meters of soil, 45 cubic meters of wood, and 135 kilograms of wire. Construction of revetments in the slopes requires 350 man-hours, 20 cubic meters of wood, and 120 kilograms of wire (see Figure 3-75).

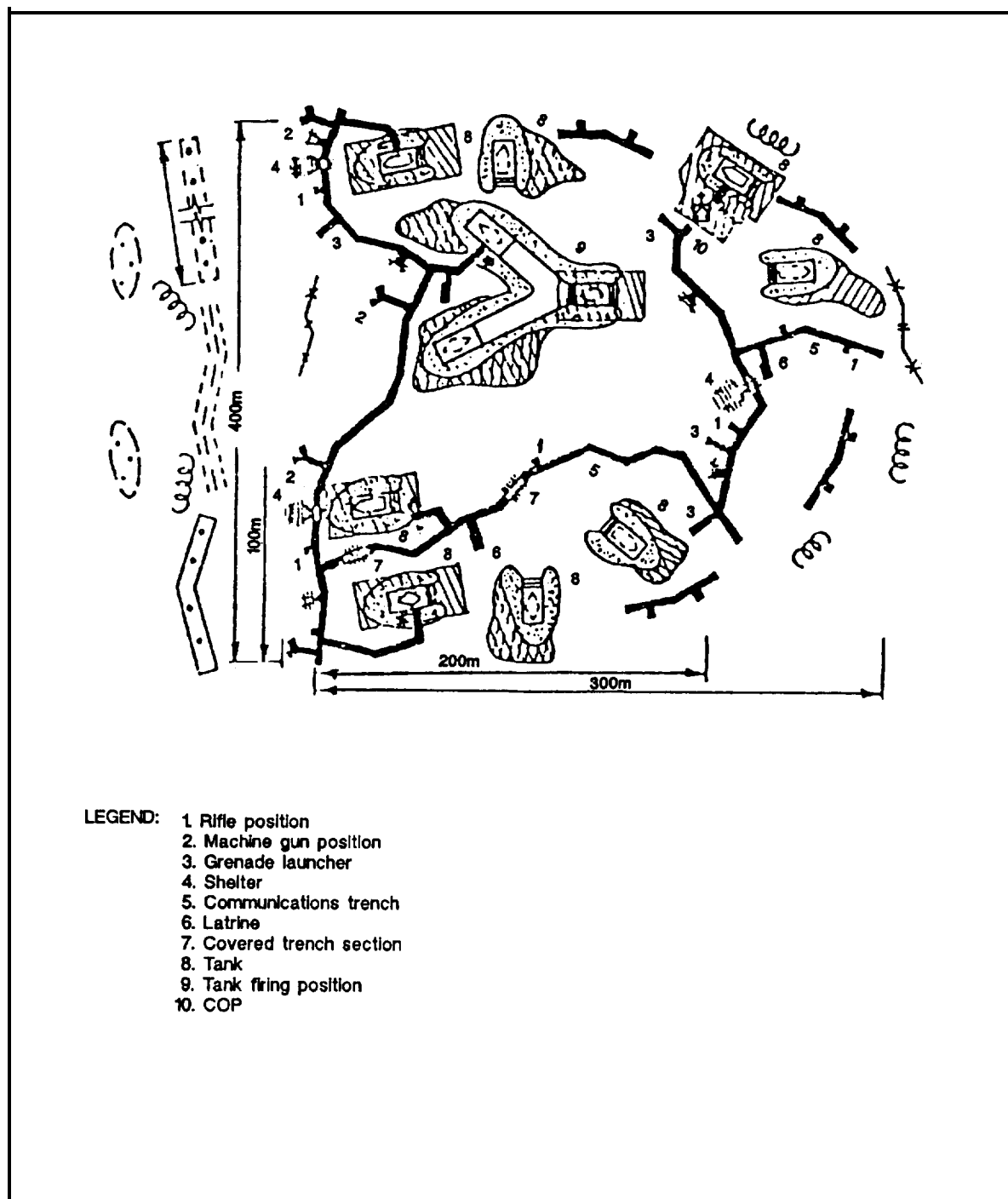


Figure 3-75. Fortified, reinforced platoon strongpoints.

Personnel shelters/dugouts (see Figure 3-76). These are constructed to protect personnel during enemy air or artillery attack. They are usually connected to a section fighting trench or to a communication trench.

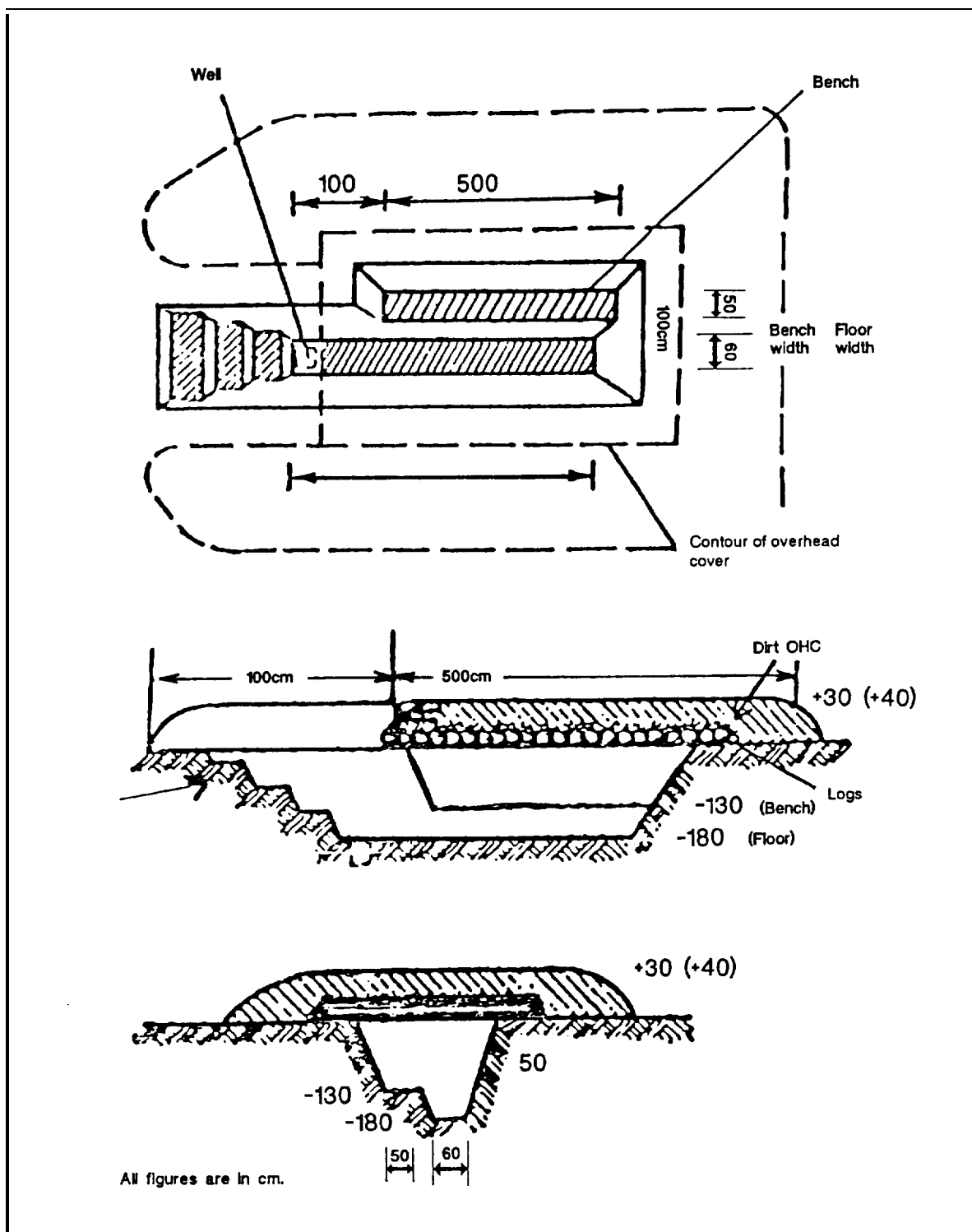
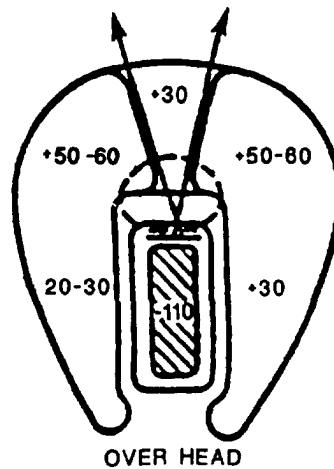
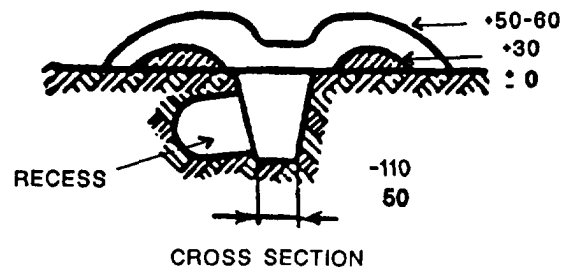


Figure 3-76. Personnel shelters/dugouts.

Individual rifleman trench (see Figure 3-77). Each MR section consists of nine men, two of which (the driver and gunner) remain with the IFV. Within the trench itself there are firing positions for the machine gunner, the grenadier and his assistant, and three or four riflemen.

Preparation requires removal of 2.4 cubic meters of soil, 8.5 man-hours using an infantry shovel, 6 man-hours using an engineer shovel, 0.4 cubic meter of logs, and 14.5 meters of barbed wire.



All figures in cm.

Figure 3-77. Individual rifleman trench.

Position for two riflemen (see Figure 3-78). Construction requires removal of 3.8 cubic meters of soil, 11 man-hours using an infantry shovel, 8 man-hours using an engineer shovel, 0.7 cubic meter of logs, and 14.5 meters of barbed wire.

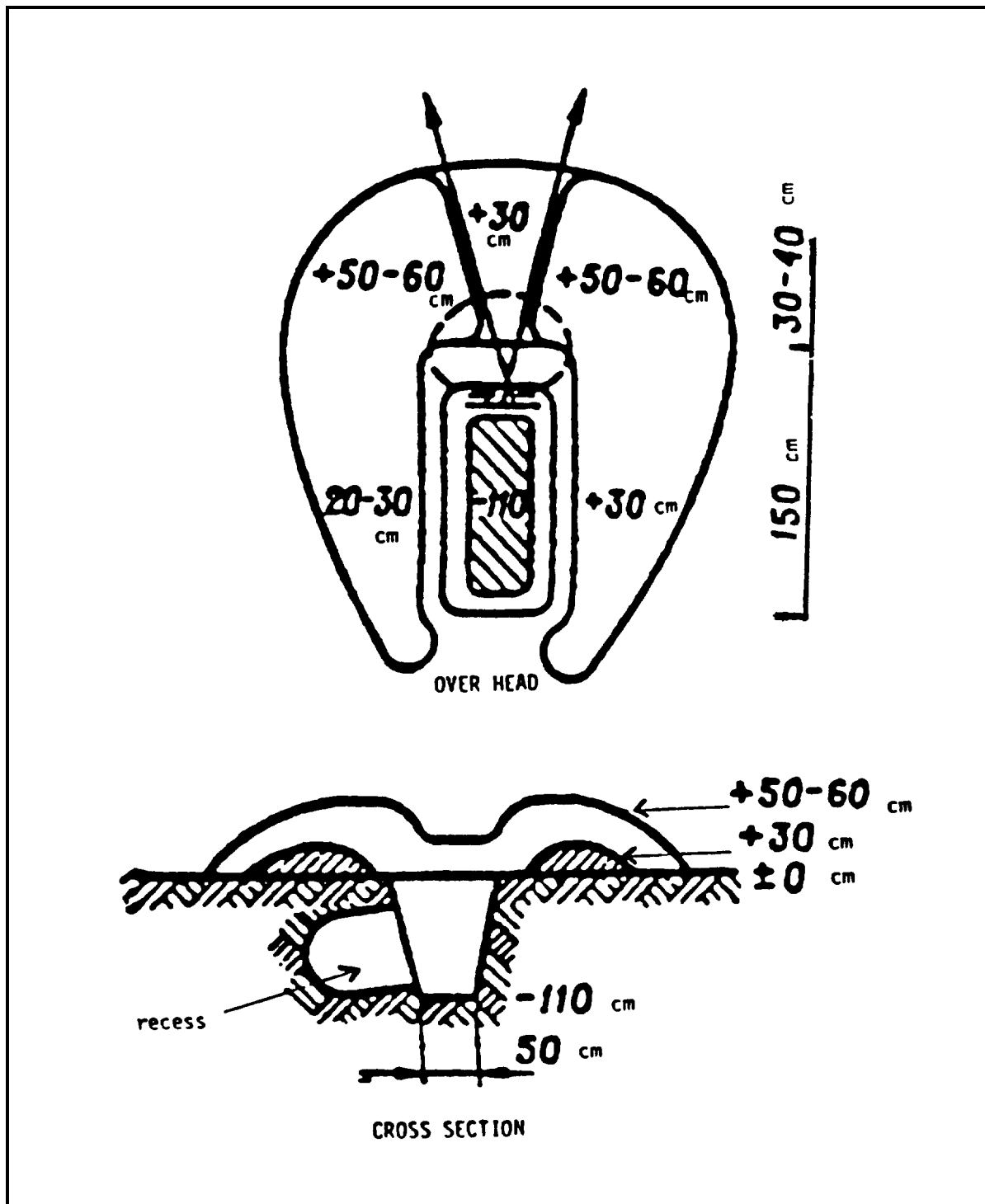
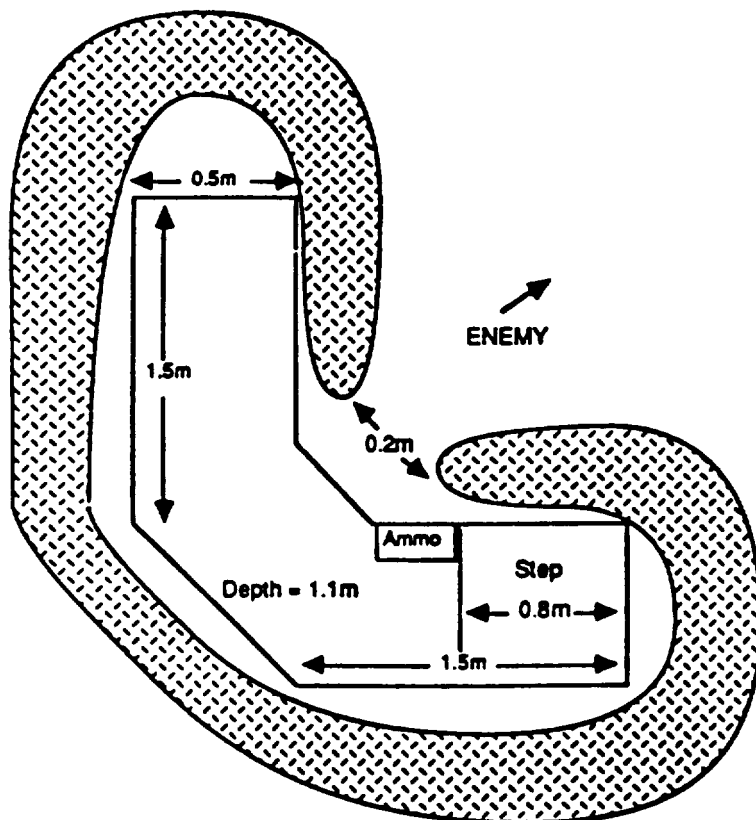


Figure 3-78. Position for two riflemen.

Machine gun position (see Figure 3-79). There is normally one machine gun position per section. Each position requires removal of 3.3 cubic meters of soil, 10 man-hours using an infantry shovel, 7 hours with an engineer shovel, 0.4 cubic meter of logs, and 14.5 meters of wire.



(TOP VIEW)

- NOTES:** 1. Rear berm is not present for antitank weapons.
2. Berm height is 50-60cm.

Figure 3-79. Machine gun position.

Grenade launcher position. (see Figure 3-80). This is usually a single, two-man grenade launcher position within a section trench.

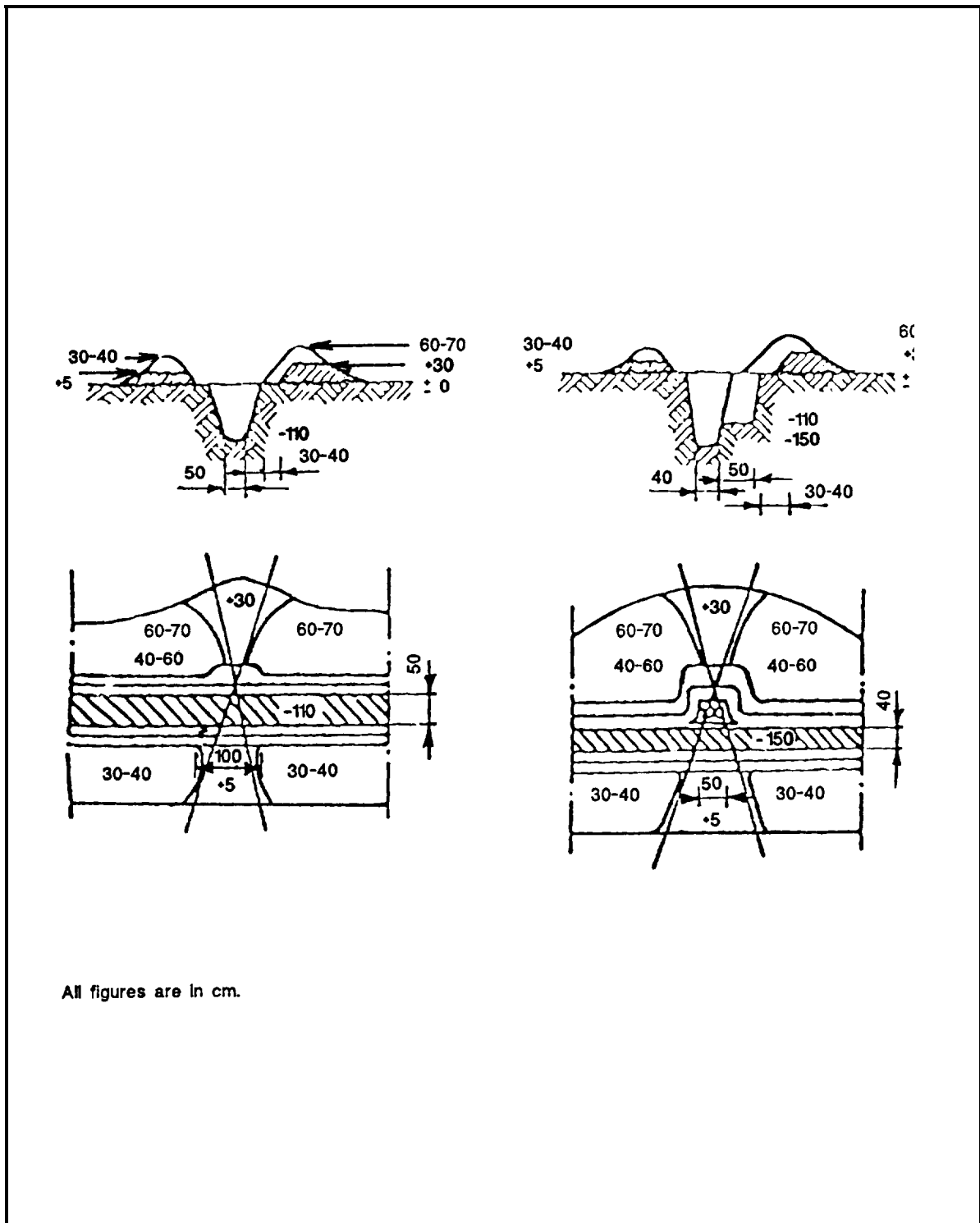


Figure 3-80. Grenade launcher position.

Uncovered platoon commander's observation post. (See Figure 3-81.) This position requires excavation of 4.6 cubic meters of soil, 7.5 man-hours using an infantry shovel, and 5 man-hours using an engineer shovel.

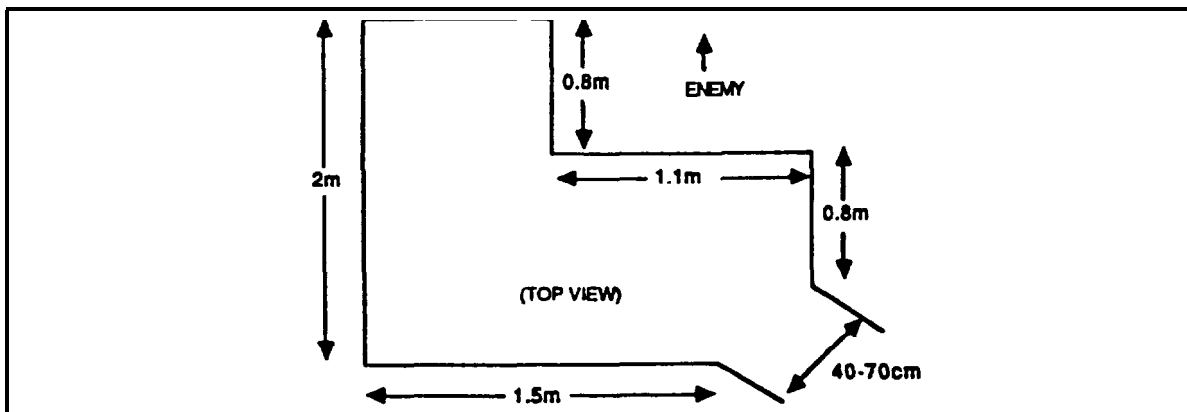


Figure 3-81. Platoon commander's observation post.

Infantry fighting vehicle trench (see Figure 3-82). The IFV is occupied by the driver and gunner and, on occasion, the section commander. The latter normally fights the battle from the center of his section's trench line. Construction of a trench without shelter requires removal of 48 meters of soil and expenditure of 65 man-hours using engineer shovels.

NOTE: For a BTR-60P, a revetment is not constricted in the firing sector.

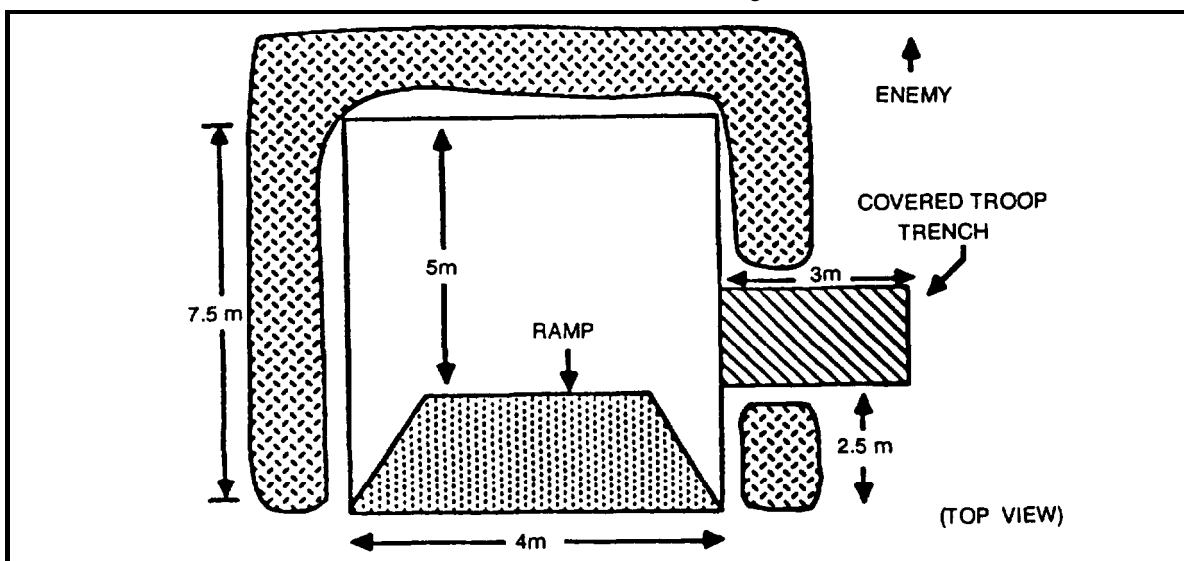


Figure 3-82. Infantry fighting vehicle trench.

Obstacle Plans

Protective minefields. Minefields are AP, AT, or mixed. They are laid mechanically or by hand, and are surface laid or buried. Within a defended area, they are marked (fenced). Outside the defended area they are not marked. A protective minefield is covered by direct fire, located near the fire sack and astride the most likely enemy avenue of approach. Minefields are used in conjunction with other obstacles to canalize the attacker into fire sacks. Size, density and characteristics of protective minefields vary according to—

- Time available.
- Equipment available.

- Estimates of the enemy, axis, and ground.
- Characteristics of available mines.

The length of a minefield varies. No standard template for a platoon defensive minefield can be produced. Figure 3-83 shows a sketch of an antitank minefield.

A formula is used to determine minefield size, density, and kill probabilities. Typical mine outlays per kilometer of front are—

- Antipersonnel. PMN, PMD-6 (HE), 2,000 to 3,000; OZM-4, POMZ-2M, 100 to 300.

Ž Antitank. Antitrack mines, 500 to 750; antihull mines, 300 to 400.

Mixed minefields are regarded as the primary type of obstacle in contemporary warfare. They are established in front of defended positions. Mixed minefields consist of TM-62 AT mines and PMN AP mines. The minefield has four rows of AT mines. Around each AT mine are clustered three AP mines. Other characteristics include the following:

- Ž Four straight parallel mine rows offset by one lateral pace (1 meter).
- Ž AT mines are buried and AP mines are camouflaged or buried.
- Distance between each AT mine in a row is 4 meters.
- Intervals between rows are 10 to 15 meters.

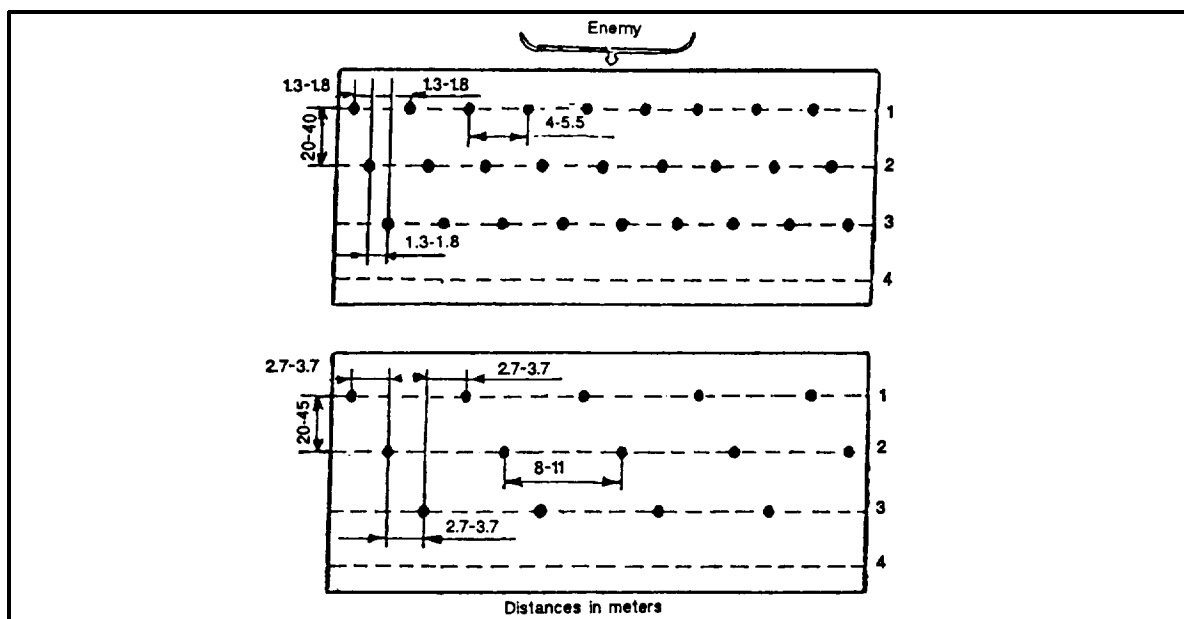


Figure 3-83. Sketch of antitank minefield.

Other obstacles. In addition to minefield, nonexplosive obstacles are used extensively. These include—

- Escarpments and counterscarps (15 to 45 degrees).
- Dragons teeth.
- Timber/ice barriers.
- Wire.
 - Wire entanglements with short or long pickets.
 - Wire fences.

- Trip-wire entanglements.
- Snares and barbed wire entanglements.

Nonexplosive AT personnel obstacles are used independently or in conjunction with minefields. For example, AT and AP mines are often set up on the approaches to AT ditches or dragons teeth to increase the difficulty of crossing.

Camouflage. Camouflage is designed to conceal the actual disposition, composition, and activity of platoons, fortifications, and obstacles from all types of enemy reconnaissance. The basic camouflage missions include—

Ž Concealing the position so it cannot be detected.

- Establishing dummy positions to lure the enemy into an attack, harmless to the defenders.

Ž Concealing signature of a target to misrepresent it or camouflage it under another objective that is not of value to the enemy. For example, conceal a PMP bridge across a river by siting it under a destroyed bridge.

The primary clues to the positions of trenches and fortifications are breastworks, fresh earth thrown around, the dark color of firing ports and entrances into fortifications, and paths connecting trenches to fortifications.

To conceal fighting and communications trenches in terrain with grassy cover, breastworks and rear parapets are turfed, the grass is scattered, and the ditch is covered with branches. Vertical trench camouflaging is set on the trench parapet. Loopholes and observation slits are also covered with vertical camouflage. Machine gun pits and foxholes are covered with camouflage set upon pickets or wire arches. In open terrain, trenches are hidden by covering them with camouflage and by digging dummy trenches.

COPs are set up in locations with natural camouflage. When they are positioned in open terrain, the observation top, the viewing slits, and the communications trench cul-de-sacs are camouflaged. Observation structures are camouflaged under terrain features. Radio antennas are painted protective colors, and cable lines are laid along existing lines and embankments conforming to the terrain pattern.

Camouflage sets are usually used to conceal tanks and self-propelled guns. When material is not available, tanks in cover are concealed with camouflage prepared by piling local materials onto a wire or pole frame. Emplacements for direct-fire weapons are concealed from enemy land observation with vertical and inclined camouflaging constructed from standard camouflage sets and local materials.

Minefields and wire obstacles are camouflaged by selecting locations by terrain characteristics. When a minefield is in a meadow, the turf over the hole is carefully cut and removed. After the mine has been placed, the turf is replaced and the grassy surface is restored. Packing, markers, and stakes are removed from the mined areas, and traces of the mining are concealed.

Roads and cross-country tracks in deployment and defensive areas are usually built behind natural concealment. Approaches to the firing positions and individual fortifications are concealed by piling up removable camouflage covering or putting up local materials.

To camouflage weapon systems, all weapons and fortifications for them conform to terrain that maximizes use of natural concealment. When weapon systems are deployed in open terrain, they are carefully concealed with standard camouflaging and local materials; secondary, temporary, and dummy firing positions are also set up.

The primary engineer measures in imitating platoon dispositions include preparing dummy deployment areas and dummy positions, and false vital activity. Dummy strongpoints, defensive areas and artillery firing positions, are built at the same time as actual positions. Dummy strongpoints are set up in elevated areas, on the outskirts of forests, and in other exposed sections of terrain. Entrenchments and other fortifications are built in dummy strongpoints and dummy artillery firing positions. Dugouts are prepared to protect personnel in the dummy command, and emplacements are prepared for their combat equipment.

It is extremely difficult to camouflage units, especially combat equipment, in open terrain. All local terrain features and relief folds of the background are used.

If the terrain is of one color and has no features, camouflaging is accomplished by artificially marking the terrain. Emplacements, dugouts, and other fortifications are built directly on these blemishes and are camouflaged under them. The breastworks are given altered shapes to distort the appearance of one type of fortification constructed at different points in the same position.

It is commonly believed that it is best to assign areas for deployment (concentration) in winter, in thick coniferous forests, or predominantly coniferous mixed forests. Small populated areas should also be occupied. Winter camouflage sets, various local materials, and especially snow are used for camouflage. White camouflage uniforms are often used by personnel.

Conduct of a Motorized Rifle Platoon Defense

After receiving the order to go into the defense under direct enemy pressure, the platoon commander gives his sections the mission of taking up positions. He organizes OPs and develops a fire plan with targets in front of the position, to the flanks, and in the rear. He also establishes priorities for engineer work. In the combat order, the platoon commander indicates—

- Section missions, their primary and secondary sectors of fire, firing positions for combat vehicles, and their primary and secondary sectors of fire.
- Areas where platoon fire is to be concentrated, which weapons will cover gaps between adjacent units and the flanks, and the sequence of occupying positions.
- The time for completing engineer work and camouflaging.

In addition, the platoon commander determines the sequence for destroying enemy infantry and tanks in front of the forward edge in the event the enemy breaks through, and on the flanks and rear. He establishes signals for target designation, coordinates actions with adjacent units employed in the area, and indicates the sequence for servicing vehicles.

The fire plan is based on the close mutual support of all weapon types combined with engineer barriers and natural obstacles. All obstacles and their approaches must be for flanking and crossing fires and all-around defense. The fire plan is ready when all weapons have occupied their positions, the ammunition is broken out, and data is prepared.

The platoon commander's COP is equipped as a strongpoint close to the commander's combat vehicle. He must be able to see the terrain in front of the forward edge of the defense, on the flanks, and across the whole platoon defensive position.

Attacks by combat helicopters and low-flying airplanes are repelled by concentrated platoon fire. When the enemy closes, he is hit by all platoon weapons at maximum rate of fire. The first destroyed are tanks and combat vehicles. The infantry is cut off from the tanks and destroyed by infantry weapons.

Tanks and combat vehicles that break into the platoon strongpoint are destroyed by AT weapons. Infantry are hit with grenades and destroyed by hand-to-hand combat. If the enemy bypasses the strongpoint, the platoon maintains an all-around defense and continues to hold the strongpoint. If the enemy attack is repulsed, the platoon commander concentrates fire on the enemy attacking adjacent units. For night battles the platoon commander organizes the preparation of weapons and devices for night firing, and stakes the primary direction of fire for AT weapons without nightsights.

Conduct of a Tank Platoon Defense

Organization

The tank platoon consists of three tanks.

The Tank Crew

The tank crew of a Soviet-style medium tank is normally three. The duties of the tank crew areas follows:

- The commander commands the tank. Company commanders and platoon leaders command their own tanks. TC responsibilities include maintenance, target acquisition, fire control, firing position selection, and resupply. The commander is the only crewman authorized to use the tank radio, except in emergencies when other crew members may operate it.
- The gunner is second in command. He is responsible for firing, servicing, and repairing the tank's main gun, and maintaining the tank's optical and gunnery instruments. He assists the driver-mechanic in technical inspection of the vehicle, and replaces the ammunition. The gunner assists in target acquisition, and selects the correct ammunition for each target. He fires the main gun and the coaxial machine gun.
- The driver-mechanic's duties include maintenance, repair, spare parts resupply, and inspection of the vehicle. In combat, the driver-mechanic is responsible for selecting a route which presents the gunner with good firing positions.
- The loader is responsible for the condition and storage of ammunition, and for maintenance of the machine guns. He helps the gunner prepare the main gun for combat, and aids the driver-mechanic in routine maintenance. He mans the antiaircraft machine gun if there is one mounted on the tank. In understrength units, there may be no loader in tanks other than those of the company and platoon commanders.

NOTE: Generally, any Soviet-made tank equipped with a 125-mm main gun will have a mechanical autoloader. These tanks include models T-64, T-72, and T-80.

Platoon Leaders

Platoon leaders are normally lieutenants, but may be praporshchiki or, rarely sergeants. The platoon leader has limited authority in company operations. His task is to lead his platoon in the company mission, not to translate his superior's orders. When attached to an MRB, platoon leaders may be allowed more flexibility in executing their mission.

Basic Load

Soviet-made tank models T-64, T-72, and T-80 carry a basic load of 40 rounds. Twenty-four of these are carried in the autoloader carousel. The basic load is about half AT (HVAP-T) and half HE and fragmentation rounds (FRAG-HE). The carousel will carry 6 SABOT, 12 FRAG-HE, and 6 HEAT. If the carousel is depleted during combat, the tank will have to withdraw from battle to reload. Tanks will also carry an emergency reserve, consisting of between 20 and 30 percent of the basic load of POL, rations, ammunition, and spare parts.

Maintenance and Recovery

Basic maintenance of tanks is carried out by tank crews supervised by the company technical officer and TCs. Identified faults are rectified on the spot. The low standard of training of the driver-mechanic and the lack of equipment preclude extensive repairs.

Damaged tanks are repaired on the spot or under cover by the battalion REG. The REG is formed by the battalion maintenance section with augmentation from regiment.

Tanks damaged beyond the capabilities of the REG are recovered and evacuated by regimental or division maintenance units. Crews remain with these tanks to help make repairs, and are lost to the company commander. Entire units are replaced rather than make individual or crew replacements.

Medical

First aid is administered by other members of the crew using the first aid pack in the tank. The battalion medical team that accompanies the REG removes serious casualties from tanks once they have been towed to cover. Serious casualties are collected and evacuated by regimental transport; there is no medical officer at battalion level.

The Defensive Battle

If the tank platoon is given a mission to support an MRC, it will be broken up, and individual tanks will each support a rifle platoon. The tank is positioned behind the squad trench lines, and its main gun fires are integrated into the platoon fire plan. The tank is used to kill tanks, then other armored vehicles. The TC is given an engagement line, identifiable by natural or man-made features. Only on order will he be permitted to reposition the tank to alternate or supplementary firing positions. If dug in, the tank will be linked to the platoon trench system, so resupply and evacuation may occur under cover.

If the tank platoon fights as an entity, it will likely be augmented with an infantry element to provide close-in support. The platoon leader begins by conducting a reconnaissance of the proposed BP then positioning his tanks to take advantage of both day and night fire, as well as camouflage. Once in position, each tank is assigned an orientation based on identifiable terrain. Alternate and supplementary positions are also selected by the TCs. Individual range cards are drawn by the TCs, then sent to the platoon commander for consolidation. OPs are established as appropriate. The platoon leader will ensure he achieves massed or overlapping fires along the most threatening enemy avenue of approach. He will designate a trigger line to optimize the target hit probability and achieve massed firepower. Movement to alternate positions during combat will be on order. Generally, movement to reserve positions are planned to draw the attacker deeper into the kill zone, present more obstacles in depth, and trick the enemy into attacking dummy positions.

Movement to Contact/Actions on Contact

Planning

Intelligence

Since the mission of a movement to contact is to gain and maintain contact with the enemy, the company team commander should take certain considerations into account during his estimate.

- Location of the best available routes.
- Location of key terrain that the enemy is likely to defend.
- Cross compartments that will form likely engagement areas.
- Natural obstacles that the enemy is likely to reinforce.
- Key terrain.
- Constricting terrain.
- Control measures to provide adequate C2 during fast-changing situations.
- Possible intermediate objectives.
- The TF commander's intent.

The commander receives information concerning enemy location and recent activities, but the situation will be vague. He will have to think like the enemy and determine where and how to defend. These areas are marked on his map and used as he develops his scheme of maneuver and fire plan.

Maneuver

A company team will conduct a movement to contact as part of a larger formation's movement to contact or by itself. When operating as part of a larger formation, the company will operate either as a security element or as part of the main body.

Advanced guard. A tank company serves as an advance guard for a battalion task force. When serving in this capacity, the scout platoon could be attached to the company or positioned farther forward as a security force and left under battalion control (see Figure 3-84).

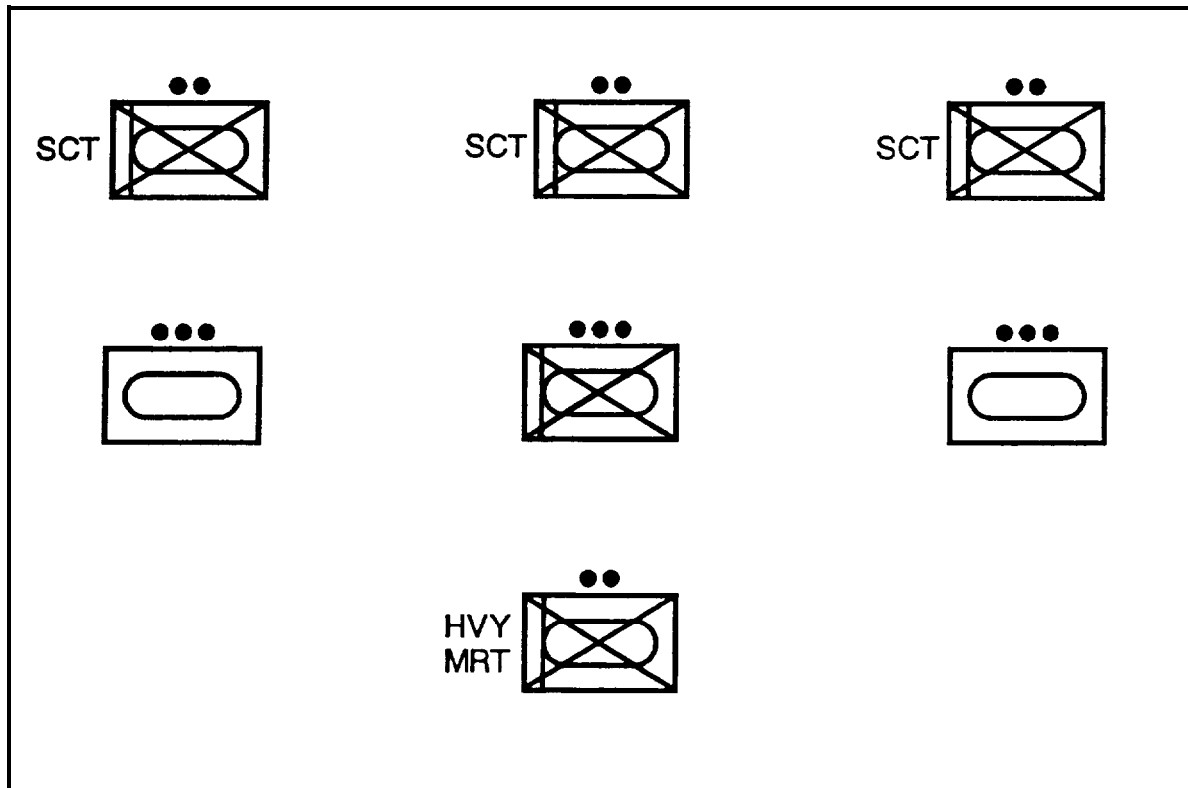


Figure 3-84. Company team and scout platoon as a task force advance guard.

When operating as the advance guard, the company team is augmented with a section or the entire platoon of engineers and mortars. The scouts will conduct a zone reconnaissance forward of the advance guard. It is meant to be early warning to both the advanced guard and main body. Both the scout platoon leader and the company commander will operate on the battalion command net, so that the rest of the battalion staff and leadership may eavesdrop.

When the scout platoon is under the control of the advance guard commander, there is no difference in the way the maneuver is conducted. Control is different in that the scout platoon reports to the advance guard commander, who reports to higher. This technique places all elements in the advance guard on one net; however, it deprives the TF of immediate information.

Main body. When the company is leading the remainder of the TF, the commander must be prepared to destroy any enemy elements that have been fixed and bypassed by the advance guard. If the enemy proves to be too strong, the lead company prepares to become the support force for a battalion hasty attack. A company following in the main body prepares to assume a follow and support role or become the maneuver element in a hasty attack. A platoon from the company may serve as a flank security element. If so, then the platoon will travel on an avenue parallel to the main body controlled by the company team commanders (see Figure 3-85).

Fire Support

Fire planning is still necessary at the company level, and the commander must go through the same estimate process to identify likely enemy positions and so forth. These targets will be bounced off the battalion fire plan. It's important to note that a battalion fire plan will include the minimum number of targets to cover the area, which is about 15 targets. This will not completely serve the company commander's interests, so he will plot and identify by grid the location of each target he deems important, in addition to the battalion FS plan. This will speed calls for fire and assist in spot reports.

Mobility, Countermobility, and Survivability

When available, engineers will be placed with the advance guard to reconnoiter obstacles, search for a bypass route, and conduct hasty breaches. If they are unable to negotiate an obstacle themselves, they will radio back to the main body so that engineers can be moved forward-in the formation.

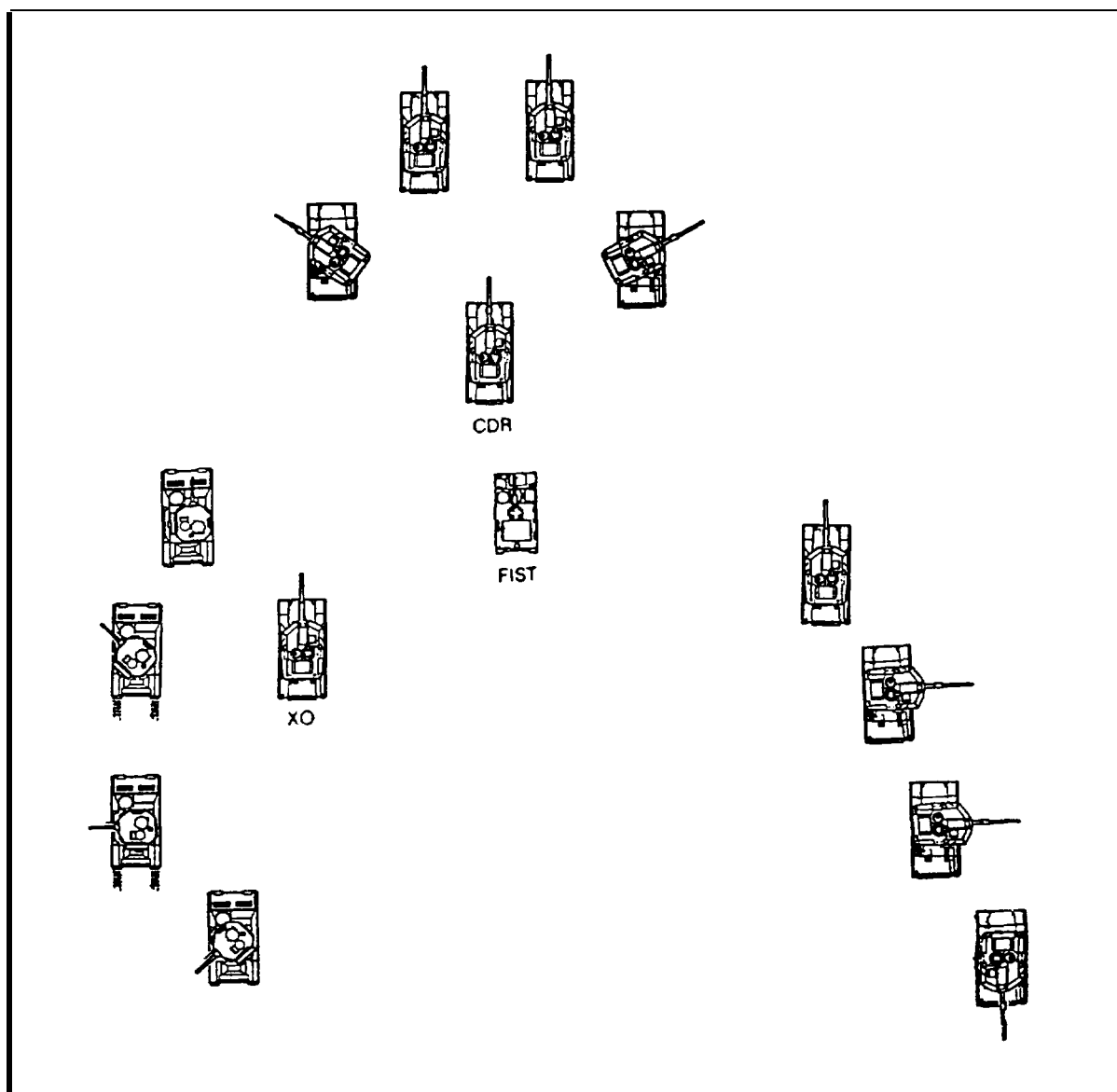


Figure 3-85. Company team moving as part of the battalion task force main body.

Air Defense

Acting on the advice of the air defense representative, the battalion commander will make a determination to use Stingers under armor. Wherever the Stinger gunners are situated, they must have the ability to respond rapidly to an air attack and be able to transport the spare missiles. With a Vulcan platoon, the early warning is received by the Vulcan track. However, there is a possibility that, because of competing net requirements, the Vulcan vehicles may not be able to operate on the company team radio net. In this case a vehicle should monitor the Vulcan net and relay early warning as needed.

Combat Service Support

Vehicles should carry spare track blocks and additional oils and lubricants. Those crewmen of vehicles unable to make the move will be divided between maintenance and filling out other tank crews which may be shorthanded. The XO and the 1SG must also plan ahead for the movement. Vehicle recovery must be accomplished without losing contact with the maneuver force. As an example, preplanned MCPs will allow recovery assets to drag vehicles forward; however, a gap still may develop between the trains and the company. This is caused by the company CSS elements reacting to its support needs during the movement to contact. Guard against company combat trains becoming strung out along the route, because then when actions on contact occur, trains cannot provide the needed support. To partially solve this problem, place the burden of vehicle maintenance and evacuation on battalion assets, which allows the company to preserve its assets for contact. The 1SG checks vehicle crews, then reports the location to battalion maintenance for pickup.

Command and Control

The commander must plan to locate himself where he can control the movement and will not be decisively engaged. If he allows himself to be drawn directly into the fight, decision-making may become extremely difficult. Next, he must remember that the movement to contact often ends in a hasty attack, so he should review his IPB and war-game how he would conduct a hasty attack at each potential danger area. This will be the basis for rehearsals.

Preparation***Intelligence***

The commander prepares for the movement to contact by conducting and participating in rehearsals being war-gamed by the battalion IPB. The company rehearses the tactical execution with enemy counteractions. As the company rehearses the negotiation of obstacles, the commander places them under fire. He next presents them with small pockets of enemy resistance, flank attacks and finally, a situation in which they are forced to revert to a hasty defense. As the rehearsal is conducted, the commander notes possible problems. Subordinates make suggestions, and the execution is fine tuned until each leader understands the plan. The commander then takes the results of the company rehearsal to the battalion rehearsal.

Maneuver

At the company team level, maneuver and intelligence interweave with rehearsal. The commander ensures that the unit understands the maneuver, which is execution of the required tactical formations, and when and how to change those formations as the terrain and enemy situation change. He will review reporting procedures and SOP-type aspects of maneuver, such as tactical plays. Succession of command will be checked by having subordinate commanders (PSGs) conduct the maneuver under the control of the XO. At the end of rehearsal, each man should know his job and his higher's job, and should be familiar with the responsibilities of the other members of the company team.

Fire Support

The company FSO will rehearse the company FS plan at the same time as the maneuver rehearsal. He practices calls for fire as they conduct their movement. This is a good time to practice shifting from a known target to engaging targets of opportunity, and spot checking to ensure each leader understands the FS plan.

TRAINING TECHNIQUE: One of the worst barriers to achieving responsive reports is simply difficulty in determining the grid of the target. In addition to plotting the FS plan on the map, leaders should write down the target number and grid location on the edge of the map. This should improve the accuracy and timeliness of spot reports.

Mobility, Countermobility, and Survivability

Hasty breaching is rehearsed as part of the maneuver and FS rehearsal. Platoons are predesignated as the support force, breach force, and assault force. Calls for fire, adjusting smoke, and spot reports are also addressed in artillery and maneuver preparation. The commander rehearses obstacle reconnaissance and

identification of bypass routes, in addition to the actual hasty breach. Infantry are trained to conduct hasty unassisted breaches of obstacles.

TRAINING TECHNIQUE: If the unit is not equipped with a mechanical lane marking system, the commander must ensure that appropriate marking material is on hand and the unit practices emplacing it before execution. Examples of lane marking material include—

- Engineer tape, staked to the ground.
- Flags.
- Chemical lights affixed to the above (allows the lane to be visible at night).

All of these are temporary measures, to be used until such time as the engineers in the follow-and-support force can clear the obstacle completely.

Air Defense

TCs must rehearse engagement of aircraft with small arms. The company commander will check the warning system for responding to air attack, and Stinger gunners under armor practice how to engage the aircraft.

Combat Service Support

The armored ambulance offers a limited ability to handle casualties. Buddy-aid and a company SOP are vital to safe evacuation of wounded. During an operation in which seconds count, the soldiers must react automatically, from drills and training. Rehearse the unit's plan to evacuate wounded.

The 1SG will drill members of the company combat trains on the route to the MSR, and the location of the MCP, the ambulance exchange point, or battalion aid station. Each must have a map with maneuver and support overlays, as well as the frequencies and call signs for the next day (minimum). The location and future locations of LRPs are confined and reviewed, so LOGPACs can be picked up and brought forward as needed.

Command and Control

The commander reviews signals for changing formations, ensures the limit of advance is understood by all elements, and supervises the occupation of the terminating objective should contact with the enemy not occur.

Execution

Intelligence

Company commanders note changes and post locations as necessary on their maps and pass the information to their subordinates. If the enemy situation causes the company commander to change his scheme of maneuver, he will issue the appropriate FRAGO.

Maneuver

The commander maneuvers his element to avoid suspected enemy kill zones, large open areas, and obvious avenues of approach, particularly when they are dominated by high ground or key terrain that also provides cover and concealment to the enemy. When maneuvering through such areas, he conceals the movement with smoke and suppressive fire.

The movement technique limits the company's exposure to enemy forces. Teamwork is maintained by talking to one another on the company command net. When in a company wedge, the flank platoons guide on the base platoon (center platoon). The base platoon travels astride the axis of advance with the company commander following behind. Slice elements such as mortars or engineers travel inside or behind the wedge.

Each platoon has a sector of formation to cover. Vehicles position behind available cover during short halts. They watch the same sectors they watched while moving. Once the formation stops, movement is kept

to a minimum. If the unit is under enemy observation, this is a good time for snipers to identify leaders. Possible enemy locations are scanned carefully.

During long halts, the company team sets up perimeter defense on the most defensible terrain. Security is posted, and fields of fire are selected and cleared.

When the lead platoon makes contact, it returns fire, deploys, reports to the company team commander, and begins developing the situation using direct/indirect fires and movements. Initial contact with the enemy may decide the battle within a few minutes. The team commander must position himself near his lead element to develop the situation for the TF commander. The platoon leader should immediately establish a base of fire (under cover of the overwatching platoon) and continue to maneuver to improve firing positions. The platoon leader's actions develop the situation as the team commander evaluates the following:

- 'What size is the enemy force?
- 'Are they in position or moving?
- 'Are their vehicles shooting and disengaging or are they remaining in position for a fight?
- 'Are tanks supporting the enemy force?
- 'What type of AT weapons are in use?
- 'Does there appear to be other enemy forces moving to the flanks (dust columns, noise)?
- 'Is there key terrain that I could control that allows maneuver without separating the force and isolating the maneuver elements from the support by tire element?
- 'Is the enemy's intent to fix us in position or to draw us into a disadvantageous position?
- 'Where are my forces in relation to his?
- 'Who has the initiative? (Can I move? What can I move? Can I get there first?)

When the team commander can answer these questions, he has developed the situation enough for further action and reports. In developing the situation, the commander gains more information about the enemy's size, weapons, capabilities, and dispositions, and maneuvers to a more advantageous position.

Fire Support

Targets will be fired as needed once enemy contact has been established. Response time of an indirect target of opportunity may take longer due to the movement of the artillery. If the mortar platoon is traveling with the unit in contact, it will be the most responsive and accurate indirect-fire support.

Mobility, Countermobility, and Survivability

The execution of the hasty breach is discussed in Chapter 7.

Air Defense

If attacked by high-performance aircraft while moving, the company must disperse and move diagonally away from the aircraft's axis of attack. If a company team is engaged by helicopters, it returns fire, uses smoke, and moves from its current location.

Combat Service Support

As vehicles require mobility maintenance, their location will be marked and relayed to the battalion maintenance team. The responsibility for its security will be handed from the lead element to subsequent follow-on elements. The 1SG supervises evacuation of wounded and combat recovery of vehicles. He sends status reports to the combat trains CP and brings LOGPACs forward. He will also handle emergency resupply and assist in supervising cross-leveling.

Command and Control

The commander has four basic options: conduct a hasty attack, bypass the enemy, conduct a hasty defense until the TF can be brought to bear on the enemy, or continue to develop the situation. The necessary orders

to platoons must be clear, concise, and issued quickly. Action drills are an outstanding means of executing orders quickly. The team attacks violently and avoids piecemealing of forces. When bypassing, the platoon in contact fixes the enemy while the rest of the team bypasses. The commander ensures that he does not expose himself to mutually supporting enemy fires. The company XO reports to the battalion while the company team FSO uses indirect fires to suppress the enemy and screen the company's movement.

If the commander decides he cannot attack the enemy because he lacks sufficient strength, he informs the TF commander. The TF commander decides whether or not to conduct a TF hasty attack. In the meantime, the company team forms a hasty defense until the TF commander issues his orders.

Hasty Attack

The hasty attack exploits an opportunity and gains or maintains the initiative. It is characterized by quick advance planning and coordination relying heavily on checkpoints, TRPs, SOPs, and battle drills.

Planning

Intelligence

The element in contact will attempt to acquire as much information about the enemy as possible. This means he will have to fight for the information. The company team commander will be knowledgeable about the general enemy situation prior to contact. Once contact is made with a specific element, he finds out as much as possible about that particular enemy. Information from spot reports and his own knowledge of threat operations combine to make a mental template of the enemy position. The company team commander positions himself to observe the contact, which helps assess the enemy so he can choose a proper course of action. This assists in making an enemy assessment to choose a proper course of action.

Maneuver

In a hasty attack, there is little time to conduct planning. The key is to seize the initiative. The commander makes an assessment of the situation and applies the appropriate battle drill. The commander should have drills that are flexible and easily modified to suit the conditions of the battlefield. Examples of movement to contact formation, mass attack, attack right, occupy and orient to a TRP follow.

The movement to contact formation is the preliminary formation from which the hasty attack is usually executed. It is the start point for the examples (see Figure 3-86).

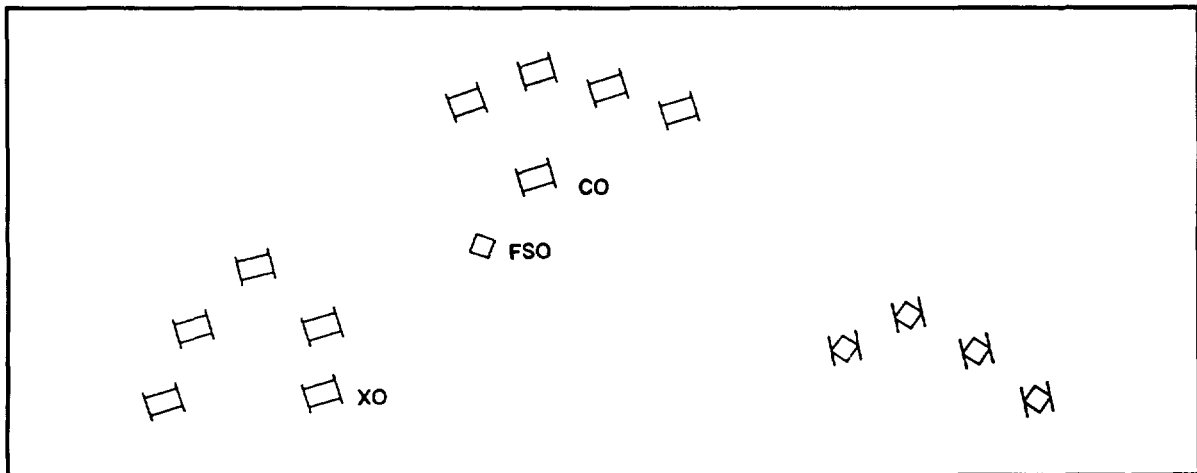


Figure 3-86. Movement to contact formation.

If the enemy position is poorly prepared or the force is weak, the mass attack formation will take advantage of speed and shock effect (see Figure 3-87). It is less secure than other actions in that there is no reserve,

the total force is oriented directly toward the enemy, and traveling as a single formation. Suppression of the enemy by a company from a flank position will help protect the assault force and increase the destructive effect of the maneuver.

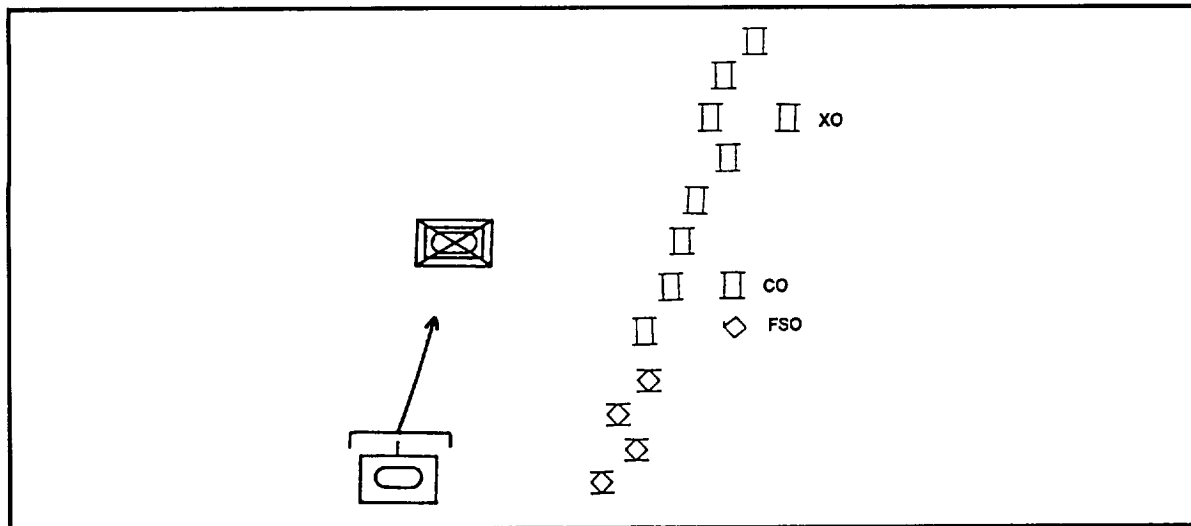


Figure 3-87. Mass attack.

In the attack right, the platoon on the right knows it is the base of fire for the assault by the remaining platoons because it is closest to the enemy and in the best position to suppress before the enemy can react (see Figure 3-88). The action is mirrored for an enemy to the left.

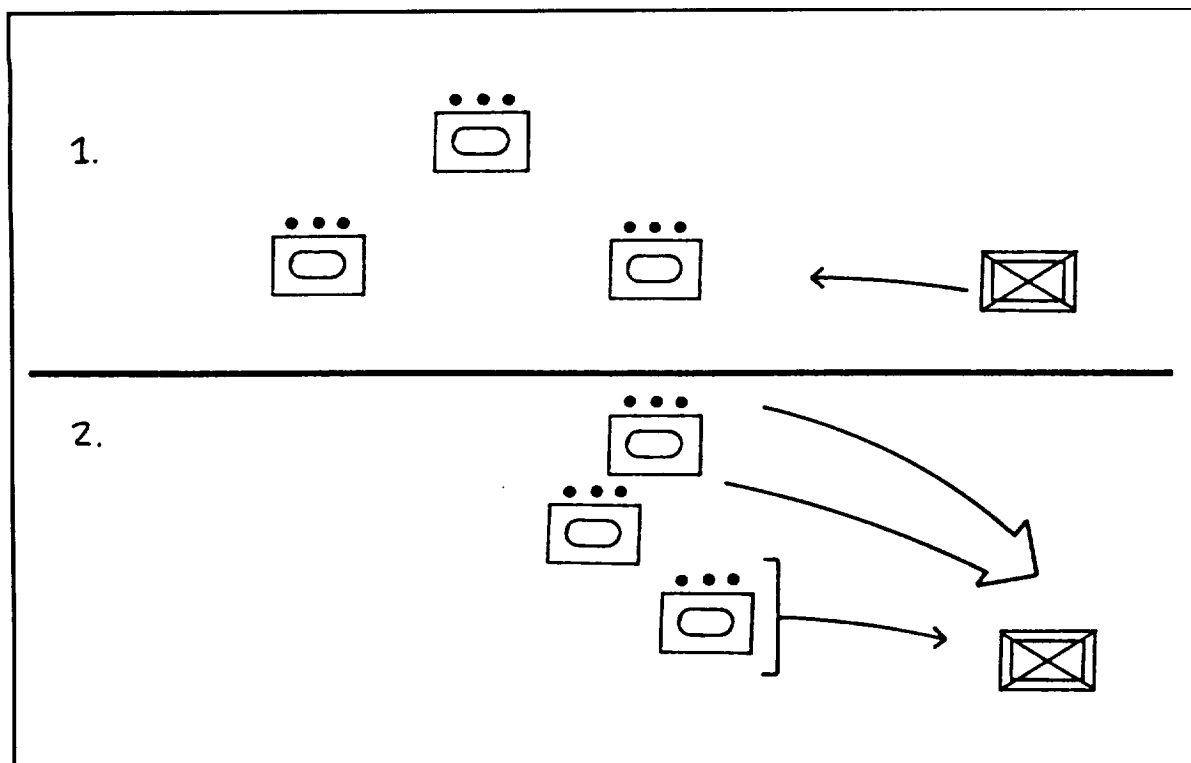


Figure 3-88. Attack right.

The action depicted in Figure 3-89 is oriented against a moving enemy. In this case, the company team has instructions to move from the movement to contact formation to occupy a hasty defensive position. The company will initially orient toward a single location, the enemy center of mass, until instructions for the construction of an EA may be issued.

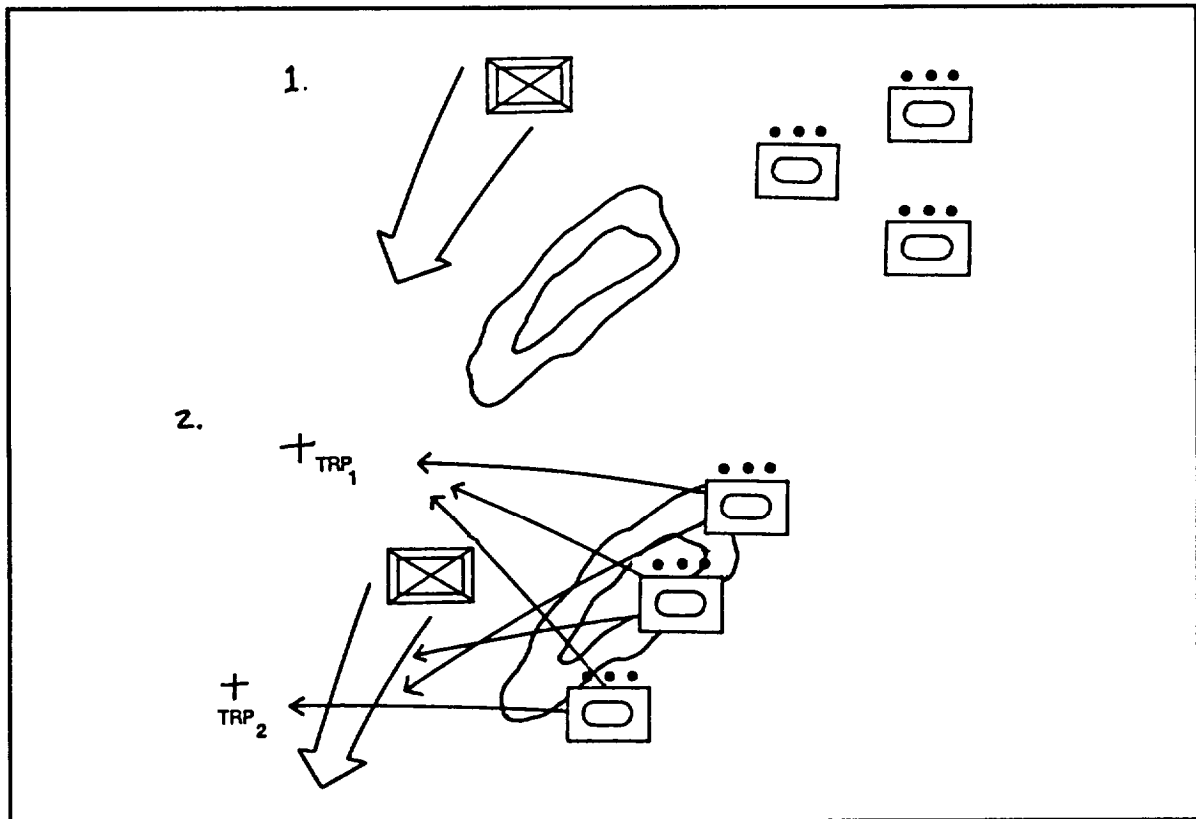


Figure 3-89. Occupy positions, orient on TRP 1 and TRP 2.

Fire Support

FS planning for the hasty attack will have occurred in preparation for the movement to contact. Once the enemy is identified, the company FSO targets locations for suppression and identifies possible adjoining enemy positions that are part of the defense. If the enemy is moving, the FSO prepares to select a target the enemy will be approaching, calculates the time of flight, and determines when the on-order call for fire must be made. Figure 3-90 illustrates the point.

Mobility, Countermobility, and Survivability

Engineers will be useful in assaulting a stationary enemy force. In this case, they would be used to assist in the conduct of the hasty breach. Engineer assets such as a CEV towing a MICLIC can open, improve, or extend a lane created by other engineer assets. They are a limited resource, and must be protected until needed by the maneuver force to which they are attached.

Air Defense

There are several options that will protect the Stinger team and provide support to the company team. They include-

- Stinger crew with the company combat trains.
- Stinger crew with the company FIST.
- Stinger crew with the mechanized infantry platoon leader's vehicle.

When Stinger teams are taken from their HMMWV, they lose the air defense warning net; therefore, impending threats of air attack must either be issued over the battalion command net to inform the Stinger gunners, or one of the radios must be placed on the ADA warning net frequency instead of serving its usual function.

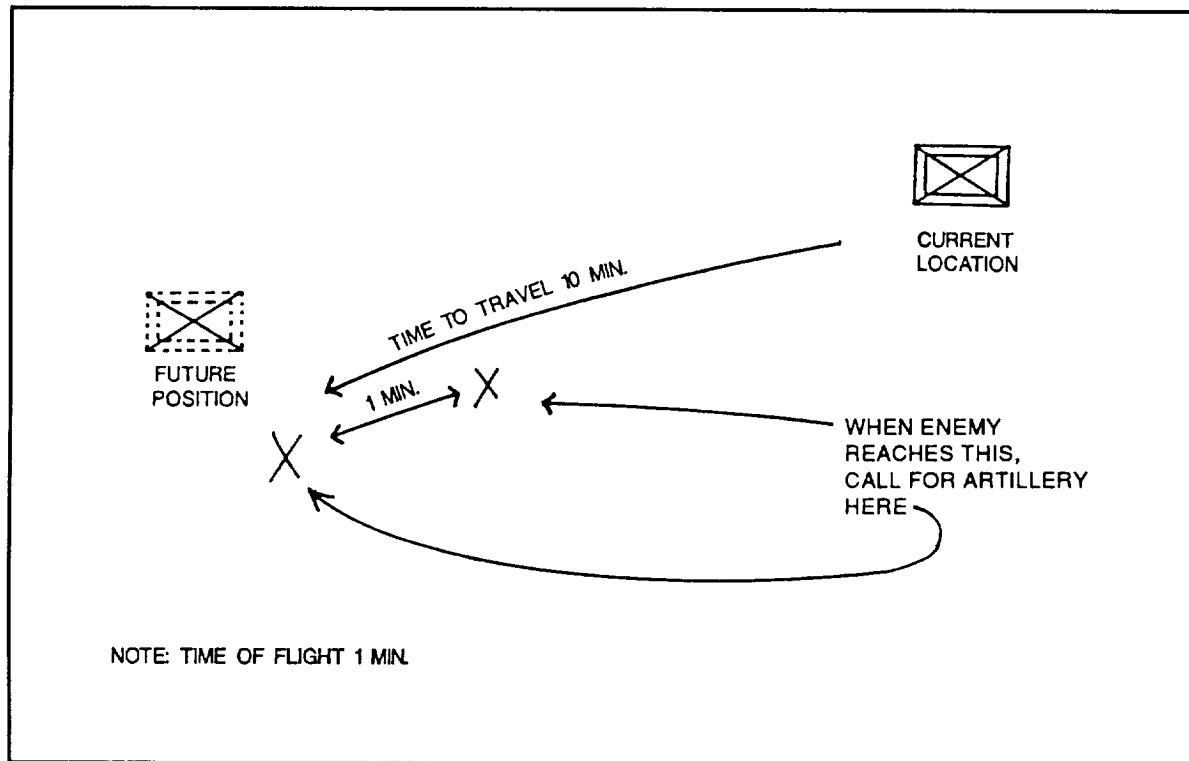


Figure 3-90. Determining when to call for fire.

Combat Service Support

The combat vehicles will seek a covered and concealed position from which to evacuate wounded or receive mechanical support. Combat status reports will be forwarded to the combat trains CP as the status of the company team changes.

Command and Control

The company commander gives clear, terse instructions to the company team. Synchronization of direct and indirect fires will allow him to inflict casualties. He must report his action to the battalion commander and know when to ask for assistance. When conducting a hasty attack against a stationary force, his maneuver instructions and control measures must be understood. TRPs and checkpoints must have been planned in advance and distributed to each vehicle commander. If attacking a moving force, the commander concentrates on giving explicit direct-fire instructions and integrates them with timely and accurate indirect fire. Coordination between the commander and his FSO are essential.

Preparation

Intelligence

The commander is looking for gaps in the enemy's defense, an unprotected flank, areas which seem more lightly defended than others, or dominant terrain that will allow him to project direct fires against an unprotected flank. The company team commander will issue instructions based on such information and oriented toward taking advantage of these exploitable opportunities.

Maneuver

The preparation of the hasty attack is made when the company team rehearses for the movement to contact (see Figure 3-91). Those drills that the company team will most likely use are rehearsed to ensure that each member of the team understands his responsibilities. The best type of rehearsal is a mounted run-through of the operation with after-action review. The unit must understand that on-order modifications to the drill will be made so the operation conforms to the situational METT-T conditions.

Mobility, Countermobility, and Survivability

Breaching operations will be rehearsed as part of the preparation for the movement to contact. The predesignation of support, breach, and assault forces will eliminate the need to issue some directions.

Air Defense

The company commander will want to verify several aspects of the air defense plan. First, is the early warning system able to alert the company and the Stinger teams? Second, are the Stinger teams able to accomplish their air defense mission without affecting the maneuver plan? Third, is there a workable resupply plan for replacement missiles?

Combat Service Support

SOP activities are reviewed to ensure each vehicle commander has his basic load, knows how to request supplies, and knows how to conduct emergency evacuation and resupply. Support assets are checked to see that they know where the LRPs, UMCPs, and combat trains are located. Also, they should know which MSR to use and when.

Command and Control

Before the hasty attack, the commander ensures that his graphic control measures are sufficient for the mission. He should scrutinize the rehearsal, and conduct careful precombat checks. Every system must be at its peak level of operation before crossing the LD.

Execution***Intelligence***

Knowing the enemy disposition, the commander will select his point of attack. He gives instructions to the support force to also be on the lookout for enemy reinforcements or counterattack forces. Early warning will be needed to respond to the additional threat.

Maneuver

The commander begins by issuing the appropriate drill instructions. The supporting platoon provides suppressive direct fires. The supporting platoon is accompanied by the company FSO who adjusts indirect fire. The FS multiplies the suppressive effects on the enemy. Smoke and HE are called to suppress adjoining enemy positions and seal the objective.

Once the objective is under fire, the assault force maneuvers toward the objective. Tanks lead, followed by IFVs. It is important that the IFVs are protected from the enemy's direct fire. As the assault force nears the position, it requests changes in suppression in light of a more accurate view of the enemy disposition.

The platoon that is supporting by fire monitors the movement and shifts direct fires as the force closes on the objective. It takes about two minutes to lift and shift indirect fires, so this command must anticipate the assault forces's arrival on the objective.

Coordination prevents friendly units from firing on one another. The base of fire unit must know where and when the moving force will appear and how to identify those vehicles. The vehicle panel marking system, smoke grenades, panels, lights, and other devices are used to mark vehicles so they can be identified under conditions of limited visibility.

After the assault secures its penetration of the position, it widens the gap. Tanks equipped with thermal sights fire through the smoke and fog at bunkers and enemy vehicles. IFVs protect the tanks from

dismounted enemy soldiers carrying AT weapons. The infantry will dismount as close to enemy positions as possible. IFVs will support them by destroying all other targets.

The commander monitors the progress of the action, moving the assault force into a new part of the objective after supporting fires are shifted. One method of controlling the shift is with flares or colored smoke. The assault force emplaces a flare or smoke grenade beyond the objective. The burning flare/smoke is the limit of advance for the assault force and a restrictive fire measure for the overwatching tank platoon.

As soon as the objective has been cleared, the company team consolidates its position and prepares to meet the enemy counterattack or continue the friendly attack. Sectors of responsibility for each platoon and consolidation and reorganization procedures must be SOP and specified in the order before the start of the operation.

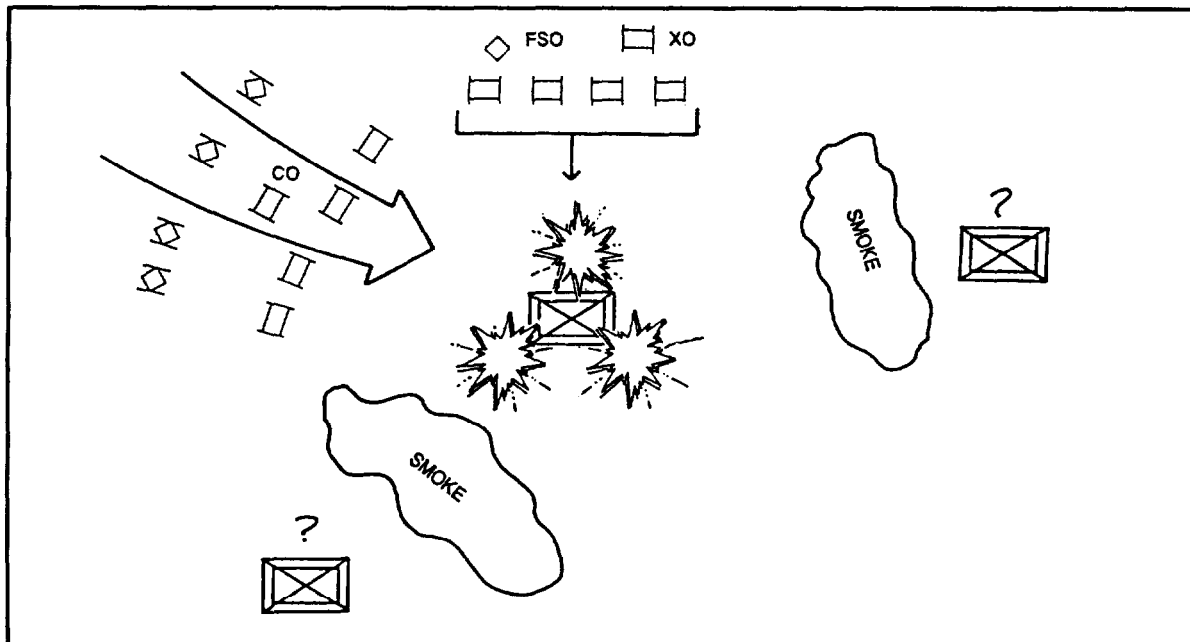


Figure 3-91. The hasty attack.

Fire Support

At the direction of the company team commander, the FSO calls for, lifts, and shifts fires to support the company team maneuver. The FSO positions himself to observe and assist in directing indirect fires. Infantry platoon FOs help the FSO ascertain when and where to lift or shift fires. Battalion heavy mortars are used for smoke, immediate suppression, and high volume of fire missions, while the artillery hits the known enemy on the objective.

Mobility, Countermobility and Survivability

Engineer assets move with the assault force to conduct hasty breaches. The engineer platoon leader will also support the infantry in reducing bunkers or other fortified positions.

Air Defense

Air defense assets will be with the support force where they can easily monitor the progress of the assault, and operate from a position of relative safety at the same time.

Combat Service Support

The company combat trains will seek cover and concealment. The trains attempt to stay out of sight, but remain close to respond to the needs of the company. Once the objective is taken, the trains will move

forward to conduct resupply and evacuate vehicles or personnel. If the company chooses to occupy the position for a hasty defense, the ISG will reconnoiter an appropriate trains location; one that allows for routes to and from the position.

Command and Control

The company commander will control the battle from the assault force. The XO will usually control the support force. The primary concern of the company team commander will be the massing of fires and maneuver forces at the enemy's weakest point. To accomplish this, the commander will have to ensure that the support force repositions as needed to provide effective fires on the enemy position. Designation of sectors of fire for tanks and IFVs will assist in the penetration of the position. Lifting indirect fires at the last moment will enable the assault force to achieve the shock effect needed before the enemy has an opportunity to recover or reposition. Teamwork must occur between all the maneuver elements and their support. Leaders must anticipate enemy maneuvers and make suggestions to seize the initiative.

Overwatch/Support by Fire

The overwatch or support-by-fire mission is given to a company team as part of the larger TF maneuver. The support force's responsibility is to fix the enemy so that he can be struck by the maneuver force.

Planning

Intelligence

The company team commander will need to know the location of the enemy weapon systems. Next, he will conduct a terrain analysis of the AO. The TF will be attacking along a known axis. The overwatch/support-by-fire force will fix and suppress the enemy so it cannot engage or respond to the maneuver of the assault force. The siting of the support force is critical; it must be able to bring effective fires to bear on the enemy position. A line-of-sight analysis from the proposed support positions to the enemy position will reveal whether or not direct fires may be directed effectively against the enemy. If the enemy has adopted a reverse slope defense, the ability to suppress with direct fire may be nearly impossible until a foothold has been established on a terrain feature within the enemy defensive area. Figures 3-92 and 3-93 describe the two line-of-sight analyses.

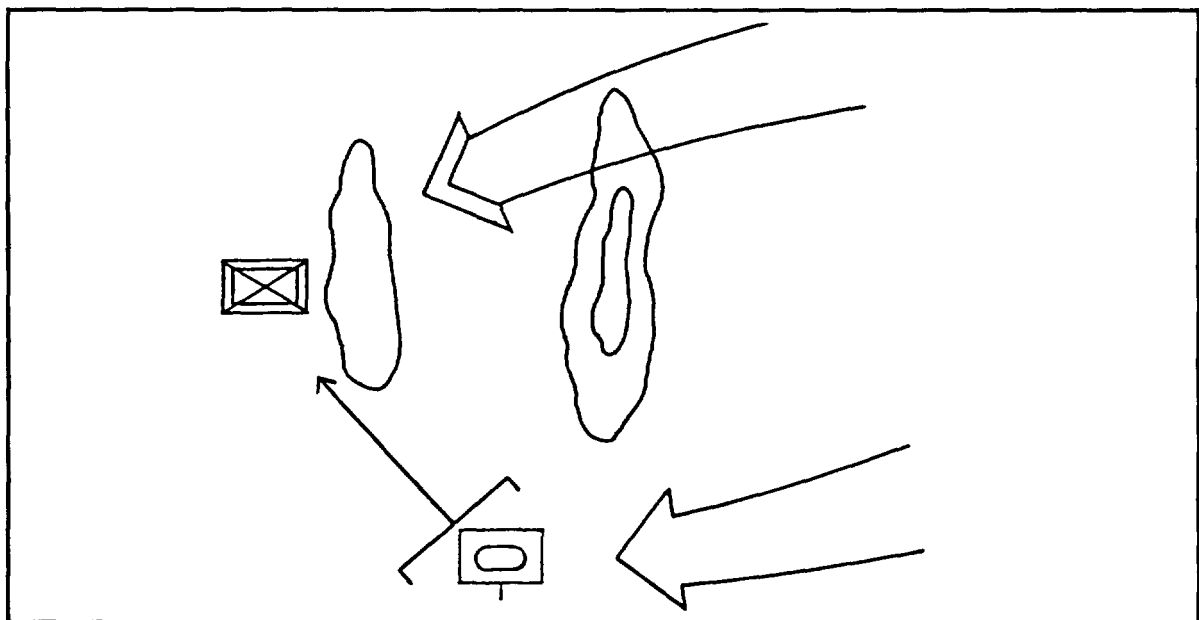


Figure 3-92. Overwatch/support force suppresses enemy on forward slope.

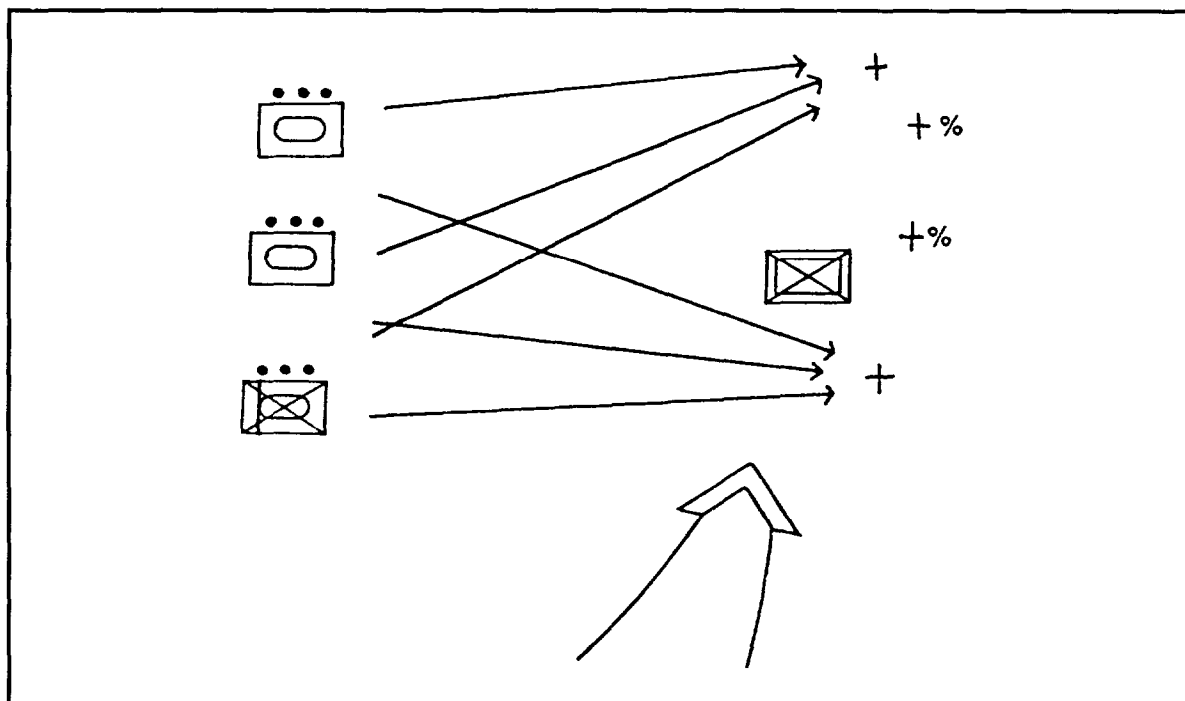


Figure 3-93. Overwatch/support force suppresses enemy on reverse slope.

Maneuver

Once the commander has performed a line-of-sight analysis of the area of operations, he decides where to place his platoons. Depending on the scheme of maneuver and the enemy disposition, the overwatch force may have to occupy several positions throughout the operation. Even the use of one position will require some repositioning, because the enemy will respond to the effects of the suppression.

After selecting the location for each of the platoons, the commander will construct direct-fire control measures to orient massed fires. Each platoon is given TRPs on which to orient. The platoon leaders determine individual weapon system orientations. On-order TRPs are planned so that, as the direct fires of the support force are masked, the support force can shift fires. On seizure of the objective, the support force is prepared to shift fires to another enemy position or move to join the assault force.

When the company commander knows the position he will occupy and how he will control his fires, he plans the support force's maneuver into the position. Again, knowledge of the enemy disposition is essential. The support force avoids combat to get into the position intact and achieve surprise. When an attack must be executed in order to occupy the support position, the commander must conservatively plan for the time needed to accomplish the attack and then occupy the position.

Once the objective is secure and the support force joins the assault force, the route to the objective is along the assault force's axis of advance. Traveling directly from the support position to the objective is hazardous because of minefields or other enemy obstacles. Figure 3-94 depicts an example overwatch/support-by-fire plan.

Fire Support

The FS plan is as important as the direct-fire plan in the overwatch/support by fire mission. The task of the company FSO is to plan suppressive fires on the enemy position to isolate the objective. His planning will include targets on the known enemy locations, adjoining enemy positions, smoke missions planned to isolate the objective, and shifted fires to cut off enemy retreat or reinforcement. As the TF begins movement, the support force will have priority of fires due to their observation of the enemy positions.

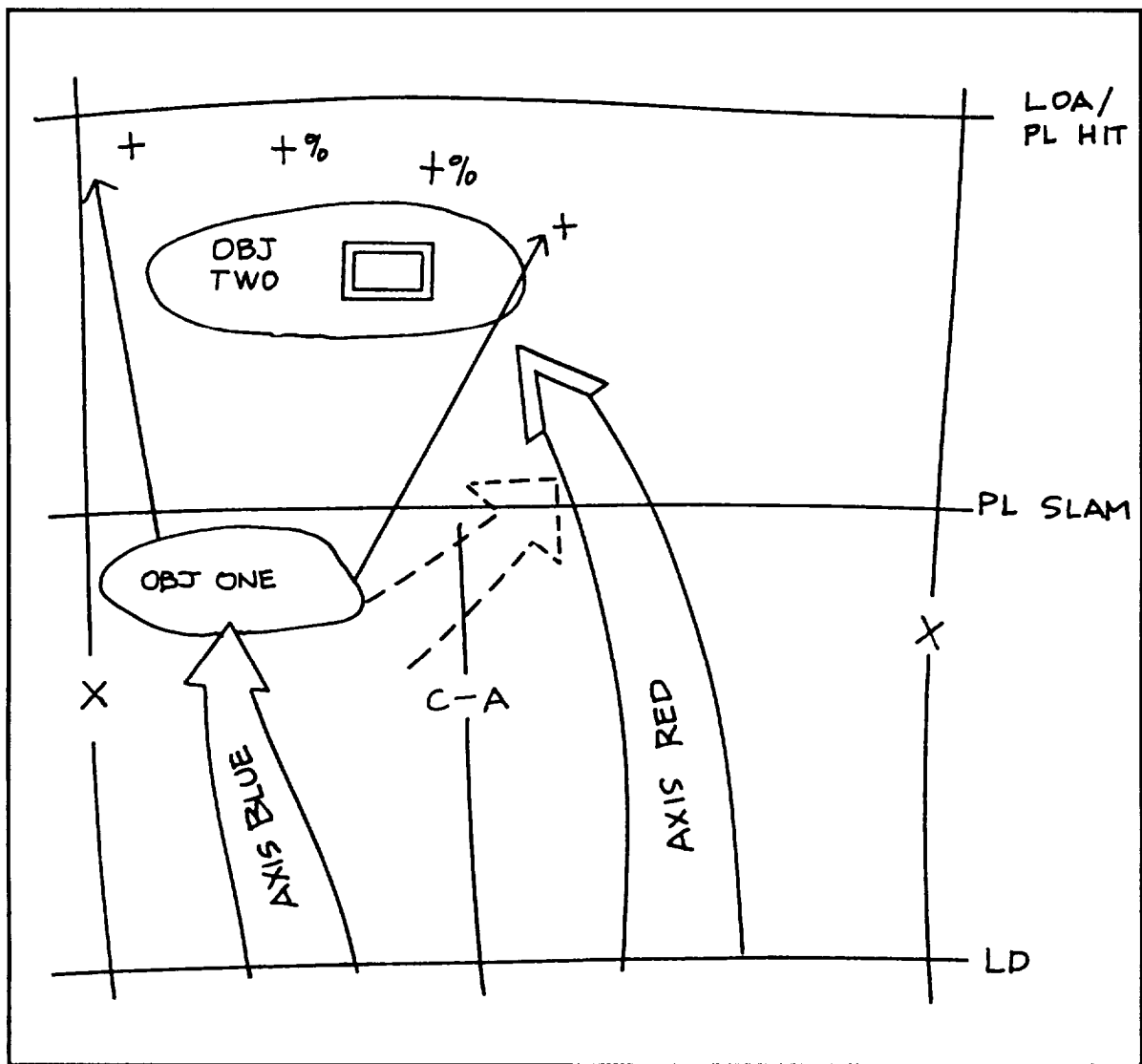


Figure 3-94. Overwatch/support by fire plan.

Mobility, Countermobility, and Survivability

The engineers will help the support force reach its position. This may include conducting breaching operations during an attack, or possibly a prebreach of unguarded enemy obstacles.

Air Defense

Air defense planning is oriented to security of the support position. Enemy air avenues of approach will be identified prior to the operation, and Stinger team locations will be plotted and checked against the Stinger under armor plan. From this location, the field of fire of the supporting ADA assets can best cover the assaulting force's movement.

Combat Service Support

The company trains plan to support the operation by selecting a location that will allow resupply of ammunition during the support by fire. Direct-fire suppression of the enemy position will involve large amounts of ammunition.

Command and Control

The commander plans for the mission by war-gaming the support mission within the context of the TF attack. The commander must be able to anticipate enemy actions, and must have incorporated adequate control measures into the support force plan. The support force commander must know when and how to reposition his forces to provide continuous fires. He must also be able to control and direct the fires while the assault force conducts its attack of the enemy position.

Preparation***Intelligence***

The commander of the overwatch force prepares by developing PIR for his platoon leaders. For example, the commander would want to report an enemy counterattack and provide warning to the maneuver force, so he would require his platoon leaders to report enemy movement or give them areas to observe in addition to their direct-fire orientation. The commander will require his platoon leaders to report enemy who appear to have repositioned. This allows him to adjust the company's fires.

The commander will conduct a leader's reconnaissance of the support position or assign a patrol to reconnoiter the route to the position, the position itself, and any other adjoining areas or obstacles of concern. If engineers accompany the patrol route, classification or prebreaches may be conducted.

Maneuver

The company team commander rehearses the movement to the position, any breaches, attack missions, the occupation of the position, and the support by fire. He ensures that each platoon leader understand his mission and responsibilities within the context of the company plan.

The commander rehearses the direct-fire plan. He will have the company orient as they would on the objective, and maneuver as the enemy from position to position to verify that the movement is reported by the platoon leaders and that the direct fire is adjusted. Next, he will give instructions to shift fires, adjust positions, and cease fire. At this point, signals are verified for controlling each of these actions, as is the succession of command.

Fire Support

During the rehearsal, the FS plan is exercised as part of the maneuver plan. The FSO will practice calling and adjusting fires based on the enemy scenario presented by the commander. He will verify the signal and conditions under which he will lift and shift suppressive fires from the objective to other enemy positions as the assault force seizes the objective.

Mobility, Countermobility, and Survivability

The engineers will rehearse breaching operations with the maneuver force, and execution of any preset demolitions prepared during reconnaissance of the support position.

Air Defense

On occupation of the support position, the Stinger team will establish its location where it can observe the air avenues of approach. A mock air attack should be rehearsed to ensure the ADA early warning net is properly linked to the command net.

Combat Service Support

Evacuation of casualties and vehicles and the resupply of ammunition are practiced during the rehearsal. The positioning of support vehicles and their consequent adjustment to assist each platoon with resupply operations is important. The capability of ambulances to move from the support-by-fire position to the MSR will also be checked to ensure they do not come under fire.

Command and Control

The commander will check that each of the subordinate elements is able to accomplish its mission and adjust to changes in the situation. It is important that every step is taken to limit enemy possibilities.

Contingency planning on the part of the commander and the reports will allow the support force to anticipate the moves of the enemy.

Execution

Intelligence

Once the company team begins to execute the overwatch/support-by-fire mission, the commander will initially concentrate on getting into a position which will allow him to suppress the enemy. If possible, battalion TF scouts or dismounted infantry elements may assist in guiding the support force into position. This circumstance will only be possible if the position is unoccupied by the enemy. Regardless of how the force occupies the position, the support force will most likely have to adjust to suit the local terrain conditions. The commander will want to verify that the enemy position has not changed since the reconnaissance, or that it is as templated by the S2. Changes to the enemy disposition will effect the positioning of the support force and may also affect the attack; therefore, the battalion commander must be made aware of changes in the enemy situation.

Maneuver

The overwatch begins its suppression of the enemy position on order or as the result of an event, for example, the assault force crossing a phase line, or artillery suppression of the position. Surprise is best achieved if the direct and indirect fires arrive on the position simultaneously. The support-by-fire force must maintain steady and accurate suppressive fires on the position. Tanks will attempt to destroy point targets such as enemy vehicles or bunkers. TOW missiles will also be effective against bunkers. The 25-mm chain gun, and to a lesser extent, coax machine guns will suppress the remaining positions unless they are heavily reinforced. Elements must avoid "mad minute" or they will run out of ammunition before the arrival of the assault force.

As the enemy attempts to respond to the suppression by adjusting artillery or returning fire, the commander of the support-by-fire force must continue to adjust his elements to bring effective fires against the enemy. The support force's primary objective is to prevent the enemy from bringing effective fires to bear on the attack. The secondary objective is to destroy the enemy as it tries to reposition.

Once the assault force closes on the enemy position, the direct and indirect fires of the support force shift forward of the lead element to avoid fratricide and to keep the enemy suppressed. The shifting of the fires may either be event driven or on order. As the assault force nears the far side of the enemy position, the direct and indirect fires are shifted to other likely enemy positions. If the enemy appears to be destroyed, the commander will issue the order to cease fire. This only means that the platoons are to stop firing; they are still responsible for scanning their assigned sectors to search for remaining enemy.

Fire Support

The commencement of all fires will be event driven or on order. If the fires are on order, the commander must call for the artillery first, wait for the projectile's time of flight, then give the command to begin direct fire. If commencement of fires is event driven, a similar technique is used. Knowing direct fires will begin once the friendly unit crosses a specific terrain feature, smoke missions must be executed in anticipation of maneuver, so when the assault force arrives at a dangerous location, the smoke screen is complete. As the assault force nears the objective, the suppressive artillery fires must be lifted and shifted to another target. This usually takes two minutes, so execution must also be in advance of the maneuver force's arrival on the objective.

Mobility, Countermobility, and Survivability

Engineer activities during the execution of the support-by-fire mission will begin by assisting the support force maneuver to its position. Obstacles preset for demolition by reconnaissance elements are executed as the force approaches. Hasty breaches of obstacles along the route will be conducted as required. Once on the position, the engineers will quickly emplace hasty protective minefields or create other countermobility obstacles as required. Depending on support force composition, the engineers may provide local security; this is the case with a tank-pure support force.

Air Defense

Enemy artillery suppression is likely, so enemy artillery suppression and air defense assets will accompany the support force under armor. Once in position, they are ready to engage enemy aircraft along likely air avenues of approach. If the support position is close to the assault force's axis of advance, the Stinger teams also protect the assault force.

Combat Service Support

CSS elements follow the support force approximately one terrain feature behind and move to a position from which they can support the force once it occupies the overwatch position. During execution of a support-by-fire mission, CSS elements move forward as required to evacuate wounded and resupply weapon systems with ammunition. The company ISG will report the combat status to the battalion combat trains CP and request additional supplies as needed.

Command and Control

The company commander will remain forward throughout the operation. His first concern will be to get the company team into position. Depending on the enemy situation, this may require fighting, which requires the same leadership and command skills as any offensive operation. Next, he must ensure that his force is able to bring fires to bear on the enemy. This will be the result of the enemy situation combined with the effects of the terrain on weapon system line of sight. If need be, forces will be adjusted. Finally, once all is ready, he must exercise complete control over the rate and distribution of fire onto the enemy position. He must constantly check between the ammunition expended and the distance of the assault force from the enemy position. The assault force commander is counting on the support force to fix the enemy so that they can be reached and destroyed. The ability to maintain effective, but not excessive, fires on the enemy is critical. The directing, lifting, and shifting of fires must be responsive. Platoon leaders and slice commander must pay strict attention to the commands of the commander to avoid fratricide.

Attack to Seize an Objective

Planning

The larger force, the TF, of which the company team is a part will regularly encounter a well-prepared, strongly-held enemy defensive position that cannot be overcome by a hasty attack. When this happens, the entire force prepares and conducts a deliberate attack. The company team participates in such an attack as part of the larger force.

Intelligence

A deliberate attack is distinguished from a hasty attack by a more detailed knowledge of the enemy; the amount of time devoted to planning, coordination, and preparation; and the collection and use of intelligence. The company team commander will get as much information about the enemy as possible before planning the attack. The battalion S2 will portray an accurate picture of the enemy's disposition and probable course of action; however, he will be concerned with the enemy down to the platoon level. Figure 3-95 illustrates the detail sought in determining the nature of the enemy defensive position.

Maneuver

The company commander receives the mission, issues a warning order, and plans his time. He does so by using the reverse planning cycle (see Figure 3-96). His estimated completion times are adjusted when necessary. He must determine what time he will issue the completed order. In the following example, the company team commander receives his initial warning order before 1100 hours, and then he issues his initial warning order.

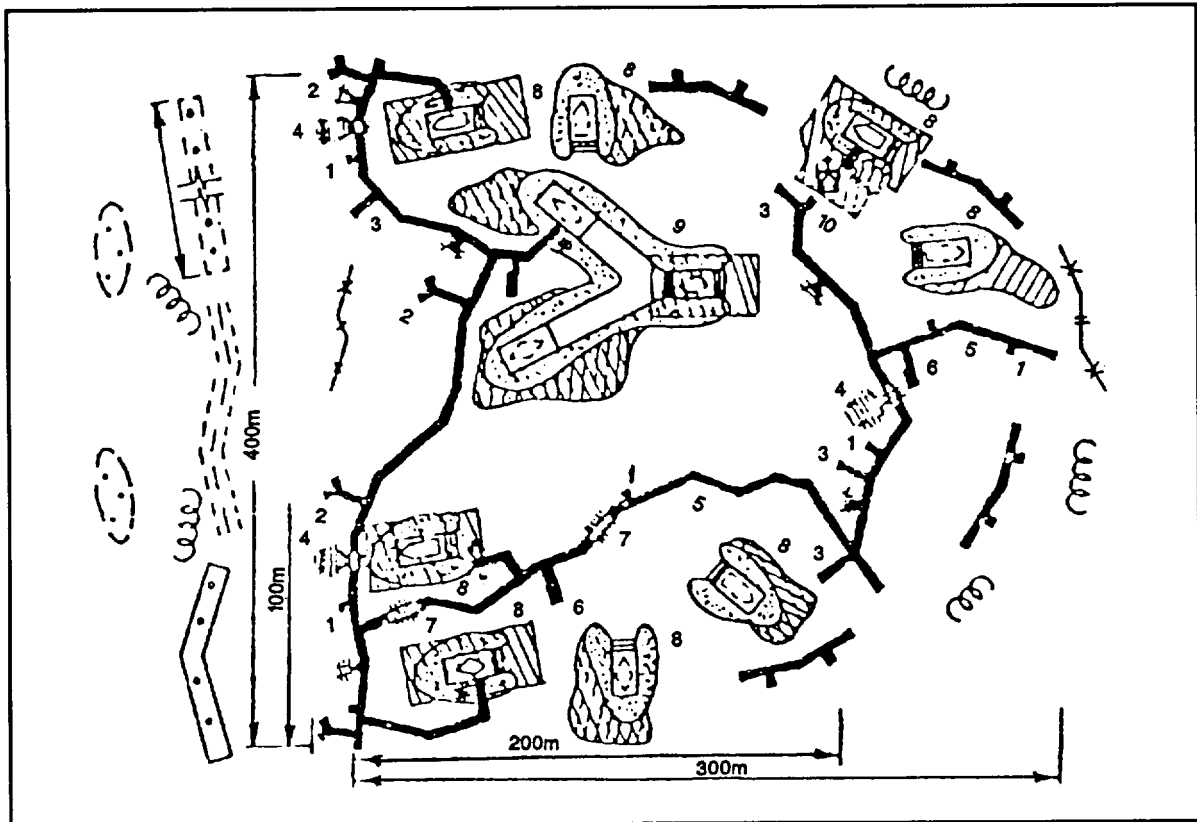


Figure 3-95. Motorized rifle platoon defensive position.

TASKS TO BE COMPLETED	TIME ESTIMATED TO COMPLETE TASK	START TIME	SEQUENCE OF COMPLETION
Cross LD/LC		0630	9
Conduct passage of lines	10 min	0620	8
Conduct road march	20 min	0600	7
Plt ldr time, backbrief, supervise, and implement sleep plan as required	8 hrs, 30 min	2130	6
Issue oral order with sketch map	30 min	2100	5
Make decision and complete plan	1 hr, 30 min	1930	4

Figure 3-96. Reverse-planning cycle.

TASKS TO BE COMPLETED	TIME ESTIMATED TO COMPLETE TASK	START TIME	SEQUENCE OF COMPLETION
Conduct reconnaissance with XO, plt ldrs, and FSO, and conduct liaison with units as required	2 hrs, 30 min	1700	3
Make tentative plan	30 min	1630	2
Issue WO/update as required	30 min	1600	1

Figure 3-96. Reverse-planning cycle (cont).

Troop-leading and precombat procedures begin while the commander and FSO move to meet with the TF commander for the initial reconnaissance. At 1500 hours, the company team commander and his FSO meet at the TOC for the TF OPORD.

The commander develops a scheme of maneuver and FS plan based on METT-T considerations. In planning his scheme of maneuver, the commander should ensure that it—

- Allows rapid closing with the enemy.
- Uses terrain to avoid enemy fire and strengths.
- Maintains attack momentum.
- Anticipates, and plans to bypass or breach obstacles.
- Strikes flanks and rear, and identified weak points.
- Provides for mutual support with other company teams within the TF scheme of maneuver.

The company team commander's direct-fire plan directs all weapon systems. As a priority, tank main guns engage tanks, and IFVs engage crew-served weapon systems, lightly armored vehicles (such as BMPs and BTRs), and bunkers. Individual machine gun and small arms fire is used against unarmored AT weapons and exposed enemy soldiers. AT weapons fire at tanks, IFVs, ATGMs, and fortified positions.

The orientation of direct-fire assets is based on enemy positions. For example, a company team which conducts the initial penetration orients on enemy weapon systems in the path of the attack. Other friendly assets in support positions attempt to suppress the same enemy positions as well as adjoining positions. Fires are massed at the right place to assist in the penetration of the position. The key point is that an attacking force's fires must be active, and the defender's fires should be reactive.

The scheme of maneuver itself exploits an enemy weakness. The attack penetrates the defensive position and continues over the position as the objective is cleared of remaining enemy. Inherent in this responsibility should be the consideration of the following chronology:

- Rehearsal.
- Reconnaissance.
- Maneuver to the LD.
- Maneuver.

- Deployment.
- Attack.
 - Break-in.
 - +Approach.
 - +Penetration.
 - +Assault.
 - Fight-through.
- Consolidation and reorganization.
- Continuation.

The commander begins tactical planning with the route to the LD. If a forward passage of lines is being conducted as part of the deliberate attack, the commander checks these routes to ensure they fit with the maneuver plan. Next, the commander must determine the best route to reach the objective within the parameters established by the battalion commander. He looks at possible choke points, danger areas exposed to enemy fire, and obstacles. He will then determine the formation type best suited for the terrain, where he should change formation, and any positions that should be occupied during the maneuver.

Once the commander determines how to reach the objective, he identifies where to deploy and which attack formation to use. The company changes formation out of enemy observation and then moves rapidly to the objective. There must be enough space to change formation and conduct the attack. If terrain prevents an attack formation and one is attempted, the attack fragments.

The commander next plans the attack. If the company team has the mission of leading the TF assault, it will have the missions of creating a penetration of the enemy position and breaching close-in protective minefields. The use of mineplows and minerollers makes the breaching of minefields less complicated than before; however, engineer assets will be given to the company team to assist them as required. Speed is essential when breaching close-in minefields.

On entering the enemy defensive position, the company team fights the aboveground battle, which allows the infantry to enter the enemy trench line and fight the belowground battle. Conduct of the aboveground battle requires coordination between platoons, assigned platoon objectives, and tasks. The belowground battle requires identification of an entry point, commensurate with the point of attack, and a plan for clearing the trench line. With the 120-mm main gun on the M1A1 tank, there are more precautions to consider. The over-pressure from the 120-mm can kill a soldier found within a 90-degree arc extending from the muzzle of the gun tube out to 200 meters. From 200 to 1,000 meters, dismounted soldiers must be aware of the discarding sabots, which can also kill. IFVs will provide the close-in support for dismounted infantry to keep tanks to the front as much as possible.

Figure 3-97 illustrates the danger areas associated with a tank with a 120-mm main gun.

Fire Support

Indirect fires are used to isolate, suppress, obscure, and destroy the enemy to permit greater freedom of action for the attacking force. Indirect fires are planned on all known enemy positions, and are scheduled to coincide with the movement and arrival of the maneuver force. Priority targets are shifted by the company team FSO along the axis of advance to support the company team maneuver. Indirect fires screen friendly forces and suppress enemy IFVs, ATGMs, and dug-in infantry. Smoke missions from the TF mortar platoon are planned to screen exposed flanks and obstacle breaching efforts.

Mobility, Countermobility and Survivability

Engineer planning will be oriented on breaching close-in obstacles. The commander identifies the support, breach, and assault forces and their responsibilities in the plan. If another company team is the support force, coordination is essential to ensure its position and control are integrated into the tactical plan.

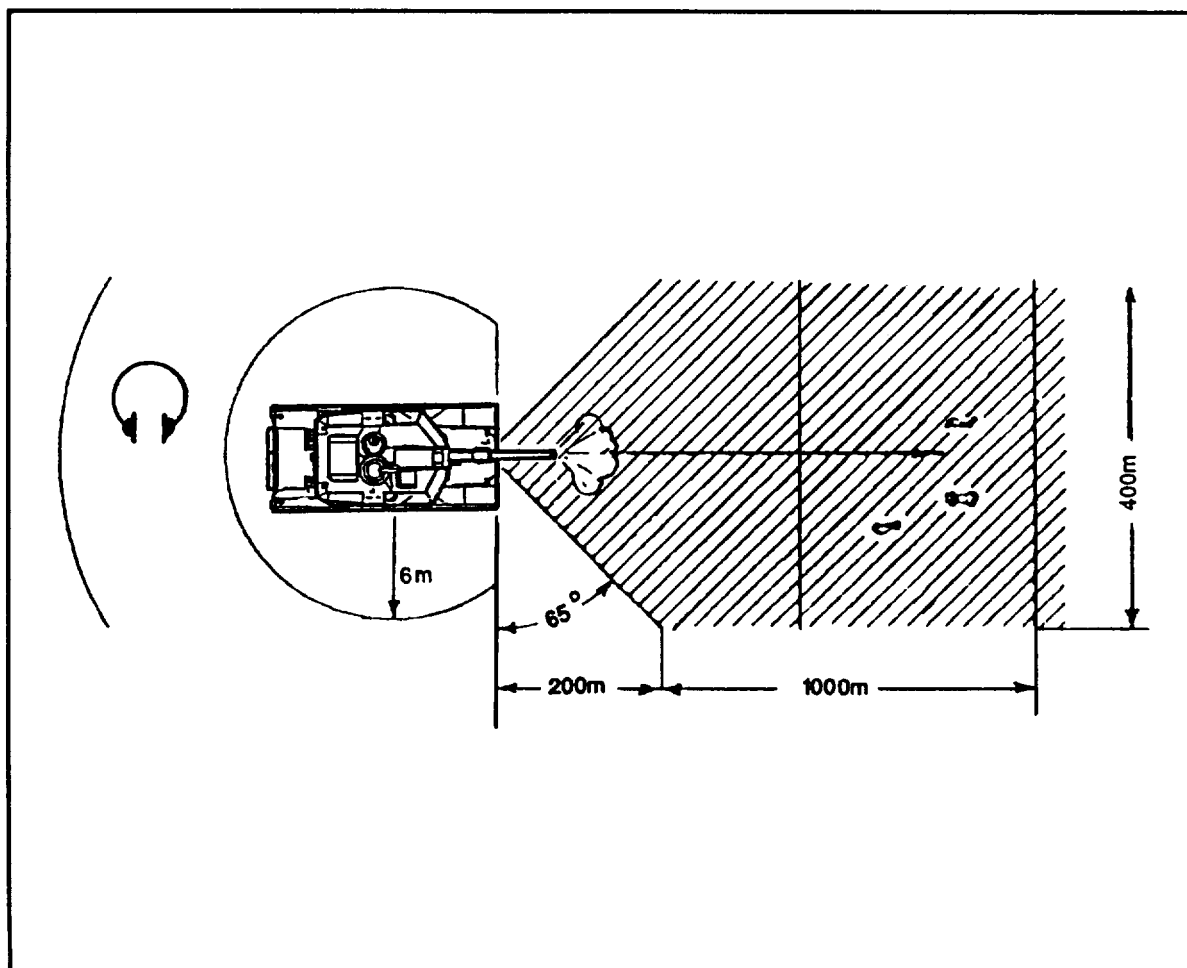


Figure 3-97. Danger areas of tank with a 120-mm gun.

Air Defense

The commander ensures Stinger under armor is executable without degrading the attack plan if maneuver elements within the company team are attacking while another company supports.

Combat Service Support

The 1SG must understand what the maneuver forces are doing and how to support them throughout the entire operation. SOPs should be checked to make sure the procedures are appropriate for the operation.

Command and Control

The company commander has many concerns in planning the attack, but his main concern is how to control the operation. He must identify where he plans to give execution orders, in advance of where the action is to take place. He must determine where he should be during the operation. Chances are that he will change his location within the formation or elsewhere to be in a position to control the battle. He must always have the ability to move forward and lead when it is necessary.

Fire control and actions on the objective are the trickiest to control. The control measures must be simple. When and where are fires lifted? To where are they shifted? Where is the LOA? What are the orientations of the maneuver units in the battle and afterward? The commander must be able to visualize the battle before it begins and ensure his control measures are appropriate and adequate to accomplish the mission.

Preparation

Intelligence

The company team commander prepares for the deliberate attack through reconnaissance of the enemy position. He verifies the information from the battalion S2 and adds detail to that situation template. The company commander will want to identify the location of-

- Armored vehicles.
- Crew-served weapon systems.
- Fighting positions.
- Obstacles.
- Trench lines.
- CP/bunkers.
- Reserves.

New information is given to the battalion S2 once the reconnaissance is complete. The company team commander takes this new information and completes his situation template of the enemy position. It is important for him to know how the enemy defends and how the position will look.

Maneuver

With a clear picture of the enemy position, the commander will make changes to his tentative plan and issue the order. The actual preparation for maneuver occurs during the company team's rehearsal. The company commander ensures that platoon leaders understand and can execute the mission. The commander will first require backbriefs on the issuance of the order. After the platoon leaders issue their orders, the commander will walk through the operation with the company leadership, while junior NCOs conduct troop-leading procedures and precombat checks.

The company conducts a full-scale rehearsal of the operation on terrain that is similar to that of the objective area. The commander checks that the company can execute the appropriate maneuvers, change formation, and conduct breaching drills properly. Adjustments are made to the drills or SOPs based on METT-T. As for the actual assault, the commander checks the direct-fire plan. Once on the objective, platoon objectives, LOAs, and orientations will be checked to ensure the company can complete the mission. The commander should be able to have his company execute without instruction. At this point, contingency planning is discussed so the company may be forewarned of possible enemy reactions to the attack.

Fire Support

The FS plan is also rehearsed to ensure that it is fully integrated into the maneuver and direct-fire plan. Suppression of the objective, the lifting and shifting of fires, smoke missions, and the suppression of adjoining positions are all rehearsed, with special attention devoted to the control and adjustment of each mission.

Mobility, Countermobility, and Survivability

Breaching drills are practiced. Obstacle breaching should first be conducted using the mechanical breaching assets of the company team and then with the additional engineer assets, such as CEVs and MICLICs.

Air Defense

During the rehearsal, the commander should ensure that the Stinger teams can conduct their air defense mission.

Combat Service Support

The CSS plan should be rehearsed with particular interest in the evacuation of wounded, maintenance, and emergency resupply. During rehearsal, the combat trains should practice jumping to keep pace with the operation and simulate consolidation and reorganization on the objective.

Command and Control

The commander will give instructions, signals, and FRAGOs to ensure that the platoons are responsive to a changing situation. He will practice the lifting and shifting of fires, issue on-call fire commands for artillery, and direct the direct-fire orientations as necessary. The most important aspect of the rehearsal is to see that the company team operates like a team and to identify those factors which appear to be a hinderance to the smooth execution of the mission. For this reason, the rehearsal must be as realistic as possible, with no allowances made for simulation when the actual activity may occur.

Execution

Intelligence

As the attack commences, the commander looks out for enemy elements which reposition. For example, if there is a delay in fire from a tank and it does not appear to be destroyed, it may be repositioning to gain a flank shot. Therefore, some elements may have to watch for the reappearance of the tank. Granted, there is no way that a commander who is controlling an attack can keep track of every weapon on the enemy position. What he must do is try to second-guess the enemy in an attempt to prevent the enemy from executing his defensive plan. This will be manifested in the suppression of the enemy, which denies him the ability to shoot or reposition (see Figure 3-98).

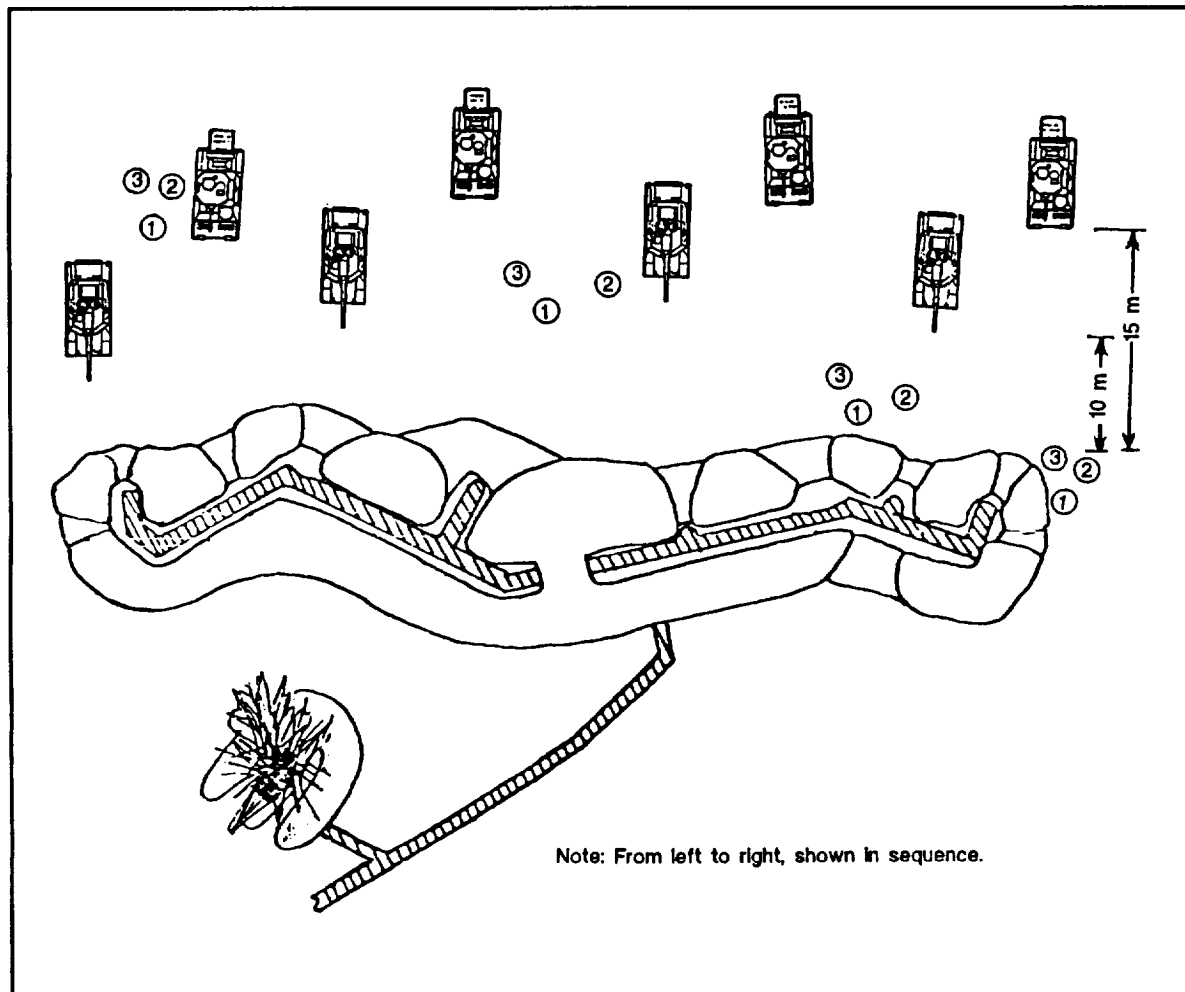


Figure 3-98. Assault force begins the attack.

Maneuver

Movement forward of the LD is made using the formations, techniques, and supporting fires discussed earlier. During the forward movement, all weapons should fire at known or suspected enemy positions. Caution must be exercised when using such fire because it will reduce the element of surprise and greatly increase ammunition consumption.

The company team makes its attack through one enemy platoon position. Attacking elements maintain mutual support so as to not be isolated and defeated piecemeal. Maximum suppression is placed on the enemy position and lifted just as the maneuver force closes. The attack must be violent and aggressive to shock and overwhelm the enemy. Tanks rapidly destroy enemy AT assets. IFVs support the dismounted infantry assault teams as they clear the trench lines, destroying reinforced positions with the 25-mm chain gun.

When conducting a mounted assault, tanks lead, followed by IFVs. The nature of the assault of a prepared enemy position requires the companies to fight pure. Protection of the IFVs from AT fire is key to allowing the dismounted infantry to enter the trench line. Once all armored vehicles and enemy reinforced positions are destroyed, tank loaders use their machine guns to destroy enemy dismounts.

Thermal sights become increasingly important as the objective area becomes obscured by suppressive fires. However, in the case of hot dust or when identification is critical, some part of the force should not be in the thermal mode. This will vary with the situation, terrain, and climate.

Heavy direct and indirect suppression is critical when tanks and BFVs are within 500 meters of the objective. Since the tank main gun and 25-mm have engaged and eliminated armor and bunker targets, the emphasis begins to change to infantry targets. As the tanks maneuver closer, wingman BFVs should switch from 25-mm to 7.62-mm to allow—

- An increase in the rate of fire.
- The emphasis to change from armor-killing weapons to infantry-killing weapons.
- Fire in and around the tanks to protect their flanks and rears.

It is probable that the assault force will begin to receive enemy artillery on the objective. It is important that the infantry get into the trenches quickly by rushing directly to the trench line, firing short bursts on the move. The No. 2 man grasps a grenade while rushing the trench line. The assault team goes to ground once it reaches hand grenade range and tries to get as close as possible to the trench line.

It is doubtful that accurate suppression by the Bradley can be accomplished in close proximity to the dismounted infantry. The Bradleys should attempt to place their fires on strong enemy positions, and the assault teams attack positions of weakness, such as unmanned sections of the trench line.

At the trench line, the No. 2 man throws a grenade in the trench after allowing for cook-off time. This ensures the enemy does not have time to react. After it explodes, the No. 1 and No. 3 men roll into the trench, firing their weapons down the length of the trench in opposite directions. Inside, the No. 2 man follows. At this point, the assault teams are ready to begin the belowground battle. Figure 3-99 shows an assault team moving into the trench line.

Organization of the assault teams. The assault of a strongpoint fortification requires centralized planning and decentralized execution. The assault force is organized around assault teams to more easily meet the requirement. Platoons that are to conduct the assault should form their own support elements containing AT specialists and snipers under the command of the squad leader. There should be one support element per squad. Each Bradley fighting vehicle can field an assault team, yielding four per platoon. For ease of control, within each team members are called No. 1 man, No. 2 man, and No. 3 man. The teams must be drilled to the point that the assault may be executed with minimal guidance. Each man should be armed with hand grenades and his assigned weapon. There should be at least one M203 per squad.

Positioning within the three-man team is rotational, so the men in the team must be well versed and drilled in each position. The responsibility of the No. 1 man is to assault down the trench, using continuous bursts of two to three rounds and throwing grenades around the pivot points in the trench line or into weapons

emplacements. The No. 2 man follows the No. 1 man closely enough to support him, but not so closely that both would be pinned down if the enemy gained local initiative. Each time the No. 1 man stops to prepare a hand grenade, the No. 2 man steps forward to maintain a volume of fire and the momentum of the attack. The No. 3 man follows the No. 2, and prepares to move forward when positions rotate or if a casualty is sustained. A Bradley may be tasked to support the assault team as it clears the trench. Specifically, the chain gun can be used against bunkers or prepared positions.

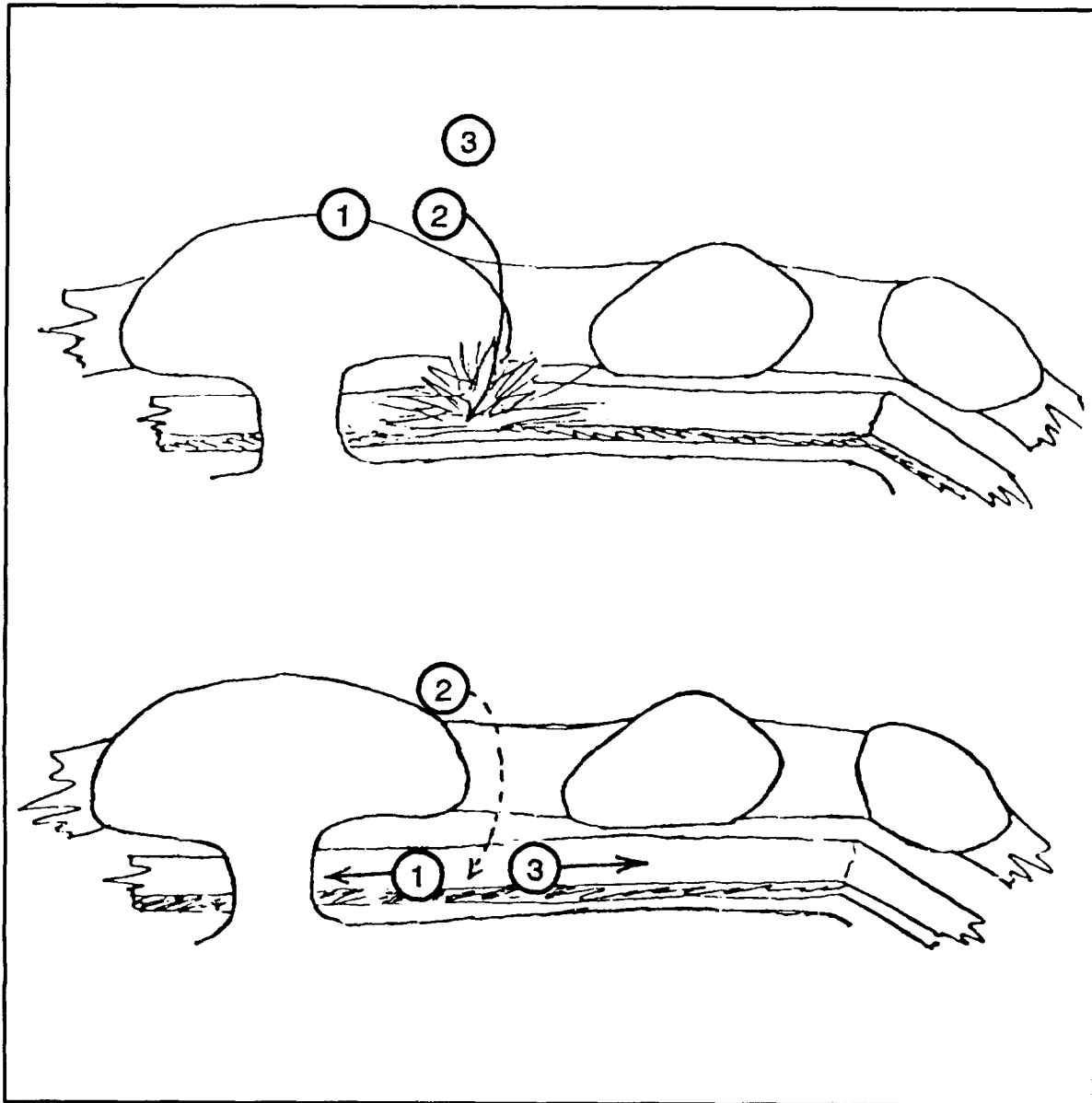


Figure 3-99. Assault team moves into the trench line.

While the initial three-man assault team rotates by event, the squad leader directs the rotation of three-man assault teams within the squad as ammunition becomes low in the leading team, as casualties occur, or as the situation dictates. Since the battle drill is standardized, three-man teams may be reconstituted as needed from remaining company personnel. The platoon leader will control the rotation between squads using the same considerations as the squad leaders (see Figure 3-100).

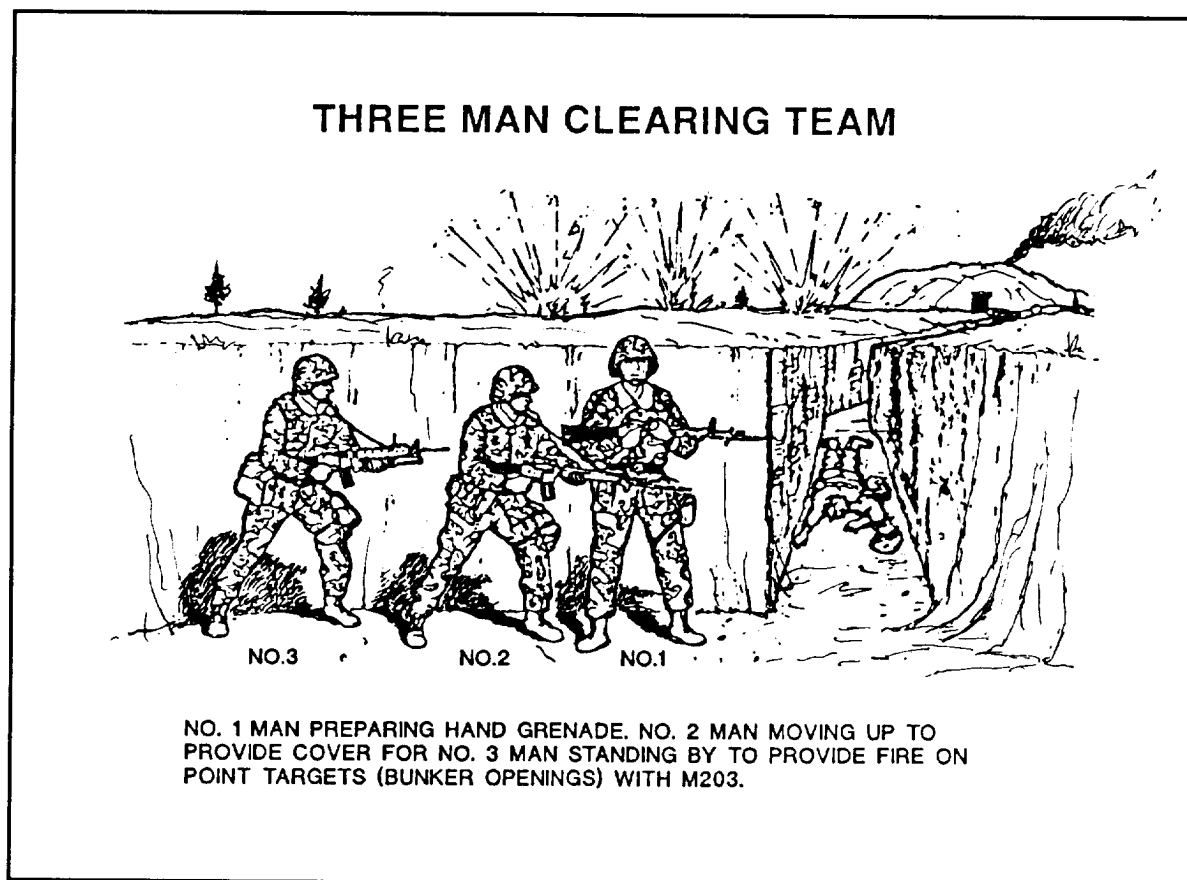


Figure 3-100. Bunker clearing team.

All assault team members prepare for the assault by adjusting the slings of their weapons to allow placement of the sling around the neck in such a way that the weapon remains waist high when released with both hands. This configuration allows the soldier to perform manual tasks while keeping his weapon at the ready. Tasks such as preparing hand grenades and carrying assault ladders are greatly simplified by this arrangement.

Clearing bunkers. Bunkers are the most difficult, time-consuming areas to clear in a trench system. If they cannot be marked and destroyed by either tank or Bradley direct fire, they must be secured and bypassed even if heavy suppressive fires are needed to allow the teams to get out of the trench, move over to the bunker, and reenter the trench in a bypassing action. The bunkers are later reduced by engineers during the mop-up phase. If bunkers cannot be bypassed or if engineers are not available, the bunker must be reduced by the assault elements (see Figure 3-101).

The assault elements attacking a bunker must perform the following tasks:

- TASK 1—Fire into and around the bunker to suppress the defenders and to prevent its reinforcements.
- TASK 2—Destroy or neutralize obstacles and the bunker using grenades, explosives, or flame weapons.
- TASK 3—Assault to kill or capture the enemy in the bunker.

For these tasks, the platoon is organized into three elements, or one element may perform more than one task. For example, SAWs may first perform TASK 1 and then take part in TASK 3. Riflemen may have the primary duty of TASK 3, but may first have to help other troops in with TASK 1. They may have to take over special equipment from men who become casualties to perform TASK 2.

Whenever possible, tanks or other heavy direct-fire weapon systems should be positioned to assist in the accomplishment of TASK 1. Tanks should fire HEAT rounds due to their explosive charges.

The assault element should never attempt to enter the bunker complex until the position has been heavily suppressed. Historical examples prove that even after extensive preparation, an effective fighting force may remain inside the position.

During TASK 2, the designated squad approaches the bunker from the blind side, blows any wire entanglements with bangalore torpedoes, and kills the enemy either with fragmentation grenades, WP grenades, satchel/pole charges thrown into the aperture of the bunker complex, or M202 flash weapons.

As the assault squad moves in to kill or capture the enemy in the bunker (TASK 3), it should be remembered that the first man to enter the bunker complex will be momentarily blinded by the reduced light level and he will be silhouetted in the entrance, thereby providing an excellent target for any remaining enemy inside the complex. For this reason, a battle drill is used similar to the one used to attack and clear a building (MOUT).

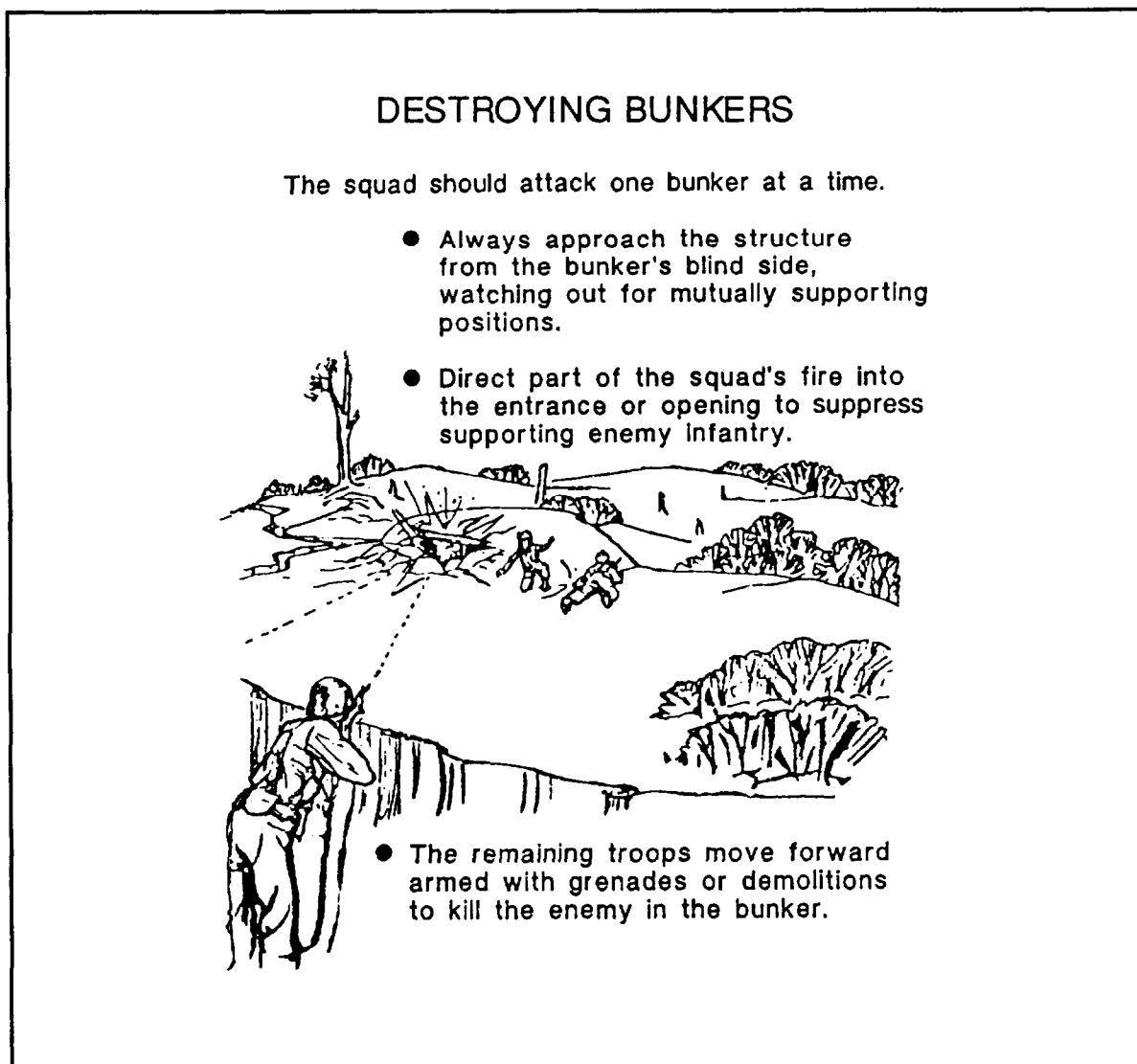


Figure 3-101. Procedures for clearing bunkers.

The No. 1 man halts to the side of the entrance to the bunker complex and prepares a grenade while being overmatched by the No. 2 man. He throws the grenade into the entrance after quickly checking for any obstruction. Immediately after detonation, the No. 1 man enters firing two-round bursts, either right to left or left to right, within the complex. Normally, he will fire in a pattern right to left if entering the left side of the doorway and left to right if entering from the right. While entering, the No.1 man should strike the opposite base of the entrance way with his bounding foot and spring to the side, inside the complex to prevent the enemy within from recovering and acquiring the silhouette. The No. 2 man enters immediately after the No.1 man and springs to the opposite side of the position and fires. The No. 3 man secures the entrance. Should there be another room in the bunker complex, the procedure is repeated. A systematic search is then conducted.

If the bunker position is small, it may require only one man to clear. The No. 1 man employs his hand grenade and enters firing two-round bursts and alerts the No. 2 man during the systematic search for the enemy.

An M203 may be required to ensure the grenade reaches the position if the bunker is constructed using a long covered trench as an entrance for a small position. A violent entry is still necessary to prevent the enemy from recovering and engaging the assault team. This requires continuous fire and movement.

Once on the objective, the tanks will fight to the other side at a commensurate pace with the infantry clearing the trench line. This will ensure that our tanks do not become separated from the infantry, and subsequently become vulnerable to enemy dismounted attack. The tanks will then orient on the enemy armor avenue of approach; likewise, the infantry will orient on the dismounted avenues of approach in preparation for the enemy counterattack. All subunit leaders quickly turn their efforts toward reestablishing control and flank coordination as the company team consolidates and reorganizes.

Fire Support

The exact timing of the shifting of fire is important. The commander prepares for the shifting of fires by visual or event-oriented means. He may have the flank or lead vehicle marked so that supporting fires may be shifted in front of it, or may have visual signals, such as colored smoke, designated to signal the shifting of fires. When developing his plan to control supporting fires, the commander must take into account factors such as the limited visibility and communication failure. Shifting of fires at designated times is possible, but can only work if the operation is meticulously coordinated and rehearsed. It will not normally be appropriate at company level. If the company team commander decides to use the technique, he must do an in-depth time and space analysis.

Mobility, Contermobility, and Survivability

Breaching operations will be conducted as the situation requires. Often the engineers will accompany the assault force as it penetrates the enemy defenses. If the assault force is able to conduct a mechanical breach without engineer assistance, then they must be prepared to fight dismounted. Generally, however, this means that the engineers will accompany the infantry assault teams, providing demolition experience when bunkers or reinforced positions need to be destroyed.

Air Defense

The air defense Stinger team will be under armor with the company combat trains during most of the deliberate attack. It is critical that they control the air avenues of approach into the objective area. After the objective is secure, the Stinger teams should accompany the combat trains forward to join the company on the objective and provide air defense from the expected enemy counterattack.

Combat Service Support

The company combat trains will remain about one terrain feature behind the maneuver elements during the attack. Once the objective is secure, the evacuation of wounded and resupply of ammunition and fuel will become immediate priorities. Any personnel replacements or repair parts may also be brought forward if they will not require much time for integration or installation. Dead will be quickly evacuated. They must be separate from the wounded. Likewise, prisoners will be secured and returned under guard with the LOGPACs. EPWs may be guarded by walking wounded.

Command and Control

The company commander will have a very difficult and critical job throughout the operation. He must make the split-second decisions which often are the difference between success and failure. The attack must be aggressive, but not out of control. The key item for the commander to remember is that as the company deploys for the attack, it should maintain a rapid yet controlled speed, one which allows the individual elements to adjust to the terrain as need be. The greatest problem with attacks is that they often occur piecemeal. A moderate pace combined with a solid formation will ensure that weapon systems are massed and that the desired shock effect is achieved. Once the company arrives on the objective, preplanned signals and markers should be used so that he can remain abreast of the progress of both the aboveground and belowground elements. The commander must ensure that his element remains linked to the activities of his counterpart company team.

Chapter 4

DEFENSIVE OPERATIONS

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How a commander conducts defensive operations depends on a great number of factors. In various situations, some factors may have minimal impact; however, in a mid- to high-intensity environment, four factors may be dominant. These factors are: reduced Pk at extended ranges for tank cannon; the likelihood of a dirty battlefield, which may not be contaminated but will be obscured; the quantity of threat combat vehicles; and the speed of attack. These actors will impact substantially on the commander's scheme for the defense at brigade, battalion, and company, whether the mission is defense in sector, defense of a BP, or defense of a strongpoint.

Lethality considerations involve the commander and his staff. They must have a realistic understanding of the lethality of their combat systems, especially the tank. Several considerations combine to make lethal frontal engagements of threat tanks unrealistic beyond 2,000 meters. Because of the threat approach to armor design, threat tanks have most of their armor protection concentrated in the frontal 60-degree arc of the turret. These threat armors are difficult to penetrate frontally at any range with KE ammunition. However, the sides, top, and rear have relatively thin armor, making them vulnerable to attack from these aspects. Recent adoption of reactive armor by the threat has an even greater negative effect on CE warheads, whether tank- or missile-delivered.

Although attempts to increase KE penetration capabilities against threat armor have been fairly successful, the more modern long-rod penetrators achieve this at the expense of some delivery accuracy. Obviously, to achieve a kill, the penetrator must first fit the target.

As range increases, Ph decreases. Also, as range increases, the Pk given a hit decreases because velocity decreases with range, and penetration is dependent on velocity, among other things. The counter to these

developments is to engage from closer ranges if engaging frontally, or to engage from longer ranges on the flank or rear. Considering just Pk, the dominant considerations are—

- Long frontal engagements are ineffective.
- Frontal engagements should begin at less than 2,000 meters.
- Flank and rear engagements give great Pk.

Weapon planning ranges in the defense are a function of *both* Ph and Pk. A further understanding of Ph and Pk, particularly with tank cannons, is needed when planning and executing the defense. Commanders should know the specified lethality capabilities of the particular KE rounds they will be firing as they relate to the specific threat armor characteristics and vulnerabilities they will fight. While actual values of Ph and Pk are classified, it is obvious that Ph reduces as a function of range, as does Pk for KE penetrators (see Figure 4-1).

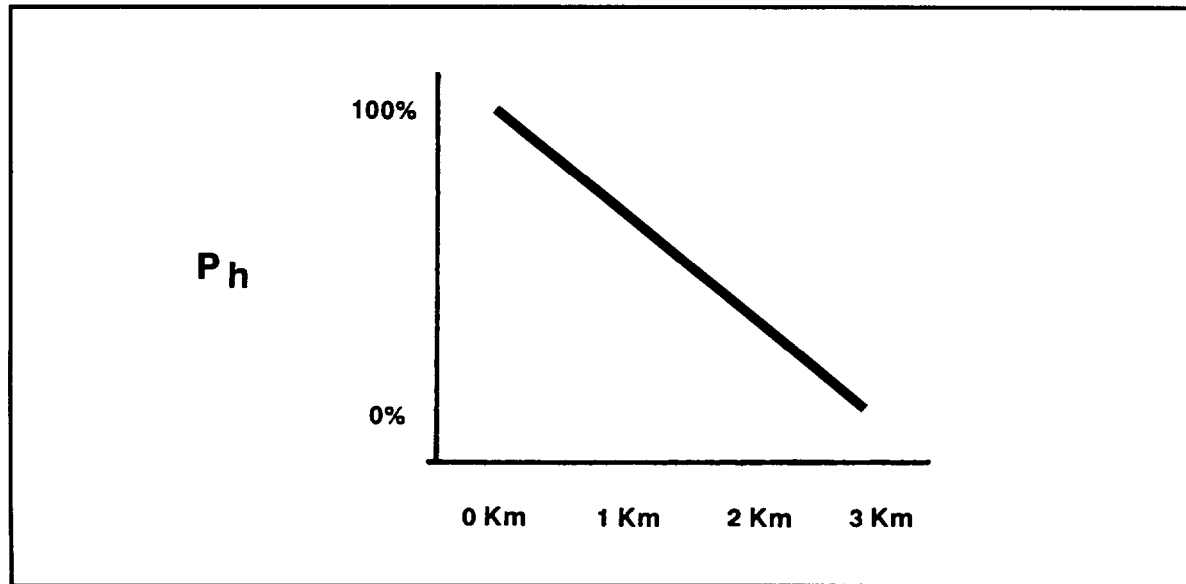


Figure 4-1. Probability of hit at various ranges.

To figure the planning range for a tank, you need to know how many rounds you are willing to expend. It is *possible* to hit a threat tank at 3,000 meters but less *probable* to do so on the first round. Further, even given a hit, the Pk will be very low against turret frontal aspects. With limited rounds on board a tank (M1A1, 40; M1, 55; M60A3, 63), and the time and logistical support needed for resupply, the commander must manage resources carefully. The idea is to make every bullet count, which requires reduced engagement ranges. There is a balance. Engaging at too close a range frontally will increase Ph and Pk, but reduce the number of targets that can be destroyed before the attacker is on your position. If mission considerations take priority, for example as in a delay mission, the engagement ranges may be extended at the cost of the number of kills possible before resupply is required. The ideal planning range is 1,500 meters. This can be extended with recognition of degraded Ph, degraded Pk against turret frontal armor, and reduced kills with the on-board load of ammunition.

Obscuration caused by smoke, fog, and dust can aid the attacker. The threat artillery capability is large enough that we must expect extensive use of smoke when it attacks, and we can count on the European battlefield being regularly obscured by fog. These two obscurants combine to be virtually impenetrable by thermal optics. The counter to this problem will be to design short-range engagements with EAs that are constrained between natural or man-made obstacles. A planning range of 1,000 to 1,500 meters will be appropriate if obscuration is expected.

The number of targets affects defensive operations. Defense missions imply a superiority in threat combat vehicles. The threat has the combat systems to maintain this superiority for extensive periods over broad frontages. The implication for the defender is to kill threat vehicles, and keep on killing them over a long period of time. Then, when the attacker-to-defender ratio is sufficiently reduced, at least locally, the defender must seize the initiative from the attacker. A defender who is particularly short of infantry cannot defend a BP for extended periods. Superior numbers of threat infantry will eventually force the positional defense. The counter to this is to defend in sector, using mobility to spread the killing of threat vehicles over time by spreading the fight over the terrain in depth.

Speed of the threat attack presents problems and necessitates solutions similar to those for dealing with the number of targets as discussed above. Speed causes more targets to be at a given point during a specific period. The counter to this must again be to spread the fight through the depth of a sector. Depth in the brigade sector will normally be achieved by deploying company teams in depth within the battalion sectors. Rarely could a brigade afford to thicken the battlefield sufficiently to have battalions in depth; and there would be significant C2 problems. At the other end of the spectrum, the team commander will normally fight his team intact on one position at a time. Normally, he will not split the company team and fight platoons in depth from different positions. This does not preclude moving platoons separately from one company team position to the next.

These four factors combine to favor a defender engaging threat forces from the flank and rear. Frontal engagements will work only at closer ranges. The combined effects of obscuration (smoke, fog, and dust), particularly on a European or desert battlefield, require close planning ranges with direct-fire weapons throughout the EA. In short, the plan must work with worst-case visibility. All these factors point to a short-range engagement. The defender must anticipate decisive engagement and plan accordingly by ensuring the engagement will be on as favorable terms as possible. This demands controlling the total number of threat vehicles confronted at any one time. Selecting restrictive terrain with choke points will help regulate the flow of the attacker into the killing area. In addition to the Ph and Pk considerations just discussed, engagements from the flank will increase the number of kills because it takes the threat longer to respond and return fire. This is especially true when it is forced to button up because its field of view is reduced to 7 degrees. Given effective fire distribution, the defender should be able to kill at least three vehicles per defending tank against the threat flank before the threat can begin to return fire.

An optimum direct-fire distribution plan would result in each target being killed only once. More targets and shooters in the fight make this increasingly difficult to achieve. It is difficult enough at platoon and company level. A battalion EA will almost certainly result in less efficient fire distribution due to duplication, masking, dead space, and obscuration. In an ideal situation, good fire distribution should allow a defending team with terrain masking that is engaging from the flank at 1,000 to 1,500 meters to quickly destroy a reinforced threat company. If the terrain is not ideal for such close engagement, the defender must adapt these principles to the terrain for longer ranges but recognize that this will degrade visibility, C2, Ph/Pk, and favorable direct-fire combat ratios (too many threat killers in too large an EA). A defender who repeatedly takes a series of totally lethal small bites will succeed. Brigade and higher commands must facilitate this fight by striving to obtain and then assign the right terrain to make it work. Battalion and company commanders and platoon leaders must then design EAs that will permit flank positioning as well as routes to displace.

Emplaced obstacles traditionally used to reroute forces into an EA should be prioritized to fix the threat's exit from the EA. Use of natural obstacles and terrain will be more effective to channel the threat and not reveal friendly positions and intentions. The execution phase will depend heavily on finding gaps in threat echelons or creating gaps with indirect fires to permit the defender to move quickly between its positions.

SECTION I. BRIGADE DEFENSIVE OPERATIONS

Threat Offensive Doctrine

How the Threat Attacks

The three basic forms of offensive action on the battlefield are: an attack against a defending threat, a meeting battle, and a pursuit.

The ground forces attack in depth. This point is important for those who might have to defend against an attack, because focus on the operations of a single division does not properly magnify the problem. A defending brigade in the main sector of an attack could face one or two divisions initially, followed by additional divisions attacking to intensify the force and tempo of the offense.

The offensive against a defending threat usually is accomplished in two distinct but overlapping stages. The first is the concentration of combat power at a chosen point to rupture the threat defenses. In the second stage, the attack is intensified by the rapid exploitation of the success achieved in the first stage. To discuss this operation in terms more familiar to the reader from the US, the first stage will be called the breakthrough and the second stage the exploitation.

The breakthrough is accomplished by concentrating superior combat at the decisive point. In the breakthrough sector, the Soviet-style armies concentrate artillery for an intense preparation and for close FS during the operation. They use mass and economy of force to achieve at least a 3:1 advantage. This ratio is a minimum, and commanders try to achieve greater advantage in the sector of the main effort. Soviet-style doctrine lists a vigorous reconnaissance, use of all available FS, and a vigorous ground attack as requirements for a successful breakthrough.

The echelon forces try to maintain a rapid advance. The first echelon ruptures the defense and seals the shoulders of the penetration. The second echelon exploits this success by advancing through the penetration to seize deep objectives. The distinction between a second echelon and a reserve is that the second echelon is given a precisely defined mission before the attack. A reserve is not assigned an offensive mission ahead of time, but is assigned its mission during the course of the battle.

If the threat is given time to reconstitute a defense, the barrier to further offensive operations still exists, and the first stage of the operation must be repeated. To preclude this, the first echelon is allocated sufficient combat power to overwhelm the threat quickly. The army commander in a main sector is likely to place more than half of a division in the first echelon and use artillery from front-in preparation preceding the first echelon's assault.

Although the army commander assigns missions to divisions as he sees fit, a typical immediate task for a first-echelon division is to advance through the rear limits of a defending brigade's AO and destroy the division's reserve forces. A typical subsequent mission is to advance through the rear limits of the defending division's sector and to destroy the corps reserve forces. The mission for the day is a point slightly beyond the division's subsequent task. The total distance of the entire operation is 30 to 50 kilometers beyond the threat's FEBA.

In the exploitation stage of the operation, the army's second-echelon divisions move through the gap or gaps created by the first echelon and exploit in depth. In practice, the army commander has the flexibility to change directions of advance and mission for his divisions during the course of the battle. Likewise, division commanders are required to react to battlefield developments and to clarify instructions to regimental commanders as the operation develops.

A regiment in the first echelon may be ordered to go over to the defensive temporarily to meet a battlefield problem, and subsequently may be employed in the second echelon. The effect created by this is an attack in waves. If the threat has a well-organized defense in depth, the offensive is constructed to throw a fresh wave against each subsequent line of defense. If the defense is organized with most forces forward,

offensive forces in the second echelon or second wave are prepared to advance quickly to objectives located far beyond the MBA after the penetration is achieved. For example, an army is prepared to advance to a depth of more than 150 kilometers with its second-echelon divisions. In this situation, exploitation divisions march in column in anticipation of a meeting engagement.

Conduct of a Motorized Rifle Division Attack

When faced with a prepared defense echeloned in depth with strong reserves, the Soviet-style armies conduct an offensive against a defending threat. An offensive against a defending threat could occur as follows.

A commander of a combined-arms army plans to conduct an offensive through a region defended by a threat division. The threat division is defended on a front of 45 kilometers with two brigades forward and one in depth. The army commander controls four MRDs and one tank division. He places the three MRDs in the first echelon and forms the second echelon from the tank division and the remaining MRD. The main attack is against the 12th Brigade, with a supporting attack against the 13th Brigade. As a result, the army commander decides to attack the 12th Brigade with two divisions and the 13th Brigade with one. Thus, the two divisions conducting the main attack are each concentrated on 9 to 10 kilometers frontages, although the division conducting the secondary attack has a frontage of 26 kilometers.

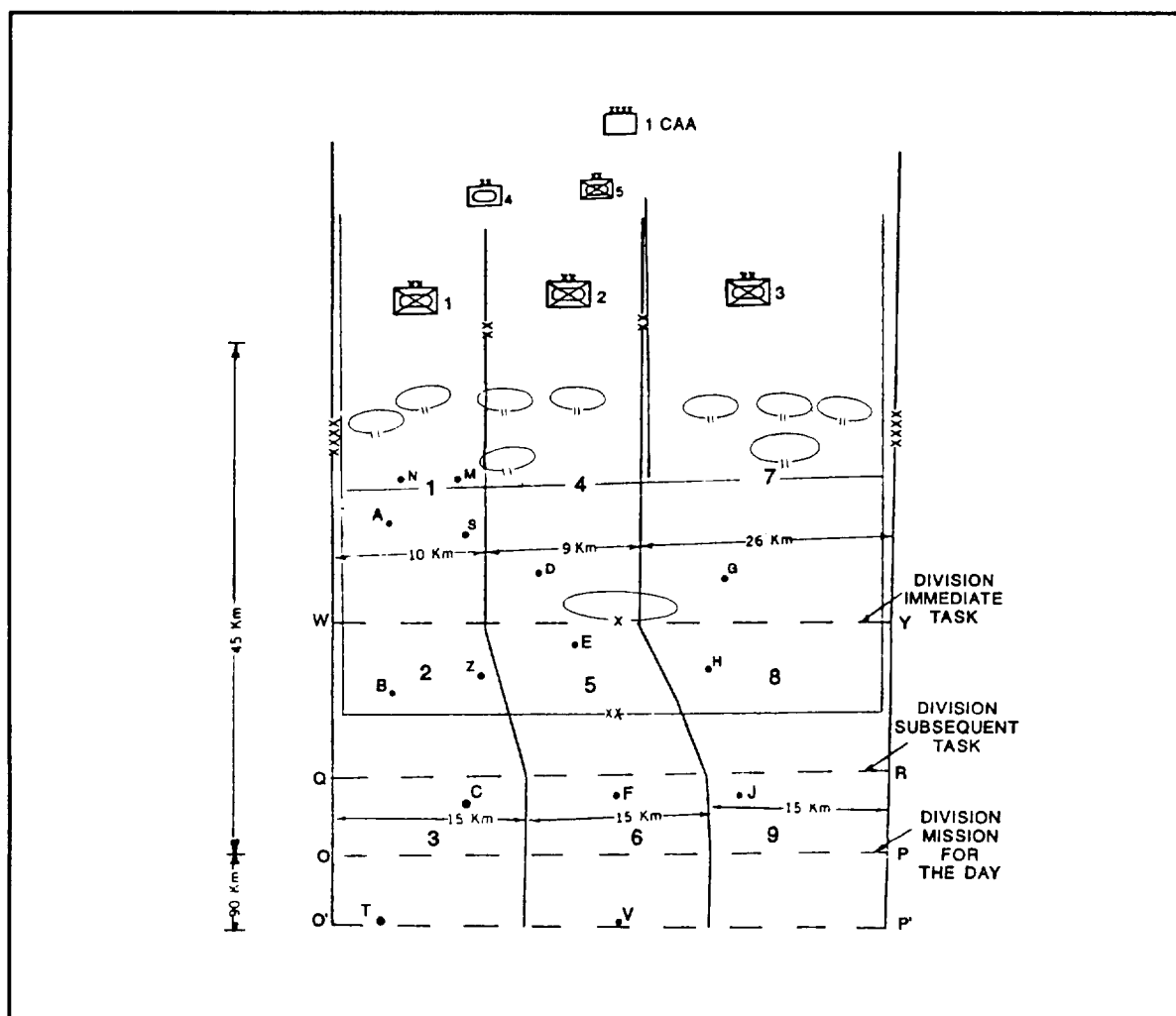


Figure 4-2. Tasks within the division's sector of operations.

The army commander assigns missions to his divisions in the following terms (see Figure 4-2).

First Division (MRD)

Immediate task. With attached artillery and special units, attack in assigned sector, destroy the threat in Region 1, and occupy Line W-Y within assigned boundaries.

Subsequent task. Continue to advance in direction A to B, destroy the threat in Region 2, and occupy Line Q-R within assigned boundaries.

Mission for the day. Advance in direction B to C, destroy the threat in Region 3, and occupy Line O-P within assigned boundaries.

Second Division (MRD)

Immediate task. With attached artillery and special units attacking in assigned sector, destroy the threat in Region 4, and occupy Line W-Y within assigned boundaries.

Subsequent task. Continue to advance in direction D to E, destroy the threat in Region 5, and occupy Line Q-R within assigned boundaries.

Mission for the day. Advance in direction E to F, destroy the threat in Region 6, and occupy Line O-P within assigned boundaries. (Note that the final boundaries have expanded to 15 kilometers to facilitate passage of the second echelon.)

Third Division (MRD)

Immediate task. With attached artillery and special units, attack in assigned sector, destroy the threat in Region 7, and occupy Line W-Y within assigned boundaries.

Subsequent task. Continue to advance in direction G to H, destroy the threat in Region 8, and occupy Line Q-R within assigned boundaries.

Mission for the day. Advance in direction H to J, destroy the threat in Region 9, and occupy Line O-P within assigned boundaries.

Fourth Division (TD)

Advance in the second echelon behind the first MRD. Be prepared to deploy in Regions 1 or 2 and develop success in direction B to C to Line O-P. Be prepared to advance in direction C to T to Line O'-P'.

Fifth Division (MRD)

Advance in the second echelon behind the second MRD. Be prepared to deploy in Regions 4 or 5 and to develop success in direction E to F to Line O-P. Be prepared to advance in direction F to V to Line O'-P'.

The division commander of the first MRD elects to make his main attack in the zone of the second MRR and gives the regiment a smaller frontage. He could place three regiments in the first echelon, but he has decided to attack with two regiments in the first echelon (see Figure 4-3).

First Regiment (MRR)

Immediate task. With attached artillery and special units, attack in assigned sector, destroy the threat in Region 1A, and occupy Line K-L within assigned boundaries.

Subsequent task. Continue to advance in direction N to A, destroy the threat in Region 1B, and occupy Line W-Y within assigned boundaries. Further direction of advance B to C.

Second Regiment (MRR)

Immediate task. With attached artillery and special units, attack in assigned sector, destroy the threat in Region 1C, and occupy Line K-L within assigned boundaries.

Subsequent task. Continue to advance in direction M to S, destroy the threat in Region 1D, and occupy Line W-Y within assigned boundaries. Further direction of advance Z to U.

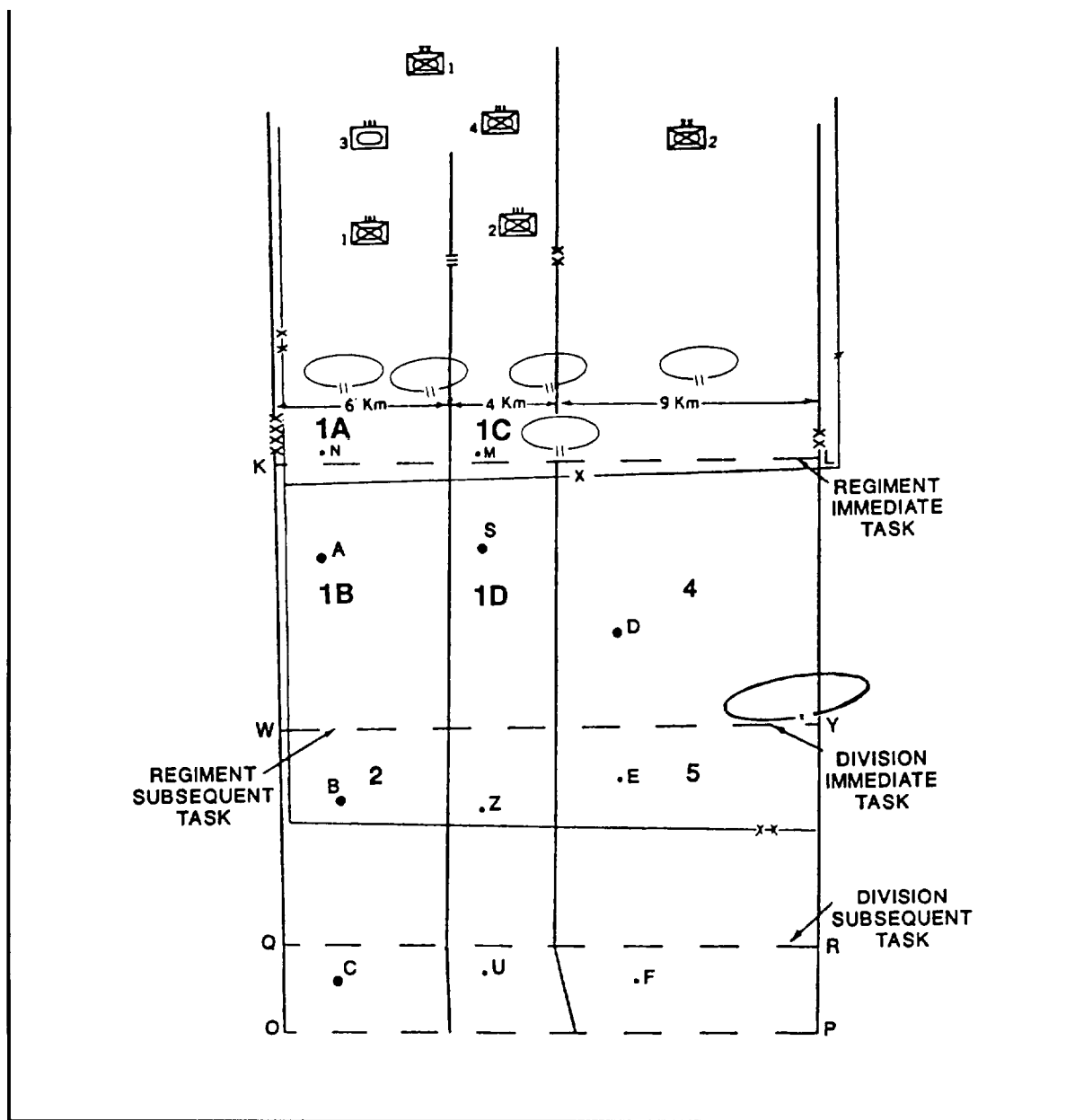


Figure 4-3. Regimental tasks within the division's sector of operations.

Third Regiment (TR)

Advance in the second echelon behind the first MRR. Be prepared to deploy in Region 1A or 1B, and to develop success in direction A to B to Line Q-R or O-P.

Fourth Regiment (MRR)

Advance in the second echelon behind the second MRR. Be prepared to deploy in Regions 1C to 1D, and to develop success in the direction of S to Line Q-R or O-P.

Mission orders include preparations for a variety of contingencies. The detailed planning also includes planning for a variety of contingencies, and commanders are prepared to react to combat developments.

As the battle develops, threat resistance in the sector of the second MRR slows the advance while the first MRR breaks through, occupies Line K-L, and continues in direction N to A. The second MRR commander advises the division commander of the situation while, on his own initiative, he commits his second-echelon battalion around the left flank of the threat in his sector to exploit the first MRR's success and to protect the regiment's flank.

The division commander orders the second MRR commander to establish a defense and prepare to repulse a counterattack. He orders the commander of the fourth MRR to advance from the left front, in anticipation of the meeting engagement. The mission is to occupy Line W-Y in the original zone of the second MRR.

As combat develops, the threat forces are committed against the advancing fourth MRR. The fourth MRR conducts a meeting engagement that disperses the threat forces. The remaining threat elements that originally stopped the second MRR's advance are forced to withdraw. The second MRR joins the second echelon.

Meanwhile, the threat division commander has been forced to commit his reserve in the zone of the second MRD. As a result, the leading regiments of the first MRD encounter only scattered resistance and occupy Line Q-R, which is the division's subsequent task. The division commander then commits the third tank regiment and the second MRR to seize Line O-P.

The fourth TD has advanced in the sector of the first MRD. The second MRD, after temporarily going over to the defensive to repulse the counterattack by the threat division reserve, has joined the second echelon while the fifth MRD continued the advance in the second MRD's original sector.

Meeting Battle

General

The Soviet-style armies view the meeting battle as the most common form of combat. As shown in the discussion of the offensive against a defending threat, the Soviet-style armies intend to develop the offensive at a rapid tempo and disallow the threat time to reconstitute an effective defense. The collision of the two forces results in a meeting battle.

When contact is likely, the Soviet-style armies are organized for combat before contact with the threat. This organization is basically an advance guard and a main body. A unit places up to one-third of its combat power in the advance guard. Thus, the advance guard for an MRD may be a reinforced MRR. The advance guard aggressively attacks when the threat's leading elements are encountered. This stops the threat advance and force in his reconnaissance and security elements. While the threat is attempting to clarify the situation, the main body attacks on the flanks and rear.

The Soviet-style armies require units marching in anticipation of a meeting battle to conduct deep reconnaissance to clarify the situation. The Soviet-style armies emphasize time, and expect the unit to assume the offensive without waiting for clarification of the situation.

The commander must be alert to sudden changes in the situation. He must be prepared to shift fires, change direction, and establish new objectives. If he fails to seize the initiative, he must be prepared to organize a defense, halt the threat, and launch a counterattack. If the threat attacks with superior forces, the commander must be prepared to organize a defense in depth to contain the threat attack until other units can attack the flanks and rear of the threat.

Sample Meeting Battle

The second MRD is advancing in anticipation of a meeting battle in direction BLUE. The division marches with a reinforced MRR as the advance guard; and the main body marches on two parallel routes. The reconnaissance battalion is operating out to 60 kilometers from the forward detachment, and the forward detachment is 15 to 20 kilometers from the advance guard. The advance guard is 20 kilometers from the main body, and the length of the division main body is 35 kilometers from head to tail (see Figure 4-4).

The location of the reserve and the surrounding terrain suggest the most likely threat approach will be from the left front. Based on this information, the commander places his tank regiment on the left route of march, for it is from here that the tanks can best maneuver to attack the rear of the threat force.

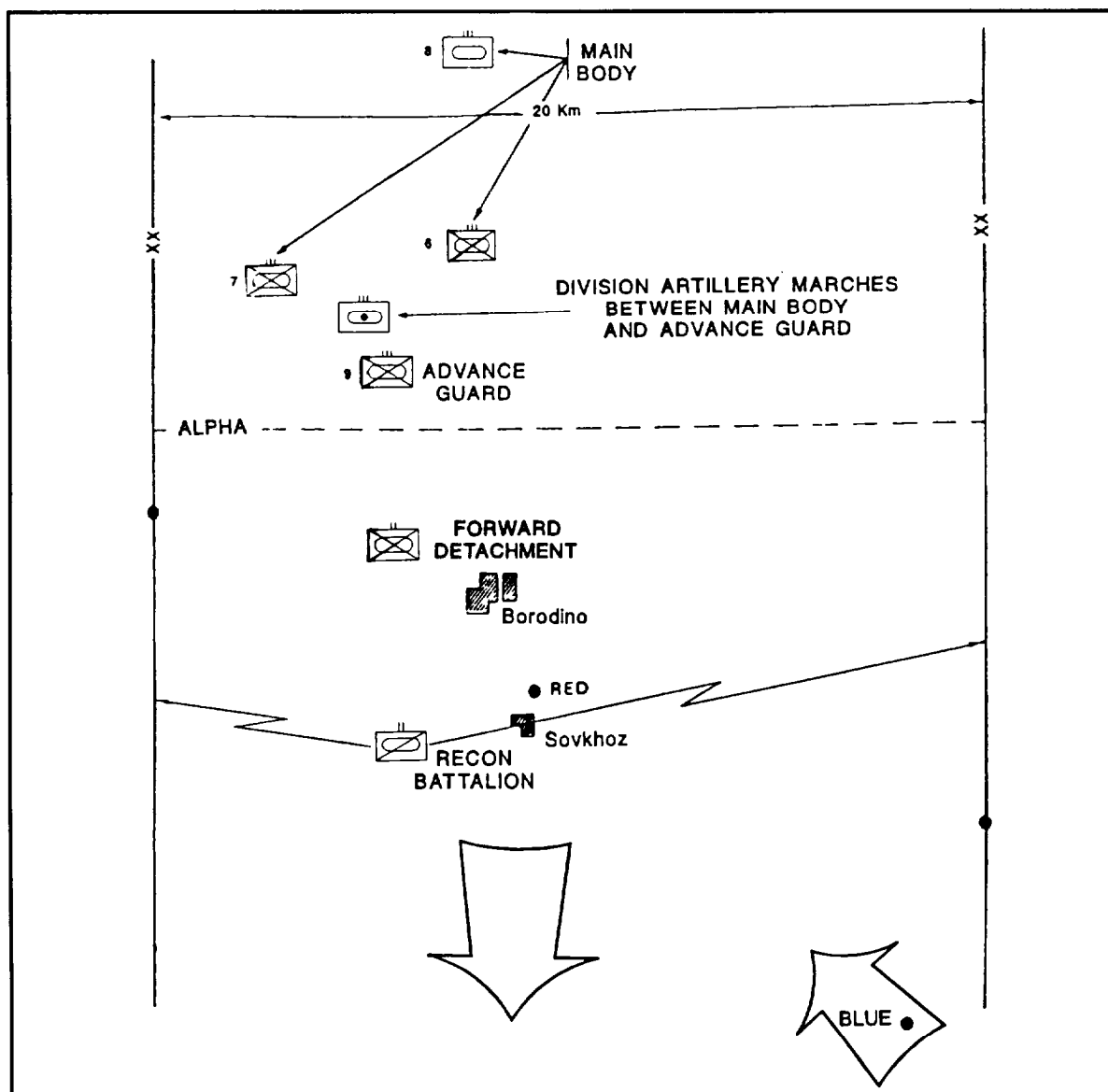


Figure 4-4. The division march formation in anticipation of a meeting engagement.

The commander analyzes all terrain along the route of march and prepares for a variety of contingencies. He briefs his subordinate commander and conveys his concept of the operation. In this briefing he discusses likely points of contact and AAs along the route of march.

At 1245 hours, as the advance guard crosses PL ALPHA, the commander of the division reconnaissance battalion reports that a column of threat infantry and artillery about 20 kilometers in length is moving toward the division route of march from direction BLUE-RED (see Figure 4-5). The head of the column is in the vicinity of village SOVKHOZ. At 1255 hours, the advance guard reports that they have engaged a threat rifle company near village BORODINO. On the basis of this data, the commander is able to develop a preliminary

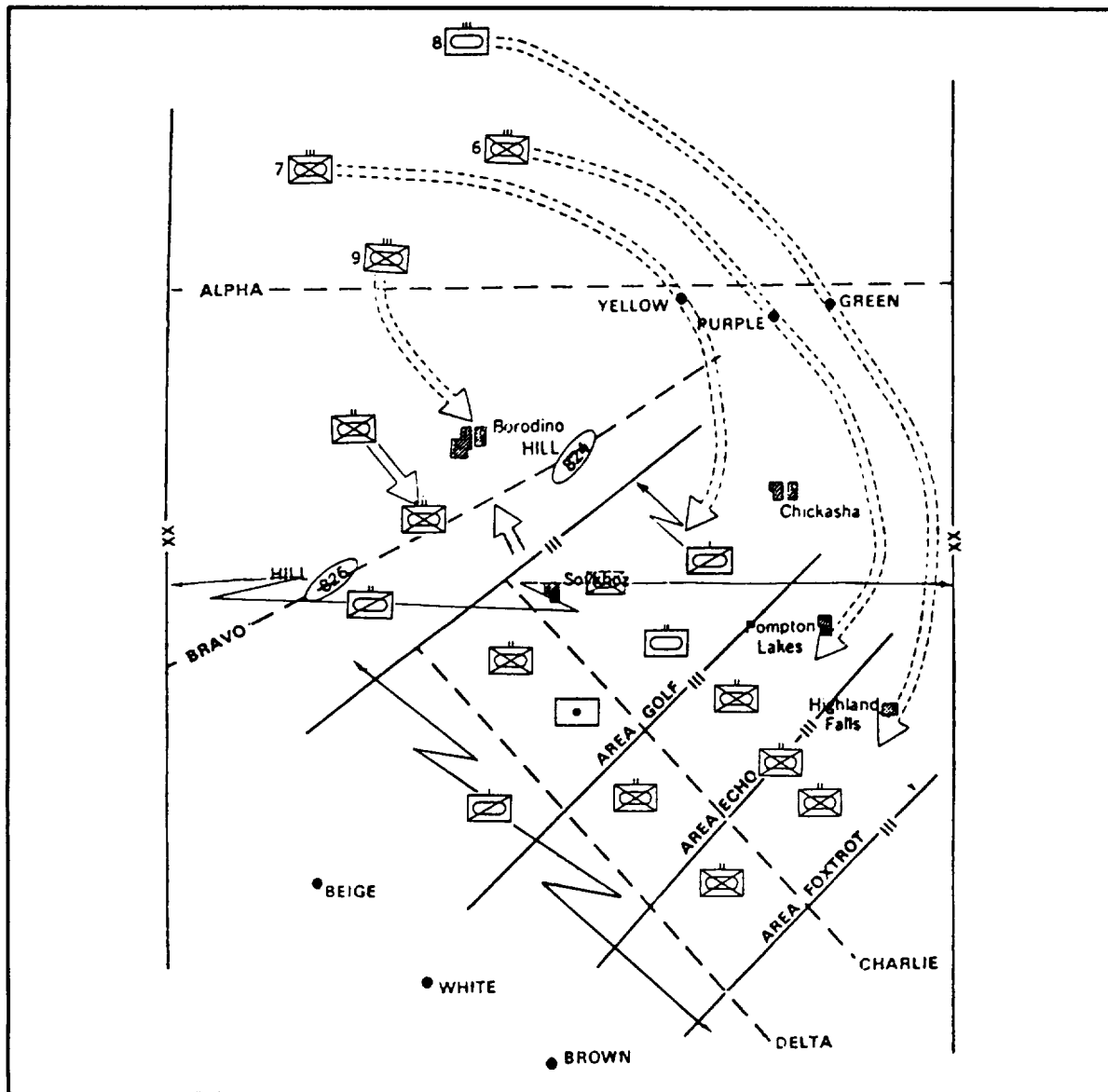


Figure 4-5. Attacking the threat column from the march.

idea of possible threat strength and actions. He decides that the entire division must be committed to a meeting engagement.

Meanwhile, without waiting for instructions, the friendly advance guard deploys to attack the threat security elements and advance guard. Simultaneously, the advance guard commander informs the division commander of the situation. The division commander reconfirms data from the initial briefing and orders the advance guard to seize key terrain to the south and east of BORODINO. The advance guard attacks, seizes the assigned terrain, and drives in threat reconnaissance and security, thus denying the threat his eyes and ears. The advance guard reaches PL BRAVO by 1415 hours.

By 1320 hours, the division commander has given combat missions by radio to the regimental commander of the main body. The tank regiment is given a direction of march, which is GREEN-HIGHLAND FALLS, and a line of deployment in the vicinity of HIGHLAND FALLS with left and right limits for a deployment

sector. The mission is to destroy the threat in area FOXTROT and to secure Line DELTA within the sector. The regiment is also assigned a direction of further advance, which is HIGHLAND FALLS-BROWN.

The sixth MRR is given a new direction of march, which is PURPLE-POMPTON LAKES, and a line of deployment in the vicinity of POMPTON LAKES with a deployment sector as indicated. The mission is to destroy the threat in area ECHO and secure Line DELTA within sector. The regiment is also assigned a direction of further advance CHICKASHA-BEIGE.

The regiments march rapidly to their assigned deployment sectors and deploy as quickly as possible. The tank regiment deploys in the vicinity of HIGHLAND FALLS by 1455 hours. Without waiting for the MRRs to complete deployment, the tank regiment goes over to the attack against a partially deployed threat. At 1505 hours, the sixth MRR completes deployment and initiates its attack, followed by the seventh MRR at 1510 hours.

The tank regiment overwhelms the threat in area FOXTROT and reaches Line DELTA by 1600 hours. The threat manages to establish a hasty defense against the sixth and seventh MRRs, whose advances meet with great resistance. By 1600 hours, they have reached PL CHARLIE. The success of the tank regiment and pressure from the advance guard place the remaining threat forces in an untenable position, forcing them to withdraw to the southwest. The division commander responds by organizing a pursuit to complete the destruction of the threat (see Figure 4-6).

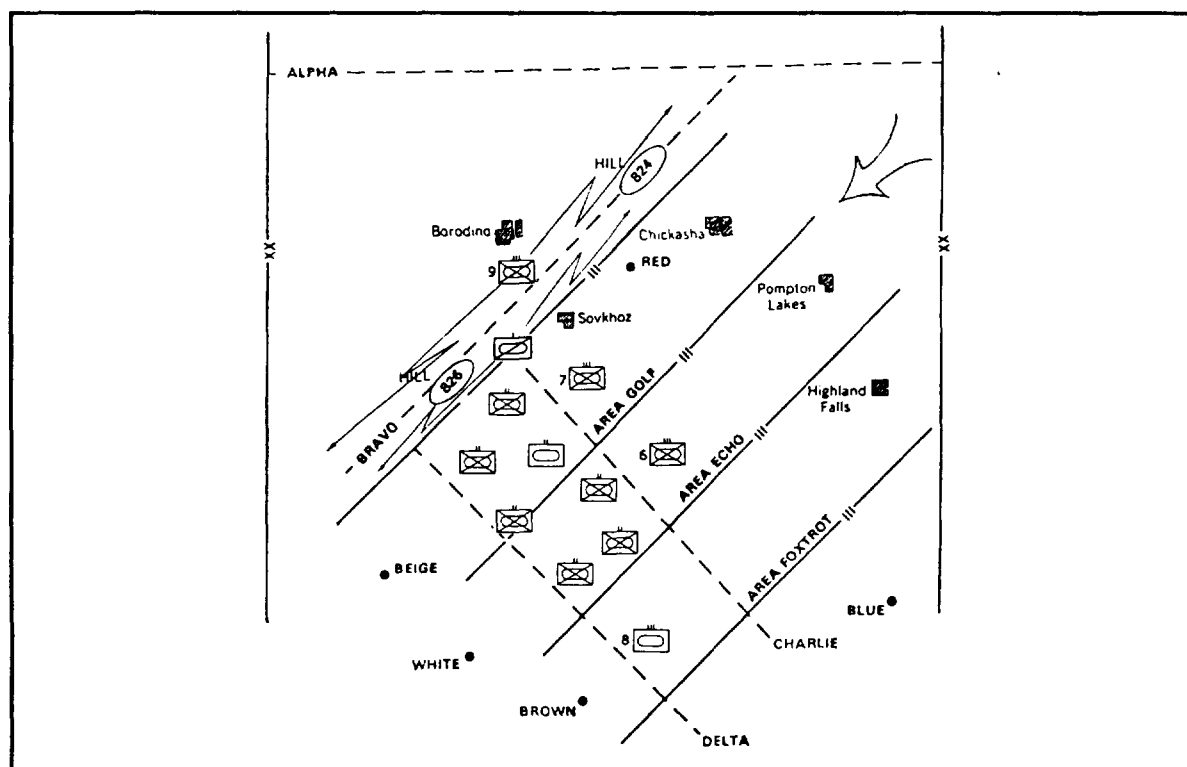


Figure 4-6. The attack from the march succeeds.

Pursuit

General

The concept of the pursuit is simple. The commander organizes his force to accomplish three basic tasks. First, part of the attacking force must maintain frontal pressure on the threat to prevent disengagement. Second, the commander uses part of his force to march on routes parallel to the threat withdrawal and attack his flanks. These attacks will prevent the threat from forming in column formation and slow his rate of

withdrawal. Third, a portion of the force must outdistance the threat and block the withdrawal. This part of the force seizes key terrain and important positions in the path of withdrawing threat forces. The threat must be slowed, overtaken, and blocked.

When a threat unit is withdrawing hastily, a pursuit is organized to complete its destruction. The commanders are taught to be alert for signs of deliberate withdrawals designed to gain time or a more advantageous position. The pursuit also is used against a deliberate withdrawal to disrupt the orderly march, create panic, and turn the withdrawal into a rout.

The key to the pursuit is the early discovery of threat withdrawal. The threat must not be allowed to break contact. In the deliberate withdrawal, the threat may execute well-planned deception operations. A threat force under pressure can be expected to attempt to continue combat until nightfall and withdraw under the cover of darkness. The commanders must ensure active reconnaissance, understand threat tactics, and anticipate situations in which a withdrawal can be expected.

Listed indicators of a withdrawal are: nuclear strikes against first-echelon troops, increased movement and transport to the rear, a brief increase in fire on an individual sector of the front, a brief intensification of fire on individual or isolated sectors with a general reduction of fire across the entire front, a move to the rear of depots and rear area establishments, preparations for demolition and destruction of various structures, and the conduct of counterattacks by limited forces.

The commander must prevent the disengagement of threat forces. Attacks must be pressed so that the threat will not be able to conceal the withdrawal with limited screening forces. He organizes a pursuit on a route parallel to the threat movement with artillery in support of tanks, and with motorized infantry firing at threat troop concentrations at road junctions, defiles, bridges, and fording sites. This disrupts the threat march. Although some forces attack the flanks, other forces (usually tank units) outdistance the threat and block the withdrawal route. The encircled threat is then attacked and destroyed.

The threat conducting a deliberate withdrawal often has a well-organized barrier system that may include zones of contamination. In this situation, engineer and chemical defense units moving with MR and tank units must be prepared to overcome obstacles rapidly to maintain the rate of advance.

Airborne or airmobile operations are also used to outdistance the threat and seize key positions to block the threat withdrawal. The increased use of helicopters by the ground forces makes airmobile operations in the pursuit more likely.

Sample Pursuit Operation

By 1600 hours, the second MRD has been partially successful in the conduct of a meeting engagement. Although the sixth and seventh MRRs have advanced only to Line CHARLIE, the eighth tank regiment has dispersed a threat brigade and has seized Line DELTA within the assigned boundaries. The ninth MRR holds dominating terrain on Line BRAVO.

The threat commander decides to withdraw. He organizes aggressive but limited counterattacks all along the front to conceal his intentions. He also steps up artillery fire along the front. At about 1715 hours, as darkness falls, the threat briefly increases artillery fire on the right flank of the eighth tank regiment and the left flank of the sixth MRR while conducting aggressive demonstrations with a reinforced battalion left in contact. At the same time, the main force of the threat moves to the rear, organizes into its march organizations, and begins to move on the road leading in the direction of ROCKVILLE-Bridge YANKEE.

Long-range aerial reconnaissance has reported well-prepared threat defensive positions beyond the River JORDAN east of WHEATON, with the forward elements of an threat division already in position. At 1730 hours, reconnaissance elements of the sixth MRR report threat troops on the road withdrawing from the front and moving in direction CACHE-NORFOLK. The division commander decides the threat is trying to withdraw and organizes a pursuit (see Figure 4-7). He orders the eighth tank regiment to pursue in direction LAWTON-Bridge YANKEE and seize approaches to Bridge YANKEE, Road Junction WHISKEY, and Hill 834. The sixth MRR is ordered to destroy the threat in the vicinity of MERIDIAN and to pursue in direction LAWTON-ODESSA-MIDLAND. The seventh MRR is to attack in direction NORFOLK-ROCKVILLE, destroy threat screening or covering forces, and maintain contact with the main threat force. The ninth MRR is

to destroy the threat in the vicinity of COLUMBUS and pursue in direction SHREVEPORT-DENHAM SPRINGS (see Figure 4-8).

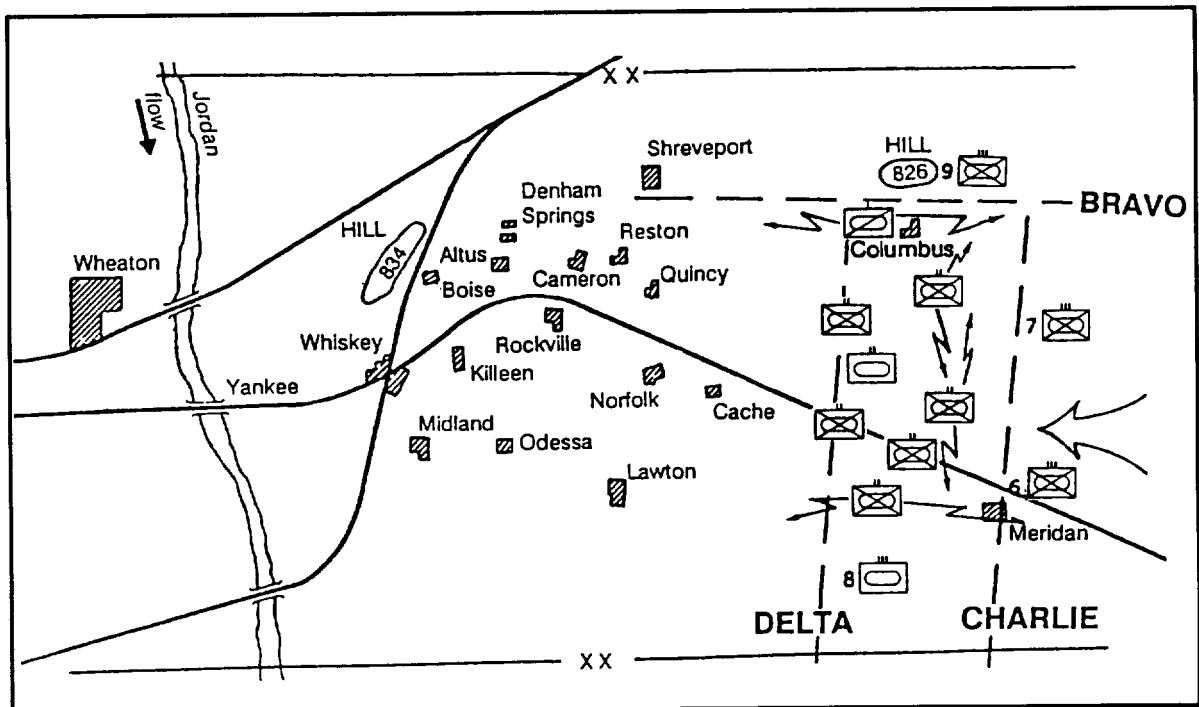


Figure 4-7. Pursuing the withdrawing threat.

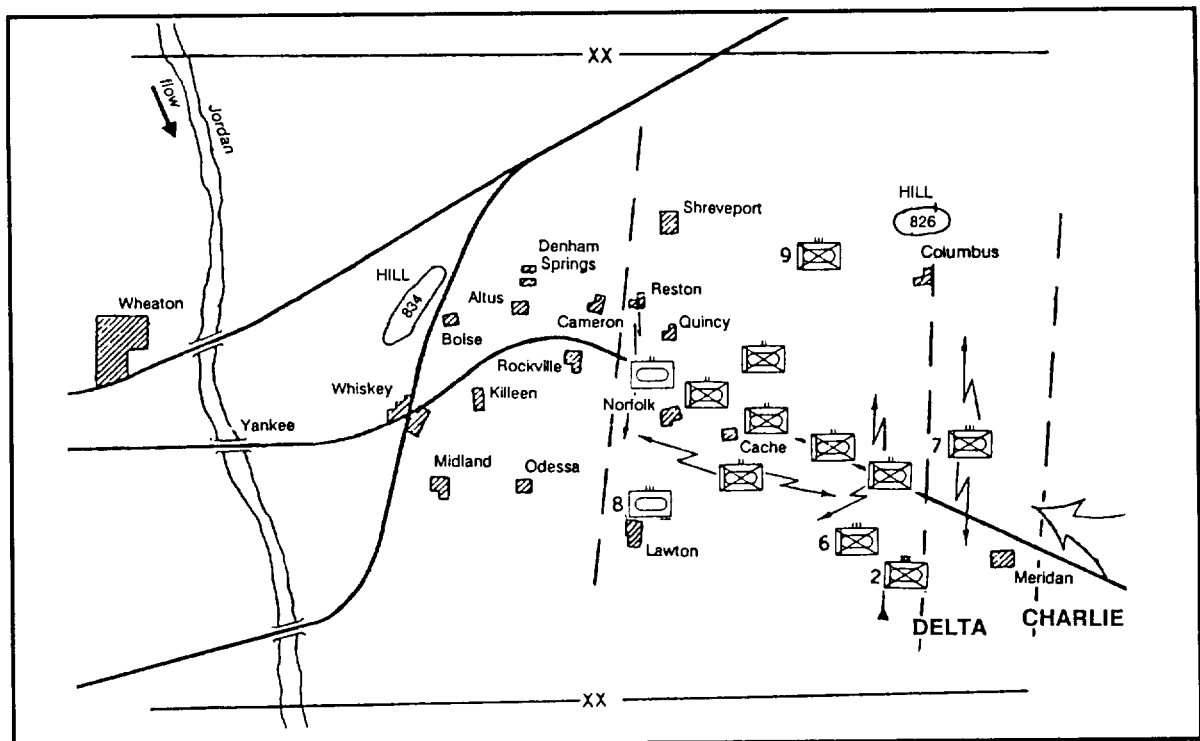


Figure 4-8. Outmaneuvering the withdrawing threat force.

At 1830 hours, the eighth tank regiment reports that it is crossing Line LAWTON-SHREVEPORT (see Figure 4-9). At 1835 hours, the sixth MRR reports the destruction of an estimated threat rifle company in the vicinity of MERIDIAN. The regiment is moving in column across Line DELTA toward LAWTON. The ninth MRR reports the route of an estimated threat company near COLUMBUS at 1840 hours. The regiment is moving toward SHREVEPORT, but is receiving some artillery fire from the left flank. The seventh MRR reports at 1840 hours that it has driven in threat screening forces and secured Line DELTA, but has not made contact with the main threat column.

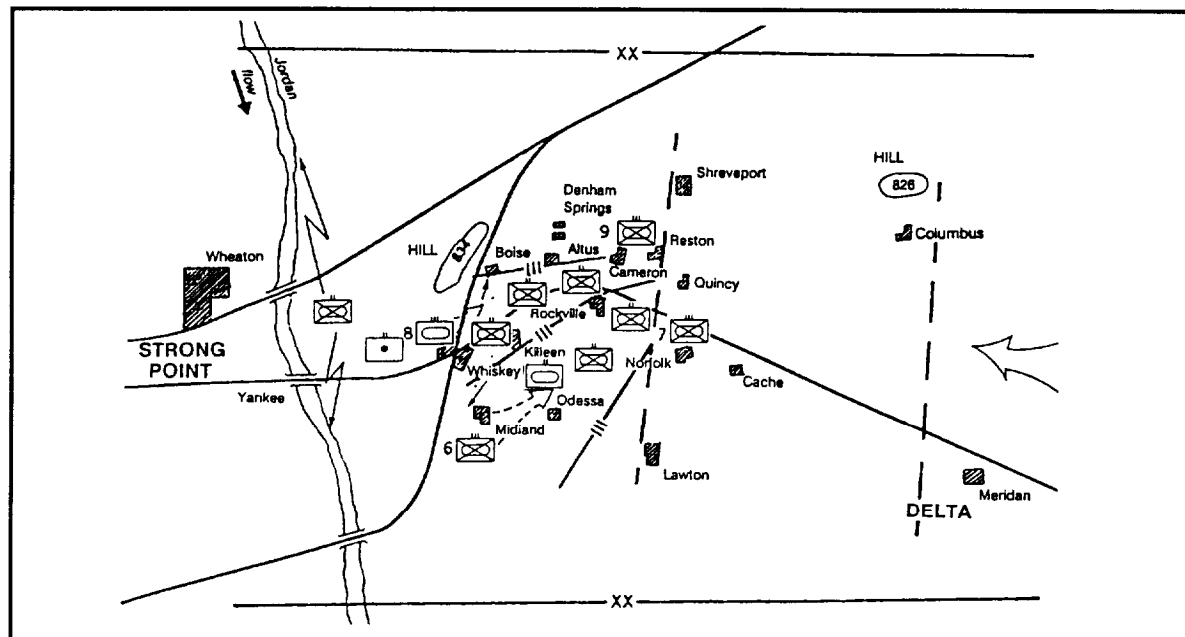


Figure 4-9. Blocking and defeating the withdrawing threat force.

At 1845 hours, reconnaissance elements from the sixth MRR report that threat security elements are passing near NORFOLK. The division commander, located near the head of the sixth MRR's column, orders the regimental commander to conduct a battalion-size attack at 1910 hours and seize Line NORFOLK-CACHE.

Darkness and difficult terrain slow the rates of march for both Soviet-style armies and threat forces. The attack by an MRB of the sixth MRR drives in threat screening forces, but meets heavy resistance near the road. The battalion occupies the assigned boundary by 2345 hours. Threat counterattacks against the battalion's left flank force the regimental commander, now at Line LAWTON-SHREVEPORT, to commit an additional battalion in direction LAWTON-NORFOLK to secure the position.

At 0040 hours, reconnaissance from the tank regiment reports threat security detachments in the vicinity of ROCKVILLE. Meanwhile, the tank regiments advance guard is approaching Road Junction WHISKEY. By radio, the division commander orders the ninth MRR to conduct a battalion-size attack to seize Line RESTON-CAMERON. At 0130 hours, the tank regiment reports that it has seized Road Junction WHISKEY and approaches to Bridge YANKEE. At 0330 hours, the ninth MRR reports the seizure of Line RESTON-CAMERON. The battalion on the line reports heavy small-arms fire to its front, but no counterattack. At the same time, the sixth MRR reports heavy small-arms fire to its front, but no counterattack. Simultaneously, the sixth MRR reports heavy small-arms fire to its front and a 10-minute intense artillery strike as its lead elements cross Line LAWTON-SHREVEPORT. At 0400 hours, security elements of the tank regiment report contact with the threat on the road in the vicinity of KILLEEN. Hill 834 is also now secure.

The two battalions of the sixth MRR that had secured Line NORFOLK-CACHE move ahead as the lead elements of the seventh MRR close on CACHE. These battalions march behind the main body of the regiment. Under orders from the division commander, the main body secures Line MIDLAND at 0330 hours. At

0410 hours, the remaining battalions rejoin the regiment. The remaining battalions of the ninth MRR secure Line BOISE-ALTUS-CAMERON by 0430 hours. The seventh MRR secures Line RESTON-LAWTON by 0435 hours.

The division commander orders the tank regiment to attack at 0510 hours in direction Road Junction WHISKEY-CAMERON to destroy the threat within their assigned boundaries, and to occupy Line ALTUS-RESTON. The sixth MRR is to attack at 0510 hours in direction MIDLAND-QUINCY, destroy threat within assigned boundaries, and occupy Line RESTON-QUINCY. The seventh MRR and the ninth MRR are to block and prevent threat escape. One battalion from the division artillery regiment and one MRB from the ninth MRR are to cover the approaches to the river with fire to protect against possible threat actions from the threat strongpoint near WHEATON.

The attack is launched at 0510 hours. By 0800 hours, the tank regiment and the sixth MRR have seized their assigned lines, and the threat has been dispersed. The commander then regroups to prepare for a breakthrough operation against defenses in front of WHEATON. He reports the situation to the army commander.

Conduct of Tank Division Attack

A division normally attacks with most of its combat power in a first echelon or a strong single echelon. The remaining forces are organized into a second echelon, a combined arms reserve, or special reserves, such as engineer, chemical or AT subunits. The main difference between a second-echelon force and a combined-arms reserve is that the former has an assigned mission, but the latter does not (see Figure 4-10).

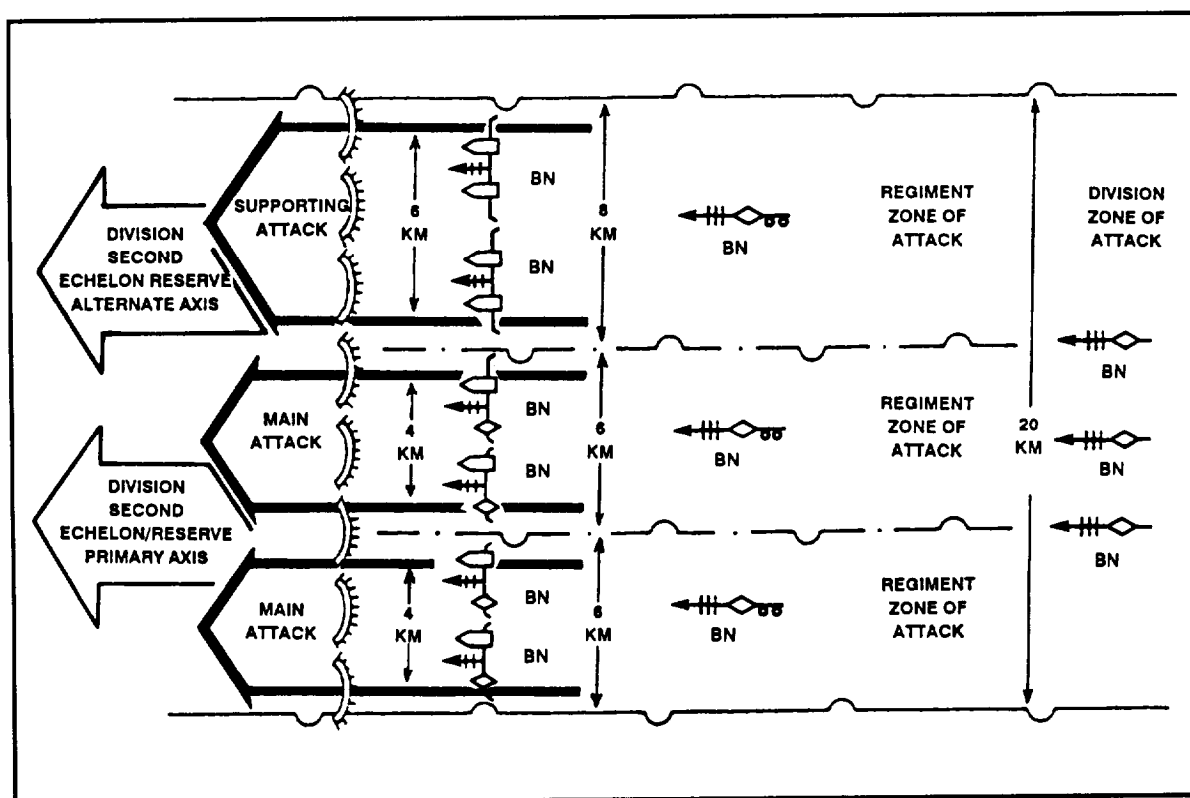


Figure 4-10. Typical tank division attack formation.

Within the division's attack zone, a main attack axis may be designated based on terrain, disposition of threat defenses, or the order received from army or higher headquarters. One or two of its first-echelon regiments probably would attack along or abreast of the main attack axis. Another first-echelon regiment probably would conduct a supporting attack.

A second-echelon regiment normally has a mission to continue the attack against a deeper objective along the main attack axis. Normal commitment of a second-echelon regiment takes place after the division's immediate objective has been achieved. The second echelon is committed by the commander when and where it can best contribute to overall success.

A regiment designated a combined-arms reserve would not have an assigned objective at the beginning of an attack. It would be held in readiness to attack along the most opportune axis at a time determined by the division commander. Before being committed, second-echelon or combined-arms reserve subunits advance in march or prebattle formation approximately 15 to 30 kilometers to the rear of the first echelon. This distance varies with the situation. The commander keeps second echelon or reserve forces far enough forward to influence the battle in a timely manner, but far enough to the rear to protect them from the bulk of threat direct-fire and direct-support weapons.

When attacking with three regiments in a single echelon, a division zone of attack is normally 15 to 25 kilometers wide. This width could vary considerably with the situation. Within the zone of attack, there probably would be no distinct, continuous division attack frontage. Each of the three first-echelon regiments attacks on its own axis, with situation-variable spaces between regiments. Regimental attack frontages can vary from as little as 3 kilometers to as much as 8 kilometers, depending on the regiment's mission and battle formation.

A division may attack on multiple axes with no obvious main attack. The division array would be similar to that just described, with three regiments about equally dispersed in a single echelon. The leading regiments attack and probe for weak points in threat defenses, penetrate wherever they can, and develop penetrations. The division commander allows the battle to develop to a stage where he can determine which penetration promises the best opportunity to drive into the threat rear. He then commits his combined arms reserve through this penetration.

A division attack could include a vertical envelopment by a heliborne force of up to battalion size. An organic MRB, stripped of its combat vehicles and reinforced with airmobile CS, could conduct such an assault.

Heliborne assaults could extend out to 50 kilometers beyond the FEBA. Likely objectives are key terrain such as defiles, bridges, or river-crossing sites. A division may employ a forward detachment, such as a reinforced tank battalion, to link up with a heliborne assault. It is likely that forward detachments also would be employed throughout an offensive operation, particularly after penetrating the threat main defensive area.

A division forward detachment of reinforced battalion size may be dispatched on a swift, independent penetration into the threat depths to seize and hold a tactical objective until the arrival of main forces. It may also be used for tactical raids. In either case, missions of forward detachments are intended to accelerate the advance of main forces and the dissolution of the threat defense.

Typical objectives for a forward detachment include-

- Road junctions.
- Bridges.
- River-crossing sites.
- Mountain passes.
- Air defense weapons.
- Rockets and missiles.
- CPs.
- Communications centers.
- Tactical reserves.
- Withdrawing forces.

Advance guards differ from forward detachments in mission. An advance guard is a march security element that protects and warns the main marching force and engages threat forces encountered on the march route. A forward detachment is a deep-attack force detailed to achieve an independent mission. It is not restricted to the route of its main force.

Defend In Sector

Planning

Intelligence

Brigade commanders need information to fight the close-in battle of the brigade against threat first-echelon regiments. They also need accurate intelligence about threat second-echelon regiments within first-echelon divisions and follow-on forces which can close on their AO before the current engagement can be decisively concluded.

The brigade commander needs specific information about-

- The composition, equipment, strengths, and weaknesses of advancing forces.
- The location, direction, and speed of threat first-echelon battalions and their subordinate companies.
- The location and activities of threat second and follow-on echelons capable of reinforcing the first echelon.
- The location of threat indirect-fire weapon systems and units.
- The location of gaps, assailable flanks, and other tactical weaknesses in the threat's order of battle and OPSEC posture.
- The locations of anti-aircraft and missile artillery units.
- The location of SAM units.
- The location of radioelectronic combat units.
- The effects of weather and terrain on current and projected operations.
- The most likely withdrawal routes for threat forces.
- The anticipated timetable or event schedule associated with the threat's most likely course of action.

Specific information about threat first- and second-echelon regimental C3 facilities is of paramount concern to the brigade commander. He seeks to know the specific locations of threat-

- Division forward and main CPs.
- Regimental and battalion CPs.
- Fire direction control centers.
- COPs.
- Radio and radar reconnaissance sites.
- Radioelectronic combat sites.
- Target acquisition sites.

The suppression, neutralization, and/or destruction of threat C3 systems and facilities is critical to the success of the close-in battle. Brigade S2s, in concert with supporting division and corps IEW, maneuver, and FS units, use all available means to identify, locate, disrupt, and destroy these targets. Their objective is to

neutralize the threat commander's capability to command and control troops. Normally, the brigade S2 receives his information from the following sources:

- Maneuver unit observation-spot reports/patrols.
- Field artillery units.
 - Weapons-locating radar, cannon, rocket, mortar.
 - Moving-target radar.
- Air defense units.
 - Forward area alerting radar.
 - Target alert data display set.
- MI assets.
 - GSRs.
 - Remote sensors
 - Counterintelligence support.
 - EPW interrogation teams.
 - Aerial surveillance-side-looking radar.
 - Ground EW assets-collection and jamming.
- Aviation.
 - Reconnaissance flights.
 - In-flight reports.

The key to effective processing of collected information is IPB. In planning for defensive operations, IPB is addressed in the following manner.

Evaluation of AOs and interest. The commander should be provided sufficient information to examine the battlefield multidimensionally. The data bases used to accumulate and evaluate this information include maps (especially engineer maps), aerial photos, and threat organization workbook data. Much of this is available in division intelligence estimates.

Terrain analysis. In this step, the IPB analyst is tasked to describe those geographic, militarily significant factors that can impact on trafficability and intervisibility for intelligence collection, target acquisition, and weapons capabilities within the brigade area of influence. A slope overlay is another example of the many possible terrain factor overlays that can be developed and used by the analyst. Terrain analysis reduces uncertainties about terrain effect on friendly and threat capabilities to move, shoot, and communicate.

Weather analysis. In this step, the traditional weather products, the weather observation, and the forecast and climatic studies do not provide all the information the analyst requires. Products such as the fog overlay are constructed so that seasonal fog pattern and density effects on trafficability and intervisibility can be studied.

Threat evaluation. Threat evaluation uses detailed analysis of threat doctrine, tactics, weapons, equipment, and associated battlefield functional systems to determine the size, type, location, and mission of threat forces. These doctrinal templates provide descriptions of unit and force composition and depict how the threat would like to be configured to fight if not constrained by terrain or weather factors. These templates consist of equipment numbers and ratios, electromagnetic signatures, or spacial distribution of elements within units or forces. This is also the step where potential high-value targets for attack are identified, such as threat CP positions.

All of the various terrain and weather factor overlays are then combined to create a combined obstacle overlay. This overlay now shows all major terrain and weather related obstacles that can influence mobility within the brigade area. The analyst identifies AAs into the brigade's AO. Mobility corridors permitting movement within these AAs are selected based on the threat's capabilities.

Threat integration. This final step relates how the threat force would like to fight in a specific terrain and weather scenario as a basis for determining how the threat force might have to fight by integrating the previous four steps. The template construction process essential to this step consists of producing doctrinal, situation, event, and decision support templates for use by the commander, staff officers, and analysts. The doctrinal template was described during the discussion of step one of the IPB process (see Figure 4-11).

The situation template is a doctrinal template with terrain and weather constraints applied to it. It is produced by placing a doctrinal template over a selected mobility corridor or specific terrain configuration and noting how the threat force must modify to account for terrain constraints.

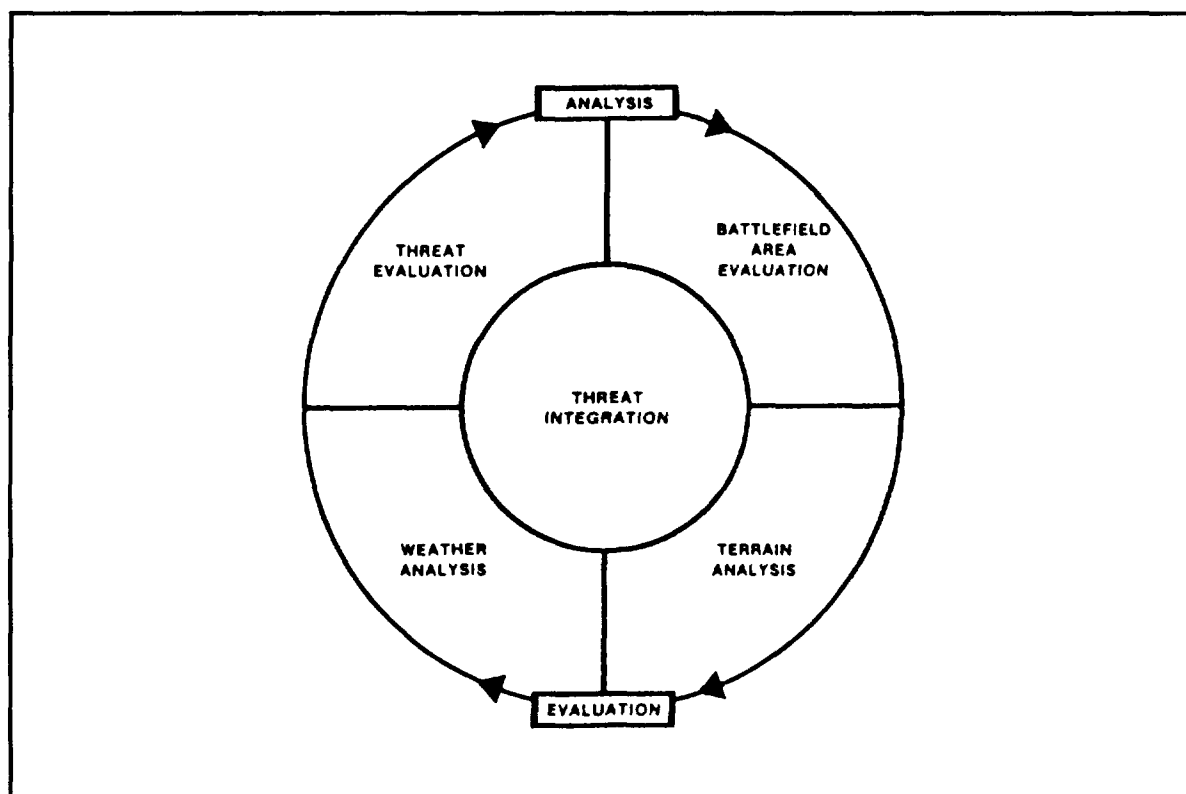


Figure 4-11. Intelligence preparation of the battlefield process.

As a threat force moves along a mobility corridor, it will be required to do certain things dictated by terrain, weather, and tactics. Based on rate of movement, terrain, and tactical considerations, the analyst selects NAIs where he expects to see certain activities. NAIs facilitate focusing acquisition assets. NAIs may become TAIs. Activity, or lack of it, will help confirm or deny a particular threat course of action. When plans are developed to place fires, such as artillery, on NAIs, they then become TAIs as well.

The event template is a projection of what will most likely have to occur if a certain course of action is adopted by the threat. On the example of an event template in Figure 4-12, NAIs 2, 3, 6, and 9 are areas where activity would provide indications of intent. Activity in NAI 6 would indicate whether mobility corridor ALPHA or BRAVO would be adopted as the route of advance. Movement of threat bridging elements forward as the force approached the destroyed bridge at NAI 9 would be an indication that a river crossing would be attempted, rather than a move to NAI 12 where river crossing should be less difficult. The other

NAIs represent intermediate points for collection planning purposes or tracking for target development purposes. How one leg of a mobility corridor might be represented is shown on the event analysis matrix.

The matrix shown in Figure 4-13 enables the analyst to correlate an event or activity with the geographic location and time at which the event is expected to take place. This capability, along with situation templates, provides the basis for critical node or high-value target analysis. Estimated times between NAI are derived by determining effects of terrain and normal seasonal conditions on doctrinal rates of advance, derived from steps three and four of the IPB process. The event template and event analysis matrix allow initiation of precise collection requirements and best use of limited collection assets against the vast array of potential targets on the future battlefield. Such information provides the basis for constructing decision support templates.

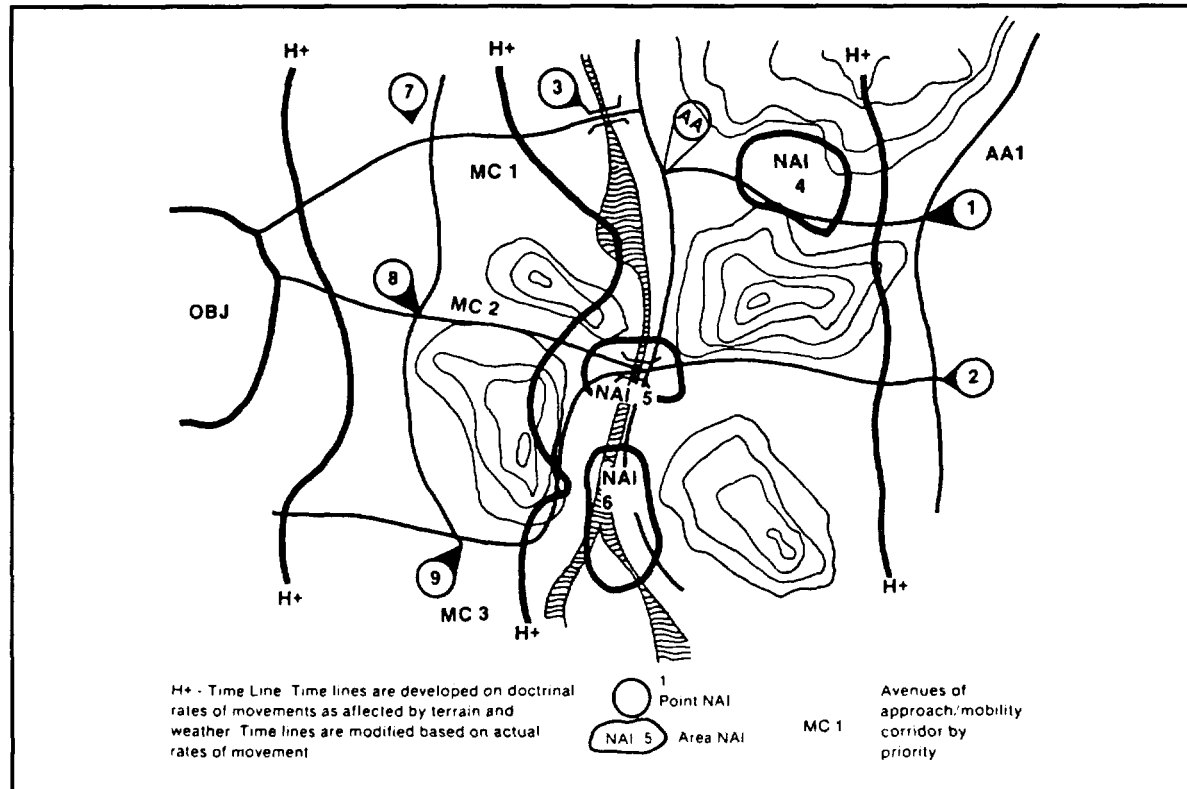


Figure 4-12. Event template.

Event and decision support templates, the most important products of the IPB process, represent a reduction of all analysis and template construction tasks to an intelligence estimate in graphic form of the who, what, where, when, and threat strength the commander faces.

DPs represent areas chosen from TAI because of time and distance factors. If the commander has not made a decision before threat forces reach or pass a DP, a set of options that had existed may be negated. For example, DP 1 may be related to an option to force the threat to use mobility corridor ALPHA by blowing the bridge at TAI 3 before the threat reaches the NAI 6 junction. If the force moves too far toward mobility corridor BRAVO before the bridge is blown, the threat may decide to use that route anyway and attempt a river-crossing operation.

The commander must decide to blow the bridge at TAI 3 by the time the threat reaches DP 3 or there may not be time to destroy it. DPs 4, 5, and 6 represent points equating to predetermined times from the friendly position based on analysis done for the events analysis matrix. The commander must make a decision by the time any of these points are reached by threat forces if he is to maneuver his troops effectively.

<div> <div>AVENUE OF APPROACH II</div> <div> <div>COORDINATES</div> <div>FM: NB 606330-NB 650333</div> <div>TO: NB 462181-NB 494132</div> </div> </div>				
<div> <div>MOBILITY CORRIDOR # 1</div> <div> <div>FM: NB 670300</div> <div>TO: NB 468158</div> </div> </div>				
NAMED AREA OF INTEREST	DISTANCE	ESTIMATED TIME	EVENT/ACTIVITY	OBSERVED TIME
NAI #1 NB 649288 RD JUNCTION	2.5KM	9 MIN	A. RECON ELM	1500
			B. ADV GUARD	1510
			C.	
NAI #4A NB 647264 CHOKE POINT	6.5KM	25 MIN	A. RECON ELM	1508
			B. ADV GUARD	1520
			C.	
NAI #4 NB 601222 RD JUNCTION	4.0KM	17 MIN	A. RECON ELM	1533
			B. ADV GUARD	1545 EST
			C.	
NAI #3 NB 561220 BRIDGE	8.5KM	30 MIN	A. RECON ELM	1544 EST
			B. ADV GUARD	1556 EST
			C.	
NAI #7 NB 480180 RD JUNCTION			A.	
			B.	
			C.	

Figure 4-13. Event analysis matrix.

Upon completion of the decision support template, the brigade S2 will develop his collection plan (see Figure 4-14). The S3 also uses these products for recommending initial friendly deployment, task organization, and subsequent redirection of assets for both the close-in battle and the deep fight. Targeting and target development data are provided to FS systems for immediate attack and interdiction.

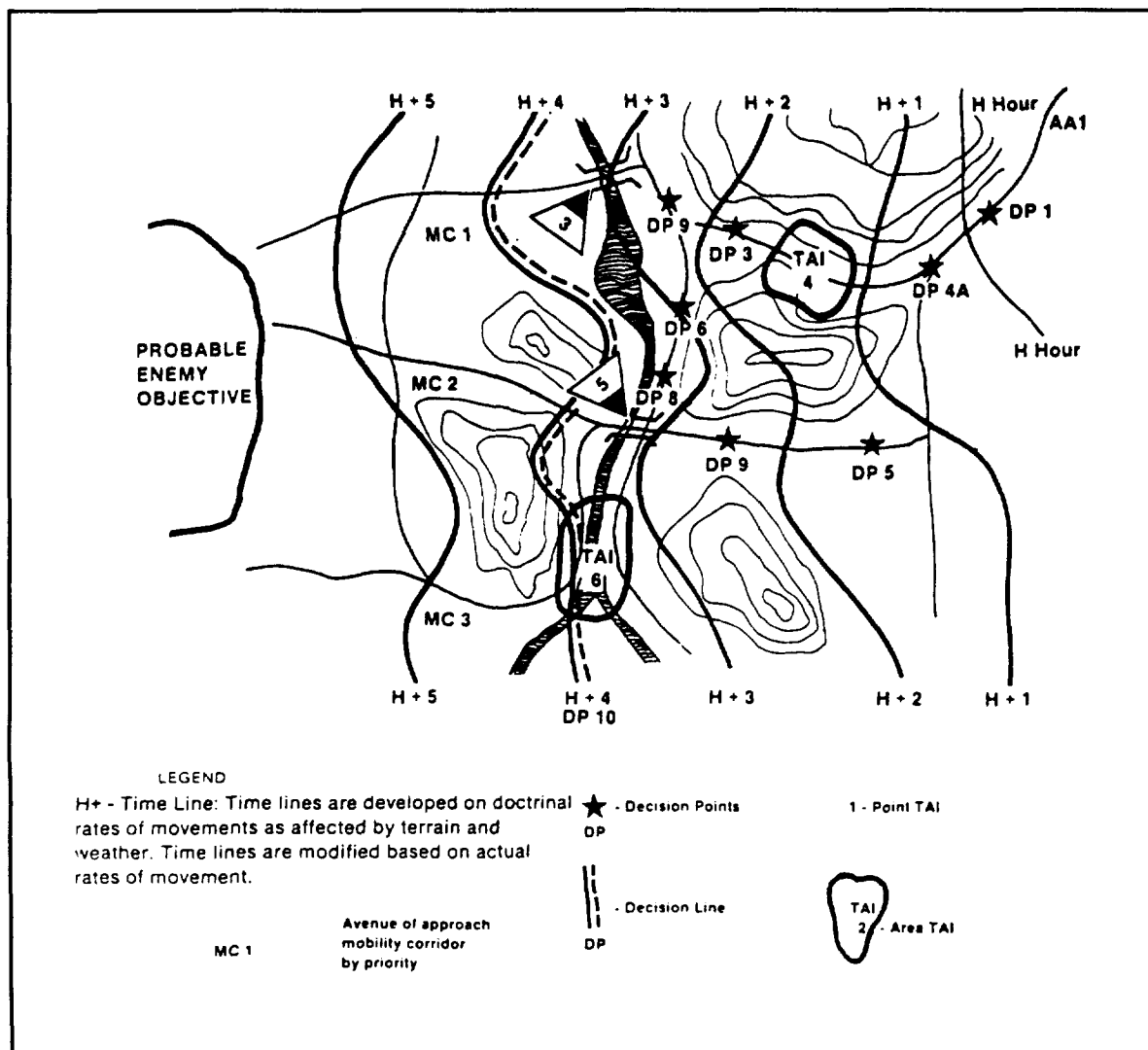


Figure 4-14. Decision support template.

Maneuver

Counteraction. For the brigade to succeed, it must counteract the threat initiative. Security, intelligent use of terrain, flexibility of defensive operations, and timely resumption of offensive actions are the keys to a successful defense. The crux of the defensive problem for the brigade is to gain time. Time is needed to ensure a synchronized, effective defense. The commander organizes his defensive effort based on METT-T analysis and the higher commander's concept. He decides where to concentrate his effort and how to economize his forces. He assigns missions, and allocates forces, fires, other support, and service support resources to fight a combined-arms battle.

The commander decides where to set up his main effort. A defense in the forward part of the sector requires early commitment of the main defensive effort. This is done by an initial forward deployment of

forces or by counterattacks well forward in the MBA. Defense in depth may be selected when missions are less restrictive, defensive sectors are deep, and key terrain is deep in the sector. Normally, a wider sector can be defended by division and corps employing a defense in depth. A defense in depth requires elements in the CFA and forward in the MBA to identify, define, and control the depth of the threat main effort. The flanks of the main effort are identified, and counterattacks are used to isolate and destroy threat forces in the MBA. The disposition of threat forces is the major consideration in selecting the form of defense.

In general, a forward defense with the main effort in the forward area of the MBA is favored when—

- The best defensive positions are located along the FEBA.
- Strong natural obstacles are located near the FEBA.
- The defensive sector is of limited depth.
- There is limited concealment to the rear.
- Retention of terrain in the forward area is dictated by the higher commander's concept of the operation.

A defense in depth of the MBA is favored when—

- The mission allows the commander to fight over the depth of the battlefield.
- The terrain does not favor a defense well forward and there is better defensible terrain deeper in the sector.
- Significant depth is available.
- There is limited cover and concealment on or near the FEBA.
- Nuclear weapons may be used.

A variety of tactics, techniques, or procedures may be used by brigades in the defense. At one end of the continuum is an absolutely static defense oriented completely on terrain retention, which depends on the use of firepower from fixed positions to deny terrain. At the other end is a dynamic defense focused on the threat, which depends on maneuver to disrupt and destroy the attacking force. Brigade operations combine the static element to control, stop, or canalize the attacker, and the dynamic element to strike and defeat the threat forces.

Whatever techniques of defense are chosen, the scheme makes use of maneuver and offensive tactics. When the threat has committed his forces, the defender's chief advantages are his abilities to seize the initiative and counterattack over familiar ground (protected by his own positions) to destroy a halted, disorganized threat. The deep battle, the close-in battle, and the rear battle are planned as complementary actions that support a unified battle plan.

Organization. Brigade commanders organize the battlefield for defense by assigning either sectors or BPs to subordinate battalions or task forces.

Sectors give the battalion task forces freedom to maneuver and decentralize fire planning. They allow the task force commander to distribute his teams to suit the terrain and plan a battle that integrates direct and indirect fires. In assigning sectors to the forward battalions, the brigade commander ensures that the defensive plans of each of the battalions are compatible, and that brigade control measures, such as coordination points and PLs, are sufficient for flank coordination. If the battalions prepare their defensive plans in isolation, an assailable flank between battalions could easily occur.

TIP: The brigade commander must make sure the coordination between the two battalions is tight. To do this during the planning phase, the commander can take the two subordinate commanders to a vantage point in the MBA to rehearse the battle and plan coordination between their units. This will assist in the formation of common control measures for the two battalions. One example of restrictive boundary coordination between the two battalions is to have a combat vehicle on each side of the boundary collocate on the coordination point. These vehicles are fender-to-fender, with the

vehicle commanders passing information to each other to maintain the flow of information between the two battalions. This creates a channel of communication that supplements the battalion commander cross-talk, and notifies each commander when the flank unit is being moved. Despite the restrictiveness of this method, it provides the most positive coordination of the boundary.

BPs are used when the brigade commander wishes to control maneuvering and positioning of his task forces. They are also used when it is necessary to concentrate task forces rapidly. When the brigade commander establishes BPs, he controls maneuver outside those BPs. He prescribes primary directions of fire by the orientation of the position, and is responsible for fire and maneuver planning between positions of different battalions. If he assigns a BP and a sector, he is giving the task force commander specific guidance on initial positioning of forces (see Figure 4-15).

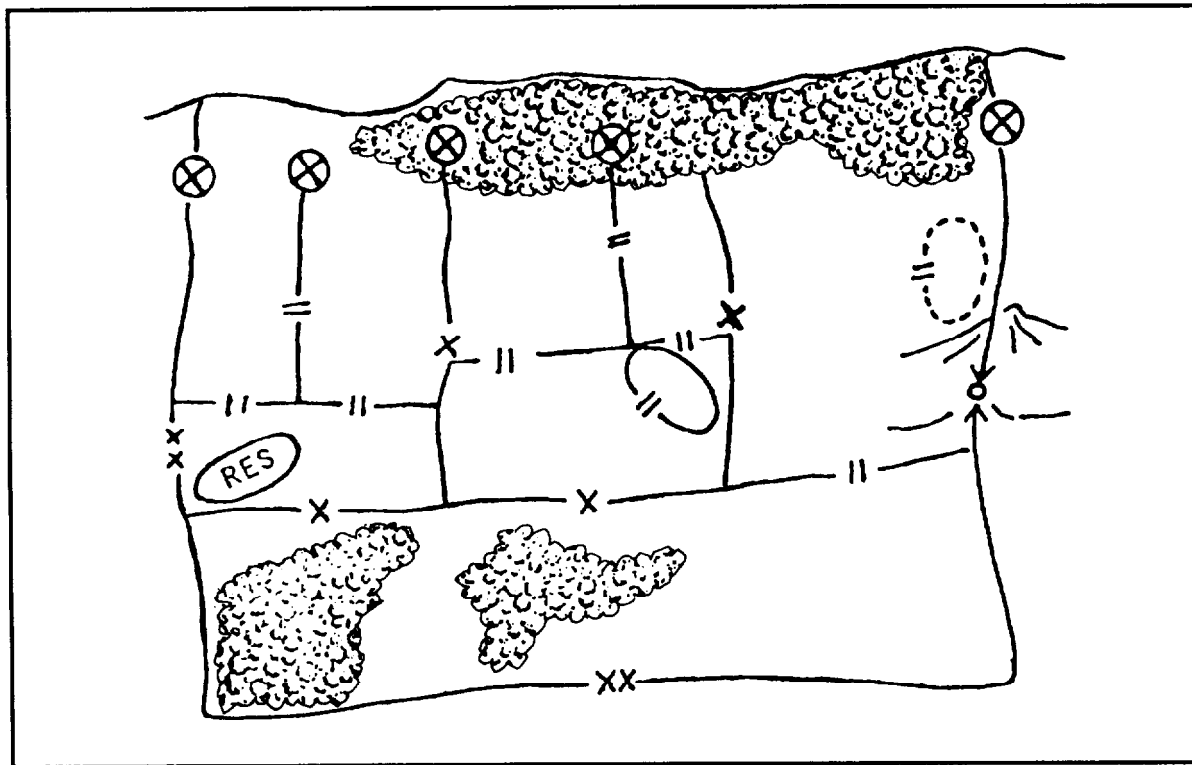


Figure 4-15. Brigade battle position defense.

A strongpoint is a heavily fortified BP tied to the natural and reinforcing obstacle to create an anchor for the defense (see Figure 4-16). It is reduced only by a threat infantry deliberate attack. A strongpoint is located on a terrain feature critical to the defense or used to block a bottleneck formed by terrain obstacles. Strongpoints in small urban areas, astride routes, or along AAs may halt a superior threat force for a considerable time. To be most effective, the strongpoint should be a surprise to the threat. It causes congestion and limits the threat force's maneuver. It is best used to set up a counterattack. Strongpoints must be well camouflaged and protected.

A strongpoint is not routinely established. It is established only after the commander determines that a strongpoint is absolutely necessary to slow the threat or to prevent a penetration of his defensive system. The decision to do so must be carefully weighed, and must consider the following factors:

- A minimally effective strongpoint requires one day's effort from an engineer organization the size of the defending force.
- The force that establishes the strongpoint may become isolated or lost.

- The force that establishes the strongpoint loses its freedom to maneuver outside the strongpoint.
- The force that establishes the strongpoint must be given sufficient time to build the position—the more time the better.
- The strongpoint must be on terrain that is defensible for 360 degrees.

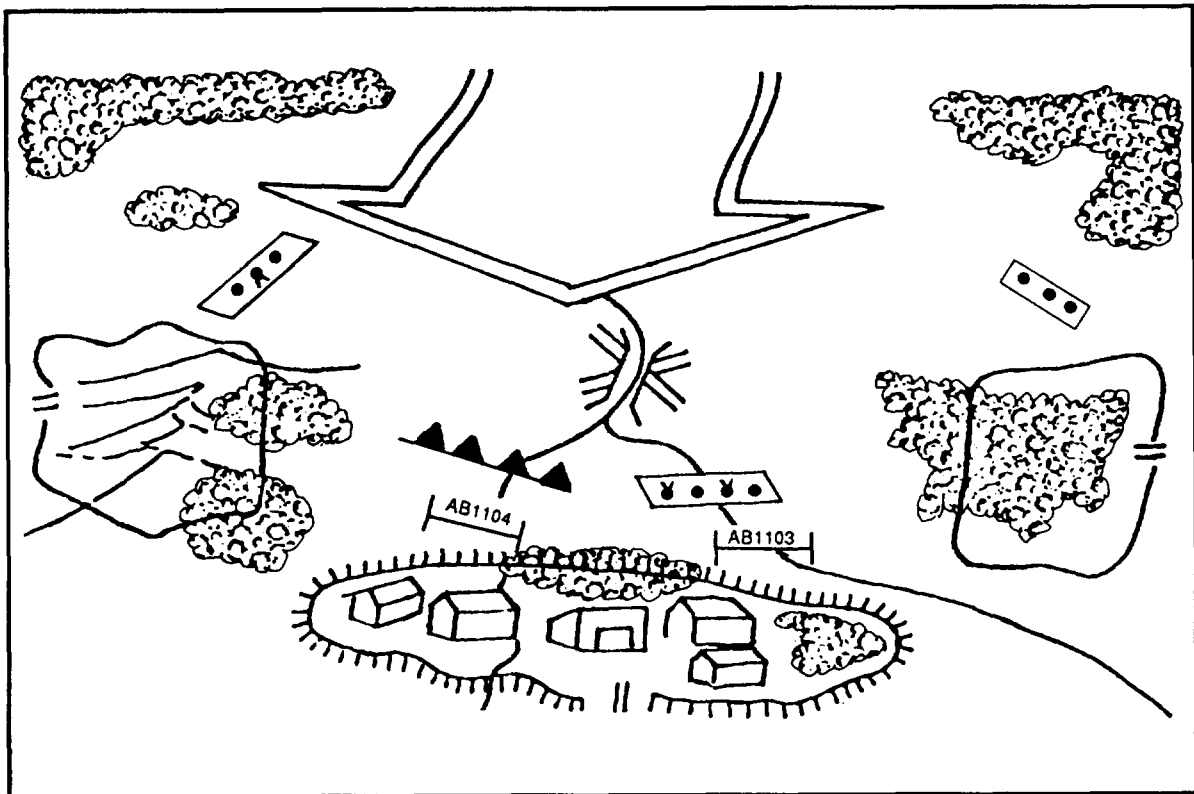


Figure 4-16. Brigade defense using a strongpoint.

AAs or BPs are established for reserve forces. An AA is used for the reserve if they are assigned a counterattack mission without the possibility of having to defend their AAs. BPs are designated if the reserve may defend in depth.

Operations control measures, such as PLs, boundaries, contact points and passage points, checkpoints, direction of attack arrows, and objectives combine with fire control measures to provide a means of controlling the battle. The commander's concept or Paragraph 3 of the OPORD describes the purpose of the control measures.

The commander's tactical scheme must include plans for deep, close, and rear operations. The objective of the defense is to halt the threat, seize the initiative, and go to the offensive. The commander's tactical scheme must include plans to counterattack against the threat rear or flank whenever possible. The brigade reserve is the key to the execution of offensive operations.

The reserve.

The reserve and the brigade commander. The brigade commander makes fundamental decisions concerning the size, composition, and mission of the reserve. Secondary purposes of the reserve are to—

- Reinforce the defense of committed forces.
- Contain threat forces that have penetrated.

- React to rear-area threats.
- Relieve depleted units and provide for continuous operations.

In difficult terrain lacking routes for movement, smaller reserve units may be positioned in the brigade areas where they can react quickly to the local battle. Covered lateral and forward high-speed deployment routes should be available. In more open terrain, the brigade may have a battalion in reserve in considerable depth. The threat tactical nuclear and air interdiction potential is considered when units are positioned in the rear.

In addition to designating reserve forces, the commander prepares to reconstitute a reserve once the reserve is committed. Forces most easily designated are the reserves of subordinate units. If the commander is able to establish a reserve, then the subordinate commanders are free to use all their forces as they see fit. Without a brigade reserve, the task force commanders need to maintain local reserves.

The brigade commander uses the DPs and the NAIs throughout the sector to orient his reserve and to trigger decisions on its commitment. Threat arrival in such NAIs is tied to the time operations are conducted to support the reserve's commitment. TAI's are also identified for deep attack in support of reserve operations.

The reserve and offensive action (see Figure 4-17). In planning offensive actions of the reserve, the commander considers the threat situation and estimates the time and distance factors relating to following threat echelons. Then he determines which of his units will attack, where they will be after the attack, and what interdiction is necessary to isolate the threat. Attacking units avoid threat strength. The most effective attacks seize strong positions that permit the attacking force to deliver fire on an exposed threat's flanks and rear. If the force is to stay and defend against another threat echelon, it must gain good defensive positions before following threat echelons can interfere.

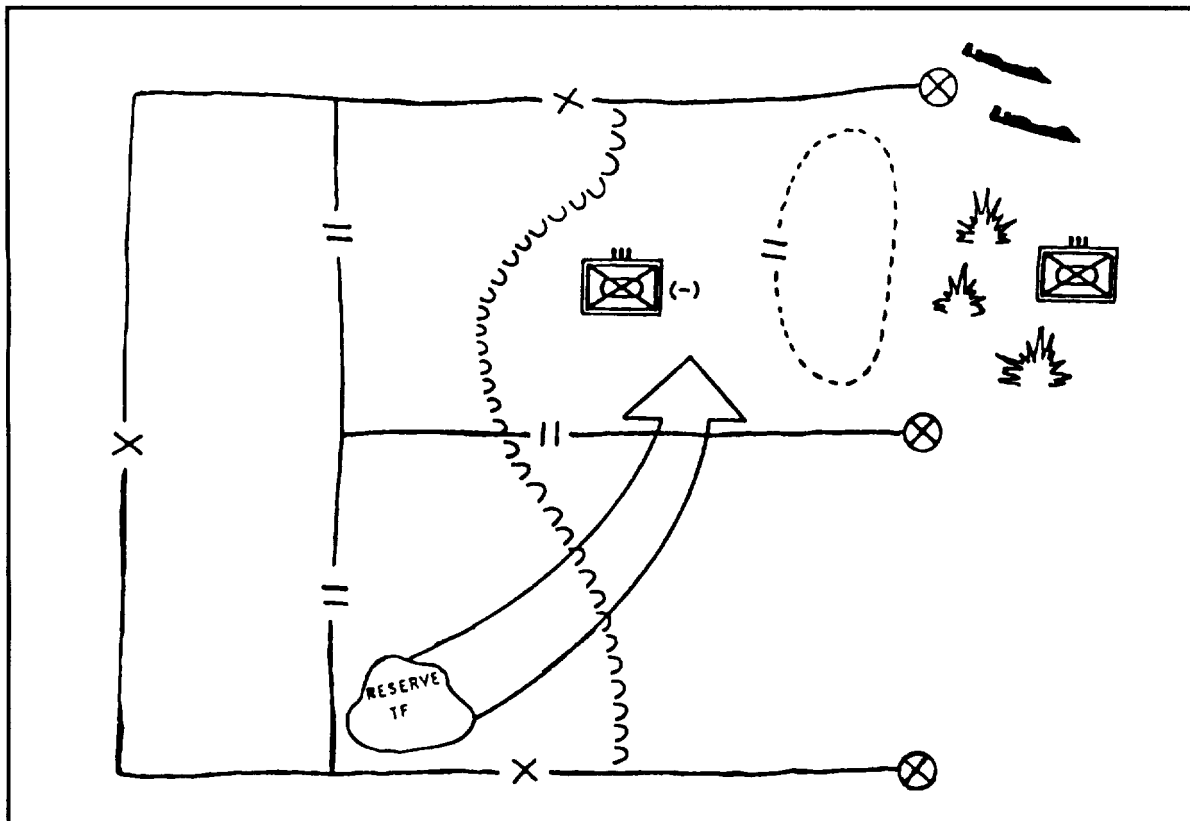


Figure 4-17. The reserve and offensive action.

Although he plans for the attack in the overall defensive planning, the commander realizes it is unlikely that the action will correspond exactly to prepared attack plans. As the situation develops, the commander answers these basic questions—

- Is an attack feasible, or should the reserve be employed to contain threat success?
- When and where should the attack be executed?
- In the event of penetrations, which should be attacked and which should be blocked or contained?
- Is the window of opportunity large enough to complete the counterattack prior to closure of the next threat echelon?

When attacking, the commander launches with all available resources necessary to ensure success. The reserve effort becomes the main effort. He avoids piecemeal commitment of the reserve. The commander does not attack or counterattack as an automatic reaction to a threat penetration nor does he commit the reserve solely because the threat has reached a certain PL or area. When possible, the attack is launched when the threat presents his flank or rear, when he has become overextended, or when his momentum dissipates.

The counterattack plan includes the mission, to include a brief statement of the mission assigned by the higher headquarters and the intent of the higher headquarters; the assumptions, to include the size and shape of the assumed penetration or threat formation; the strength and composition of the threat force; and the status of forces in the MBA. Other factors include the capability to contain the threat, deep battle assets available to support the attack, the strength and responsiveness of the reserve at the time of the attack execution, the availability and capabilities of nuclear and chemical munitions, and other means.

The brigade prepares counterattack plans and then provides sufficient time to the battalion headquarters to plan. If possible, plans are distributed with the basic defense plans. Detailed counterattack planning is conducted by reserve force commanders and includes reconnaissance, selection of multiple routes, determination

The reserve and the spoiling attack. At times, reserves are employed in a spoiling attack to throw the threat preparations for the attack off stride. The following basic considerations affect the use of the spoiling attack:

- The spoiling attack delays, disrupts, and destroys the threat's capability to launch his attack.
- The objective of the attack is to destroy threat personnel and equipment, not to secure terrain and other physical objectives.
- Commanders may want to limit the size of the force used in any spoiling attack.
- Spoiling attacks are not conducted if the loss or destruction of the force jeopardizes the ability of the command to accomplish its defensive mission.
- The mobility of the force available for the spoiling attack should be equal to or exceed that of the threat force.
- Attack by artillery or air of threat reinforcements are necessary to ensure the success of the attack.

Commanders coordinate plans for counterattacks and spoiling attacks using the attack techniques discussed in Chapter 3. The spoiling attack has many of the characteristics of reconnaissance-in-force operations.

Reinforcing with the reserve. In some situations, the brigade commander determines that he cannot counterattack. He uses resources to contain or delay the threat to gain time for employment of the reserve of the higher echelon.

The brigade commander and staff consider how reinforcing battalions and companies will be integrated into the defensive scheme, the placement of BPs, the routes they will use, and the C2 arrangements. The positioning and movement of reinforcements is speeded by designating routes and providing traffic control personnel and guides at contact points to lead and brief them on the situation. Scouts, MPs, and divisional cavalry units can provide traffic control.

Fire Support

The maneuver commander integrates CS assets to maximize combat power. To focus combat power, the commander identifies the brigade main effort. Designating the main effort links subordinate commander's actions to provide cohesion and synchronization. As he develops his battle plan, he must visualize how he will synchronize his field artillery and other CS assets at the decisive time and place on the battlefield. Fires should be planned to break up threat formations, exploit known defiles, and augment the direct fires of the brigade. Indirect fires must be combined with the brigade's obstacle plan to maximize its effect. Stay-behind patrols positioned to observe NAI/TAI/DPs should also have the capability to adjust indirect fire. Indirect fires must also be planned along flank AAs as a preventive measure. FASCAM employment should be weighed against time, available tubes, and relative target effect. All BPs should be targeted and FPFs plotted as appropriate.

Synchronization of direct and indirect fires with obstacles multiplies effects on the threat. An obstacle is an excellent location for preplanning artillery fires. The artillery will contribute to the threat's difficulties in attacking through the obstacle and make it more effective.

Artillery fires can assist in forcing a desired response if they support the obstacle plan by attacking any threat action. If the obstacle has a disrupt function designed to interrupt the threat's time table on a particular route, artillery fires can add to the difficulty of breaching. If the obstacle belt is turning, indirect fires are employed to ensure they drive in the desired direction. When a moving threat force encounters an obstacle, the locations where the force stacks up should be identified and targeted. Vehicles passing through a breached lane are not necessarily a good target for indirect fires, as Soviet-style doctrine calls for a large number of widely dispersed lanes to allow the force to pass through deployed. During this time, the artillery must be prepared for a large counterbattery effort.

Copperhead is a limited resource with significant first-round-hit capability. As such, its targets must be carefully selected to cause the most damage to the threat. One use is to target breaching assets. This would include the IMR armored counterobstacle vehicle, the BTR-50 countermine vehicle, the MTU-20 AVLB, and any tank equipped with rollers, plows, or a blade. As these assets are in limited supply, killing them has long-term effects on his attack. Using Copperhead against vehicles passing through a breached obstacle also multiplies its effects. The vehicle is limited in its maneuverability, therefore, is more vulnerable, and its destruction can block the lane.

Artillery-delivered FASCAM, when used at the critical point and time, is another limited resource with high payoff. Unfortunately, FASCAM requires a large number of artillery tubes and rounds of ammunition to emplace when the commander will have a high number of tire missions. However FASCAM is employed, the commander must weigh the factors that limit its delivery speed against the pace of the threat actions.

The fire plan and obstacle plan must be integrated from the very beginning. For the plans to work, the FISTs must understand the commander's intent, the obstacle plan concept, the integration of all arms, and their specific roles. Figures 4-18 through 4-20 illustrate a brigade FS plan with its execution matrix.

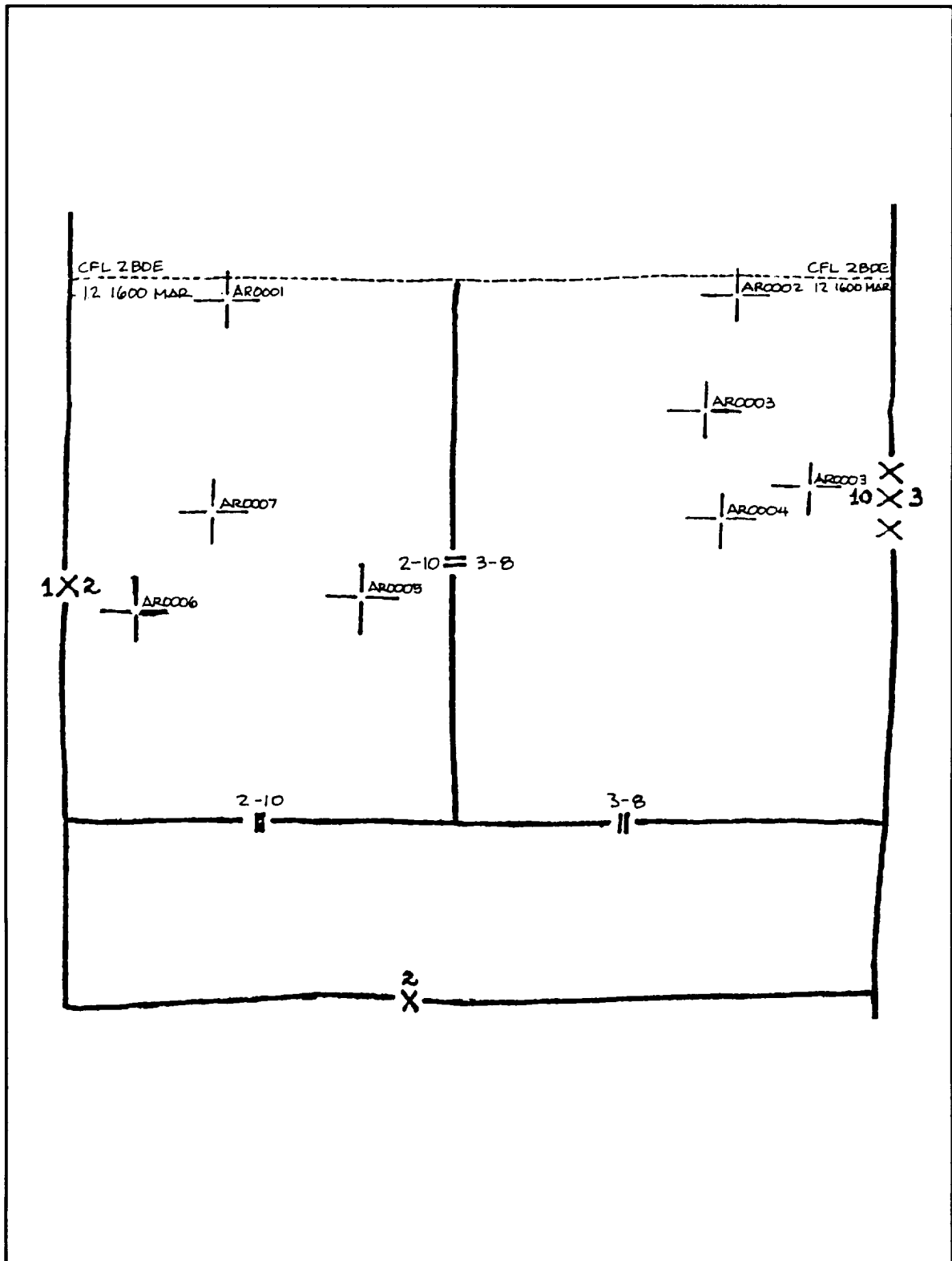


Figure 4-18. Brigade target overlay.

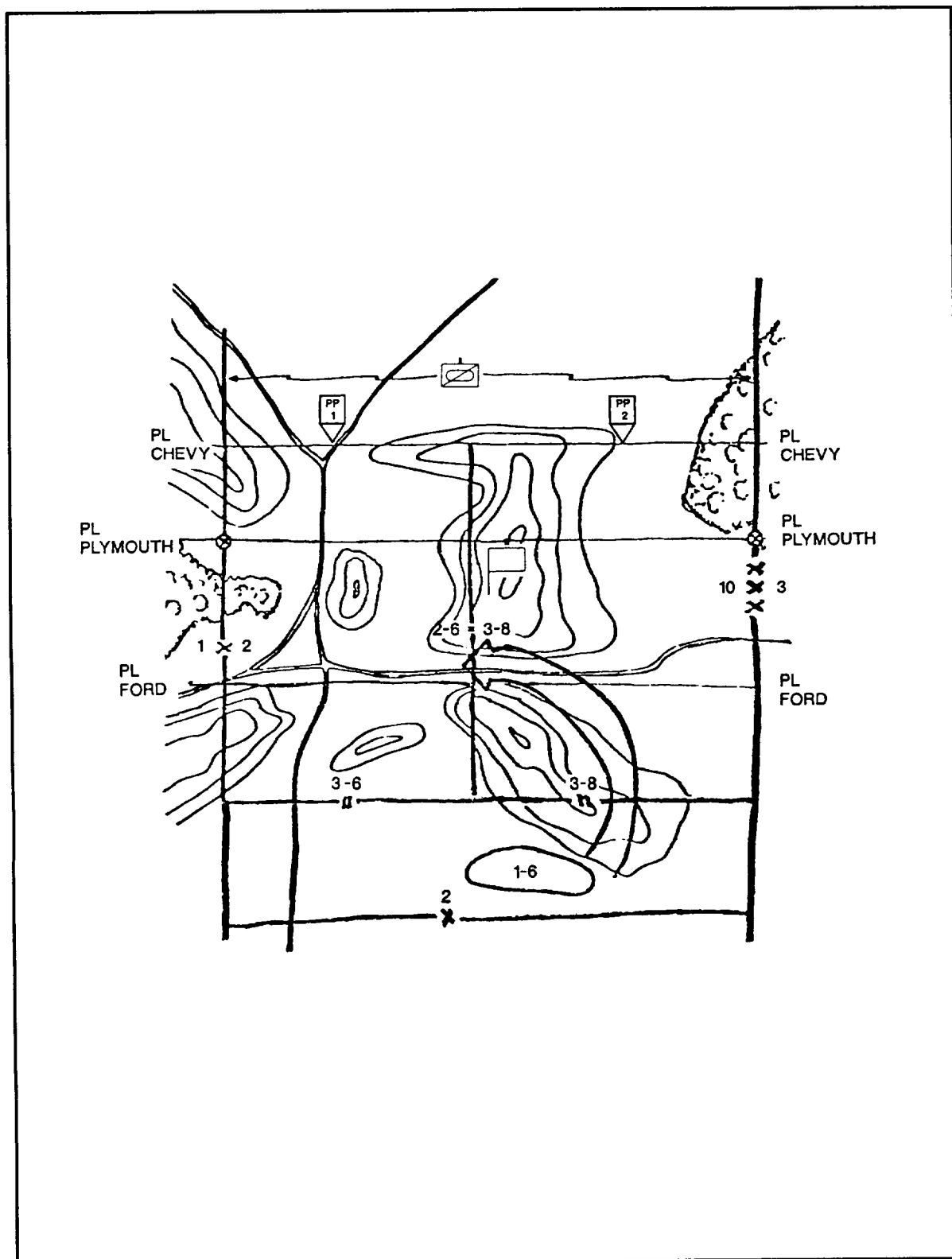


Figure 4-19. Brigade defense diagram.

	PL BUICK	PL PLYMOUTH	PL FORD	COUNTER- ATTACK	
2-6		FA POF 155 PRI TGT AR0002	FA POF 155 PRI TGT AR0004 155 FPF 2 FASCAM	4	
	← 2 COLT →				
3-8	0/0 FA FOF	0/0 FA FOF 155 PRI TGT AR0005	0/0 FA FOF 155 FPF	3	
1-6				FA FOF 155 PRI TGT (2 2 CAS 1 COLT	
	(F16 0800-1100 A10 0900-1400)				
BDE	← 1 COLT →			1	
	← 1 COLT →				
	A	B	C	D	E

Figure 4-20. Brigade fire support execution matrix.

Mobility, Countermobility, and Survivability

Brigades get broad guidance from higher headquarter regarding employment of obstacles.

Obstacle zones. The division commander designates obstacle zones where lower echelons employ obstacles. Tactical obstacles are allowed within the designated zones, which allows unrestricted division maneuver outside of the zones.

Specific obstacles. The division commander specifies certain high priority obstacles for preparation and execution. These obstacles are of great importance to likely follow-on maneuver. Specified obstacles receive the highest priority by the designated brigade.

Obstacle-free zones. The division commander specifies such zones to allow maneuver without restrictions. This occurs on a division counterattack route or within a counterattack objective.

Using FASCAM to close a breach through an obstacle can be done after the lanes are opened, making the obstacle more effective and requiring more effort to breach. FASCAM also can be used to reinforce a critical obstacle that failed to perform its intended purpose (for example, a blocking obstacle that was overrun), or that was not able to be completed in time. It can be critical as a contact-breaking obstacle to allow a force to evacuate a BP. It also can be used to thicken an obstacle system when attack is imminent and threat intentions have been determined.

Brigade Guidance to Subordinate Units

Task forces assigned BPs or strongpoints will be allocated obstacle belts by the brigade. If the brigade assigns a sector to subordinate task forms, the only obstacle control measure that is appropriate for the brigade is an obstacle-free zone. Obstacle belt functions, symbols, and lethality are shown in Figure 4-21.

Turning belts. A turning belt encourages the attacker to move in a direction established by the defender, but appears to support the attacker's plan. It blocks the attacker's original line of march. Turning belts may contain a mixture of turning, fixing, and blocking obstacles to accomplish the task. Turning belts at threat

DPs influence his decision. They are used to encourage threat penetration at a location selected by the defender. This is done either to set up the threat attacker for defeat in an EA or to deflect him away from critical terrain. Turning belts also can gradually turn the attacker away from his objective, confusing his plan and breaking his timing.

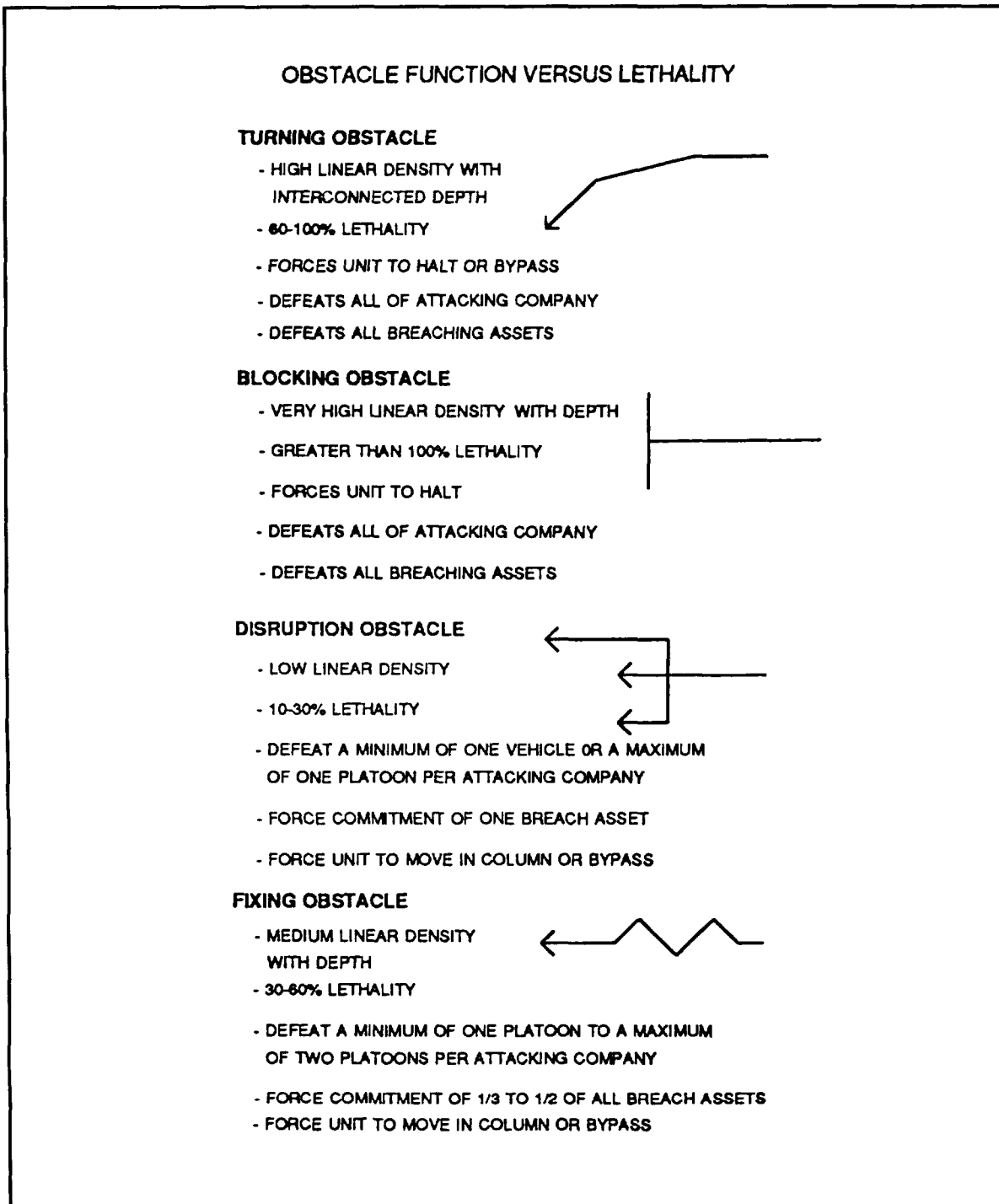


Figure 4-21. Obstacle function versus lethality.

Disruption belts. A disruption belt is used to attack the threat commander's timetable. Its primary employment is against a force moving in column along high-speed routes to force a time-consuming bypass or breaching operation. A disruption belt is employed against maneuver to delay a moving force for at least 30 minutes. Disruption belts are used in the CFA to slow the arrival of initial forces, require early employment of breaching assets, and provide time delay between attacking echelons. In the MBA, they attack threat C2 by destroying threat timetables and unit synchronization. To provide the required delay to disrupt maneuver timetables, the minimal disruption belt contains obstacles cutting each high-speed route in three places. These obstacles should be located so that a single bypass does not pass more than one obstacle, thus requiring three separate bypasses or breaches. Bypasses should be difficult. Ideally, obstacles should be spaced so that the head of the bypassing force strikes the subsequent obstacle while the tail is still on the bypass of the previous obstacle. The purpose of this is to cause telescoping of the column and add to control difficulties. This will occur if the next obstacle is approximately 2 kilometers beyond the point when the bypass rejoins the route. An exception to this technique is a single obstacle providing the necessary breaching or bypass delay, such as the destruction of a major bridge with lengthy bypass.

Disruption belts are improved by adding additional point obstacles on the high-speed routes, obstacles on the most likely bypasses, and killer obstacles to secondary, parallel routes normally used by threat reconnaissance elements. These usually consist of point minefields designed to destroy armored reconnaissance vehicles, and include Claymore mines placed 8 to 10 feet off the ground to kill vehicle commanders and force survivors to button up.

Fixing belts. A fixing belt is used to attack the threat commander's ability to control his formation, execute battle drills, and rapidly move to close with defenders. For a fixing belt to accomplish its purpose, the attacking unit one level down must respond to an obstacle twice. This means that for a battalion to attack, the company must respond. The worst-case situation would be for the attacker to be deployed into platoon columns, with companies deployed on line, this allows rapid movement and is the optimum breaching formation. To cause companies to respond, the fixing obstacles must cover about 50 percent of the AA; if less, two of the three platoon columns in a deployed company would miss the obstacle, and the company would bypass.

Fixing obstacles are used in conjunction with direct AT fires to kill attacking formations. They are designed within EAs, and are very closely integrated with fires.

In addition to direct-fire coverage, major considerations in siting fixing belts is causing sufficient lateral movement to generate good flank and rear shots against the threat. The belt should be fairly deep-on the order of 2 kilometers. This ensures that the part of the formation that has not encountered an obstacle will appear to have bypassed successfully. The direct-fire system will appear as a nuisance for any single engagement. The direct-fire systems should engage only those vehicles that have slowed and turned because of the obstacles, allowing unhindered movement of those that have not. This will kill the formation from the rear, allow shots against the easier targets, and disguise just what is happening.

Blocking belts. A blocking belt prevents the threat from penetrating the defense with its formation. This is the most dense obstacle system, and is exceptionally well integrated into covering fires. The obstacles are complete with counterbreach devices. They are tied into natural obstacles so that bypassing will take longer than breaching. Blocking belts are employed to limit penetrations or to cover terrain that must be retained. Overwatching fires are the primary consideration in siting blocking obstacles within the belt. Due to the effort necessary to construct them, they are usually sited in choke points or constrictions in the attacker's AA.

Blocking belts are designed to require the attacking formation one level down to respond to the obstacle several times. It also requires the attacker to respond enough to expend all of his breaching devices before he inches the last band of obstacles. This requires four encounters for a regiment or three encounters for a battalion.

Directed obstacles. The brigade commander will frequently single out certain key obstacles, and designate them for preparation and/or execution. These obstacles are typically bridges across important MSRs, artillery-delivered FASCAM minefield, or road craters that would seal off an avenue. The brigade commander also designates the emplacing and overwatching units for division-specific obstacles.

Pluming factors. When the brigade plan is developed it is necessary to estimate the effort required to support each task to task organize the engineers and allocate resources. Obstacles are normally planned and sited at task force level. It is possible to develop an estimate based on the planned obstacle belts, their functions, and the size of the AAs. Production planning factors convert this estimate into resource requirements. Obstacle belt planning factors are--

- 1,064 AT mines per 1 kilometer minefield.
- 18 blade hours per day.
- 12 man hour workday; 20 percent added for travel.
- Platoon and blade teams are the basic planning units. ACEs, dozers, CEVs, and bucket loaders are blade (+/-) equivalents.

Multiply the AA width by the appropriate factor to determine the total length of the required linear obstacle.

Since a disruption belt requires three obstacles cutting each high-speed route, estimating the required effort consists of counting the number of high-speed routes passing through the belt. The effort required for turning, fixing, or blocking belts is calculated based on the width required by threat formations.

A fixing belt requires the threat force using the AA to respond to obstacles twice. The planning factor is to use the width of the maneuver space of the avenue. Obstacle size planning factors are—

- Disrupt-three point obstacles within 2 kilometers on each high-speed route or 0.5 x width of avenue.
- Fix- 1.0 x width of avenue.
- Turn- 1.2 x width of avenue.
- Block- 2.4 x width of avenue.

NOTE: If time and resources permit, improvement of an obstacle belt requires about 50 percent additional effort.

Air Defense

The defensive air defense planning considerations are described below.

Communal and control. In defensive operations, air defense assets are positioned to achieve both mass and gun missile mix. Normally, the priority of protection will begin with the C2 facilities. That is because these are generally fixed sites with high electronic signatures, which makes them susceptible to identification and targeting by threat aircraft. Therefore, the brigade air defense representative will examine the air AAs toward the C2 facilities and position both guns and missiles in a manner that disallows the that aircraft to reach the target.

Logistical elements. The BSA, MSRs, and UMCPs are fixed facilities and are easily identifiable from the air. Although passive air defense measures will help prevent detection, threat air attack is a certainty. As a result, route and point security missions require air defense units to locate along the MSR and in positions to protect fixed locations. The air defense assets will be placed in an area defense mode with the thickest part of the defense around these positions.

Fixed firepower. Because of the proximity of BPs and strongpoints to the threat, ADA assets guarding them are exposed to increased threat fire. ADA assets that protect combat forces, therefore, must be placed under armor, which is the placement of the ADA gunner in any armored vehicle. The air defense responsibility may also be the greatest, since ADA units on the FEBA will be called on to engage threat aircraft providing CAS to the aggressors and threat aircraft attempting to penetrate our defenses en route to a deep target.

Reserve forces. The brigade reserve is a stationary hidden force; it is especially vulnerable once discovered. As a moving force, it is readily observable from the air. The brigade commander will want to safeguard

his reserve, and the location of the reserve, as it is a high priority of the commander. Air defense assets must be positioned to protect the force whether it is stationary or moving.

Choke points and bridges along MSRs. CSS assets must be able to move to the combat units. If the threat is able to disrupt this support, it will affect the defense. The destruction of key bridges or closing of choke points will interrupt the CSS flow. As a result, the protection of these positions is essential to the supportability of the operation. Air defense assets must be located where they can protect these vital locations from air interdiction.

Combat Service Support

The S4 and the FSB commander must understand the brigade commander's tactical intent so that service support priorities can be established and logistical operations planned to ensure the supportability of the operation. Real estate management of the BSA and plans to conduct operations against Levels I and II rear area threat must be incorporated into the plan. The following considerations and operational techniques improve the CSS provided to a defending unit:

- Limited amounts of ATP-stocked ammunition (25 percent of basic load) are pre-positioned in the MBA on centrally located positions.
- Push-packages of certain critical items (ammunition, POL, selected repair parts, barrier materials, medical supplies, and NBC supplies) are dispatched from rear areas (division support areas to brigade support areas to unit trains) on a scheduled basis so that interruptions in communications do not disrupt the flow of supplies.
- Resupply during periods of limited visibility reduces chances of threat interference. Resupply vehicles infiltrate forward to reduce chances of detection.
- CSS units are echeloned in depth throughout the defensive area. When a forward CSS unit is required to displace to the rear, another unit picks up the workload until the displacing unit is again operational.
- Maintenance contact teams are employed and dispatched as far forward as possible to cut down on the requirement to evacuate equipment. The thrust of the maintenance effort is to fix as far forward as possible.
- Different types of maintenance contact teams (vehicle, armament, missile) are consolidated to use the available vehicles.

Command and control

After completing the estimate of the situation, the brigade commander announces his decision and concept of the operation to key members of the staff. The concept is in enough detail for his staff to understand how he intends to conduct the battle. Staff preparation of plans and orders is based on the commander's concept. Subordinates are given maximum possible time to prepare since the effectiveness of the defense depends on time-consuming tasks, such as reconnaissance, fire planning, preparation of positions, installation of obstacles, positioning of supplies, and improvement of routes. WOs and subsequent oral instructions are used to get the word out. Commanders do not wait for the complete plan to begin preparations.

Preparation

Intelligence

The brigade commander prepares by war-gaming his plan with the S2 to ensure sure he has identified the probable courses of action open to the threat. The commander must identify the impending threat action and respond before it transpires. The commander will check that each of the NAIs/TAIs/DPs are covered. The commander will also check his time-distance analysis as it relates to the decision support template to ensure that his reserves will respond when and where they are needed.

Maneuver

The object of a successful defense is to know what the threat will do before it does it. The maneuver commanders will explain who is observing the NAIs/TAIs/DPs; who they will call upon sighting the threat; and the specific EEI for which they should be looking. The commander will decide the course of action appropriate for the situation. The maneuver commanders must demonstrate their flexibility in adapting to a rapidly changing situation.

The commander will rehearse the synchronization of his combat multipliers with the maneuver. While each asset will be addressed separately in subsequent paragraphs, the intent of the brigade commander should be to practice the controlling of these assets as a single activity. During this rehearsal, conflicts about terrain, air space, control, and execution may arise among organizations. To avoid confusion on the battlefield, the commander must settle the conflicts between his subordinate elements.

Fire Support

There are two levels of rehearsals that occur with FS. First, the FS plan must be checked to ensure it is completely integrated with the maneuver plan. Second, the artillery practices the FS plan to ensure it comprehends the plan and can use the primary and alternate communication nets, alternative attack systems used for specified targets, and observer/weapon system positions. The rehearsal should improve the responsiveness of the fires and the overall synchronization of the brigade battle.

Mobility, Countermobility, and Survivability

During the rehearsal, the brigade commander checks the completion times of the obstacle belts. If there is a reserve target that requires execution, he ensures sure the responsible party understands the conditions for execution. He verifies the positioning of the maneuver forces adequately covers the obstacle by direct fire or they are observable and covered by indirect fire. The obstacle plan must be completely integrated with the FS plan. An obstacle belt quality control must be established to ensure adjacent obstacle belts compliment each other and the scheme of maneuver.

Air Defense

The air defense plan will be checked during the rehearsal to ensure that the positions of ADA assets do not interfere with other operations, and that they are along likely threat air AAs.

Combat Service Support

CSS rehearsal is integrated into the maneuver rehearsal to verify that routes for support do not cross or conflict with routes used by reserve forces or other maneuver elements. Prestocks of ammunition should be checked against the unit's ability to guard them. The commander should also check that alternate MSRs are adequate to accommodate contingency plans, and that changing MSRs can be accomplished effectively.

Command and Signal

The commander ensures that the obstacles, FS, direct fire, counterattack, and other combat multipliers at his disposal are completely integrated. The only effective technique is to have representatives of each of these elements simultaneously rehearse the plan. After issuing the order and receiving backbriefs from each of the leaders, the commander verifies his plan can be executed with *minimal* guidance.

Execution***Intelligence***

As the threat force begins its attack, it maneuvers through either NAI 1 or NAI 2. If the threat attacks through NAI 1, the commander observes DP 1 to determine the actual direction of attack. If the threat attacks through NAI 2 (DP 2), the threat will arrive at TAI 1 in 17 minutes. The commander decides whether or not to engage the threat; if so, he synchronizes fires at TAI 1 to land 17 minutes after the threat crosses NAI 2. The same procedure would follow for NAI 1, except that once the threat reaches DP 1, the commander will know whether to engage in TAI 1 or TAI 2.

Following the threat engagement in TAI 1, the threat is observed moving through NAI 3 (DP 3). The commander must decide whether to commit the reserve to counterattack. This decision is based on the size of force at NAI 3. If the threat force is small, the reserve is not required. If the force is large, a counterattack may be necessary. Remember, it takes 10 minutes for the counterattack force to arrive in position and 13 minutes for the threat to travel from NAI 3 to TAI 4. The commander must decide in 3 minutes or the synchronization of the counterattack with the direct and indirect fire of the engagement area is lost. The same is true for NAI 4 and TAI 4. In this case, the reserve occupies a blocking position to prevent further threat penetration.

The S2 will constantly update the situation template, and if appropriate, the decision support template. Synchronization of the defense is the proper integration of the decision support template with the maneuver plan (see Figure 4-22).

NOTE: Although NAIs are not doctrinally placed on the decision support template, they are usually combined with TAIs and DPs on a task force and brigade decision support template. This maintains simplicity and avoids congestion with multiple overlays. Refer to FM 34-130 for doctrinal application of NAIs, TAIs, and DPs.

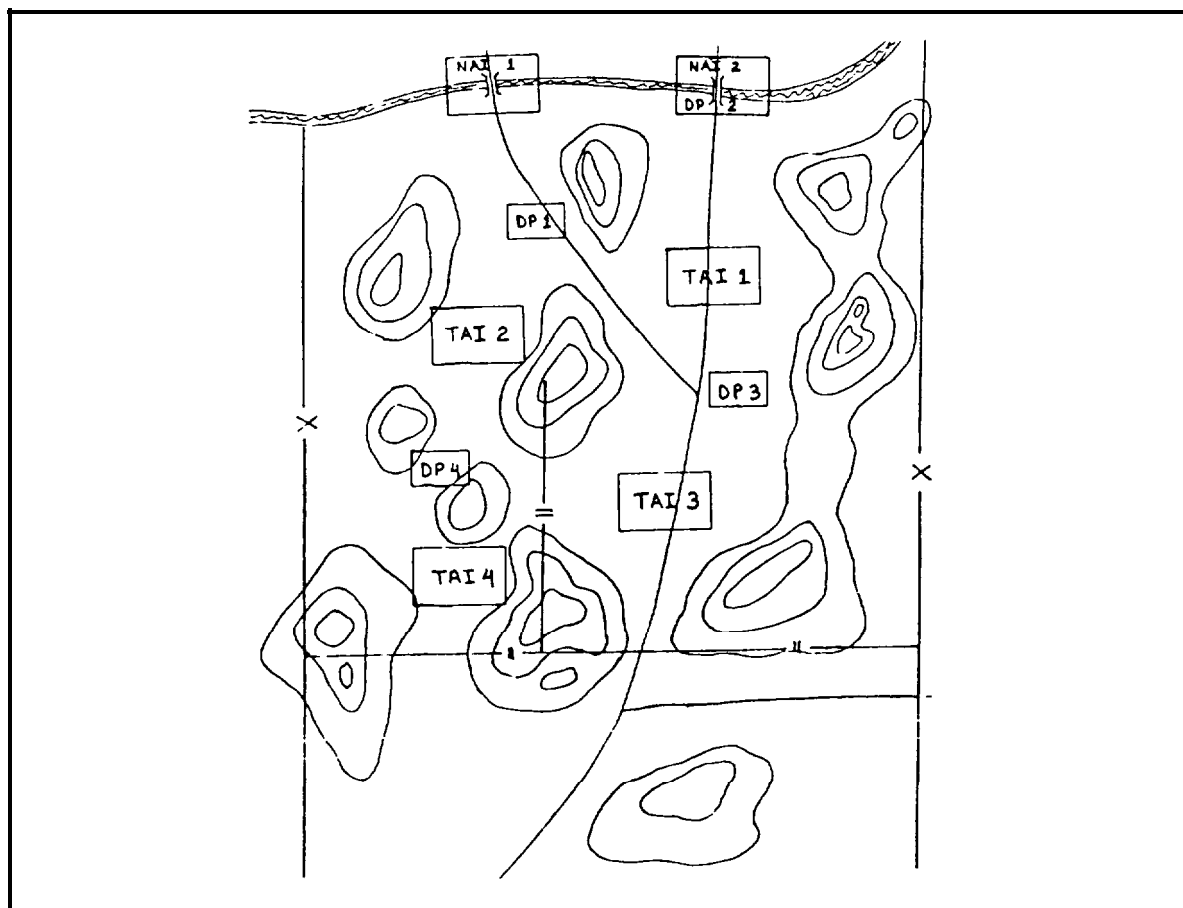


Figure 4-22. Decision support template in support of the defensive execution.

Maneuver

Brigades adjust their broad initial plans based on information from the covering force battle and from stay-behind patrols. The actual span for conducting the defense can extend from a series of local actions to a massive counterattack, depending on the capabilities of the brigade and the factors of METT-T. This may be accomplished through an economy-of-force mission tied directly to restrictive terrain, as well as a completely

Regardless of the concept, the brigade defends against the threat with strong combined arms task forces and battalions. Figure 4-23 illustrates the execution of a brigade defensive plan.

Sample execution of a brigade defensive plan. As the threat advances through NAIs 1 and 2, the stay-behind patrols report the movement. The brigade reserve target (bridge) is executed to slow the threat and piecemeal his entrance into TAI 1. The brigade commander will engage the threat with indirect fires, and if possible, BAI on the second echelon which should be traveling in column.

As the threat enters the TAI 1 area, company-size elements fire, augmented with indirect fires, to force the threat away from high ground and onto the main AA. The threat arriving at the obstacle is the event initiator for the direct fires of TFs 2-11 and 2-15, as well as a point for indirect-fire synchronization. This breaks the formation and provides flank shots. This should be the first major EA, as the two task forces orient their fires on the obstacle and the two forward companies fire in depth taking advantage of threat congestion. Knowing the time-distance factor from NAI 2 to TAI 1 enables the commander to have the artillery land at the same time the threat strikes the obstacle.

The fixing obstacle is the DP for the execution of the counterattack. It takes the threat a little longer to reach the blocking obstacle than for the reserve to reach the counterattack-by-fire position. The decision to commit the reserve is based on threat success. Again, the commander knows how long it takes the threat to travel from DP 3 to TAI 3, and he synchronizes his indirect fires and other combat multipliers accordingly. The objective is to strike simultaneously as the threat is massed at TAI 3 and just encountering the blocking obstacle; this should hit the threat at his moment of indecision. Meanwhile, forward elements will continue to take advantage of the threat's congestion and possible fragmentation at the formation-fixing obstacle.

Actions in the TF 2-10 sector are accomplished in the same manner, but at the task force level. Brigade headquarters monitors the battle in the 2-10 sector to ensure it has the support needed to defeat the threat.

The reserve must be able to execute three plans:

- Plan 1. Remain in position and defeat the threat as it attempts to breach the blocking obstacle.
- Plan 2. Move along Axis Blue to BP 28 and destroy the threat as it tries to penetrate the TF 2-10 sector.
- Plan 3. Move along his Red to BP 54 to counterattack by fire the threat massed in EA Zulu.

The brigade commander must know how much time the reserve needs to execute each mission. It is integrated with direct- and indirect-fire plans, as well as other available brigade combat multipliers.

Fire Support

Time-distance analysis along the threat AA figured against the time of flight determines when indirect fires are initiated. Figure 4-24 illustrates fires engage the threat in TAI 1, then channel it away from high ground toward the fixing obstacle. Fires strengthen the effect of obstacles and augment direct fires on the massed threat behind the obstacle. FPFs protect the forward companies from being overrun by the threat. Targets of opportunity occur, and TIRs or other navigational aids are plotted by the artillery to assist expediency.

The execution of the disruption target slowed the threat force as they conducted a hasty water crossing. As the threat massed on the north side, they were engaged by indirect fire and possible CAS or army aviation. A fixing obstacle that allowed portions of the force to continue unemployed while stopping other columns caused confusion. The C2 of the lead battalion was cut lengthwise, thus loosing mass and piecemealing into the next EA. The threat is prevented from moving east by a turning belt. This forces the threat from the high ground, back into the EA, while exposing their flanks. As the threat fights through the EA attempting to avoid prepared defensive positions, they are stopped by a blocking obstacle. This tack of movement, combined with the increased flank fire of the counterattack, completes the destruction of the threat.

The air defense plan, like all CS plans, must be completely integrated into the brigade defense. During the conduct of the defense, the air defense early warning net will forewarn the brigade of impending air attack. ADA assets will aggressively engage threat aircraft before they have the ability to discharge ordnance. The ADA assets must be prepared to engage helicopters in support of the threat ground maneuver.

Combat Service Support

The CSS plan will be executed as planned, where ammunition is pushed forward to the battalions in contact. Evacuation of wounded and destroyed equipment will be a priority, therefore, movement along the MSR must remain unimpeded. The brigade clearing station will be positioned as close as possible to the FEBA, but outside of the expected artillery range and where civilian facilities may be used to advantage. Routes close to the LD/LC must be carefully selected to avoid observation from threat-held terrain.

Command and Control

The brigade commander will control the battle from a vantage point that allows him to observe the action. He must take care that he does not interfere with the operations of the battalion in whose area he may be. It will be his responsibility to direct the combat multipliers so that the brigade defense achieves the synchronous effect sought in defensive operations. Most important, it will be his assessment of the situation and decision that will determine the employment of the brigade reserve. This is probably one of the most crucial aspects of the defense. If the reserve is committed late, the main defensive positions may be lost; if it is committed too early, surprise is lost, which allows the threat to respond to the maneuver. However, if the reserve executes accurately and effectively, the damage to the threat will be devastating. The brigade commander must direct all the combat forces at his disposal in one unified operation. He must listen to the needs of his subordinate commanders and demand assistance from higher headquarters when needed, but throughout the operation he must keep everyone informed. His decisions must be anticipatory and his orders terse. Above all, the brigade commander must aggressively seize the initiative from the threat, dispatching him with ruthless precision.

SECTION II. BATTALION TASK FORCE DEFENSIVE OPERATIONS

Threat Offensive Doctrine

How the Threat Attacks

A regiment attacking in the first echelon of a division normally will have the mission to penetrate, destroy, or neutralize forward strongpoints of defending enemy battalions, to continue the attack to an enemy battalion rear area, and to be prepared to continue the attack into enemy brigade and division rear areas (see Figure 4-26).

The actual zone of attack can extend from 3 to 8 kilometers, although the typical attack frontage for a regiment is 4 to 5 kilometers. The distance between echelons may extend from 5 to 15 kilometers, depending on the situation.

A regimental attack from the march will generally follow the sequence discussed below:

- First, artillery and air will prepare the defender's position from the initiation of the attack until the arrival of the assault forces at their respective objectives. The duration of the preparation could extend to 50 minutes.
- Second, the forward movement of the regiment from its position in the AA will be simultaneous with the preparation of the enemy positions. This will disguise the movement from the observation and hearing of the defender, and will mask the point of attack or main effort.
- Third, the regiment will break into battalion columns 8 to 12 kilometers from the enemy defensive positions, company columns 4 to 6 kilometers, platoon columns 1 to 4 kilometers; and battle formation 300 to 1,000 meters.

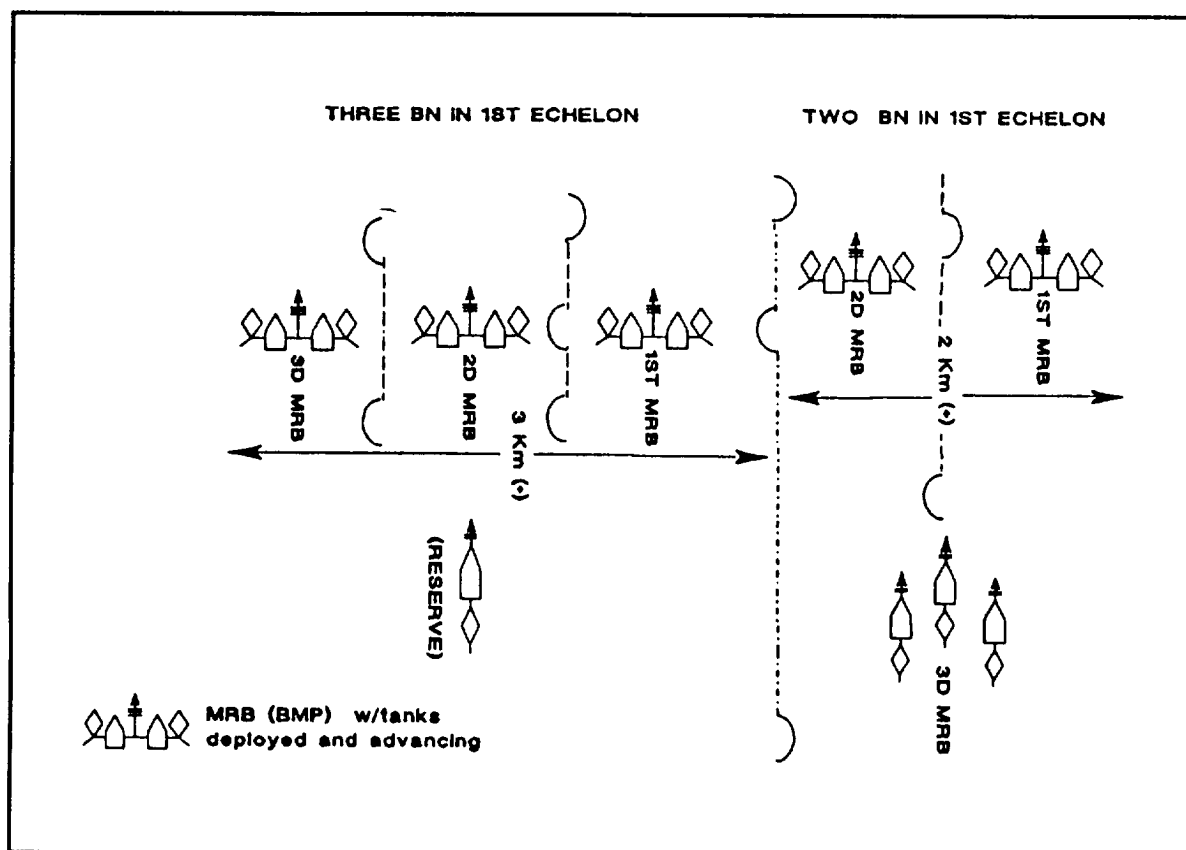


Figure 4-26. Typical regimental attack formations.

Conduct of the Motorized Rifle Regiment Attack

The following scenario traces the actions of an MRR from the issuance of the OPORD to the final assault (see Figure 4-27).

Issuance of the Regimental Commander's Order

At 1000 hours, 17 August, the regimental commander issues his order while located in the field AA. Friendly elements (fifteenth MRR) have halted the enemy advance, and up to a mechanized infantry battalion is defending in the sector assigned to the first MRR. The first MRR is to move from its AA, which is about 30 kilometers from the LC, and attack from the march with two reinforced battalions in first echelon. The tentative H-Hour is 0400 hours, 18 August. The third MRB is in second echelon.

First echelon battalion commanders plot their work maps.

First MRR battalion commander determines—

- Initial rate of advance of approximately 1.5 kilometers per hour (battalion immediate objective to be seized by H +1).
- Tentative combat formation with two companies in first echelon, based on attack frontages of approximately 1.5 kilometers.

Preparation of the commander's work map, evaluation of the situation, and the decision are emphasized. These serve as a foundation for all subsequent coordination, such as FS and second-echelon commitment (see Figure 4-28). Time is the overriding consideration in planning.

NOTE: Symbol depicts enemy (US) defensive position.

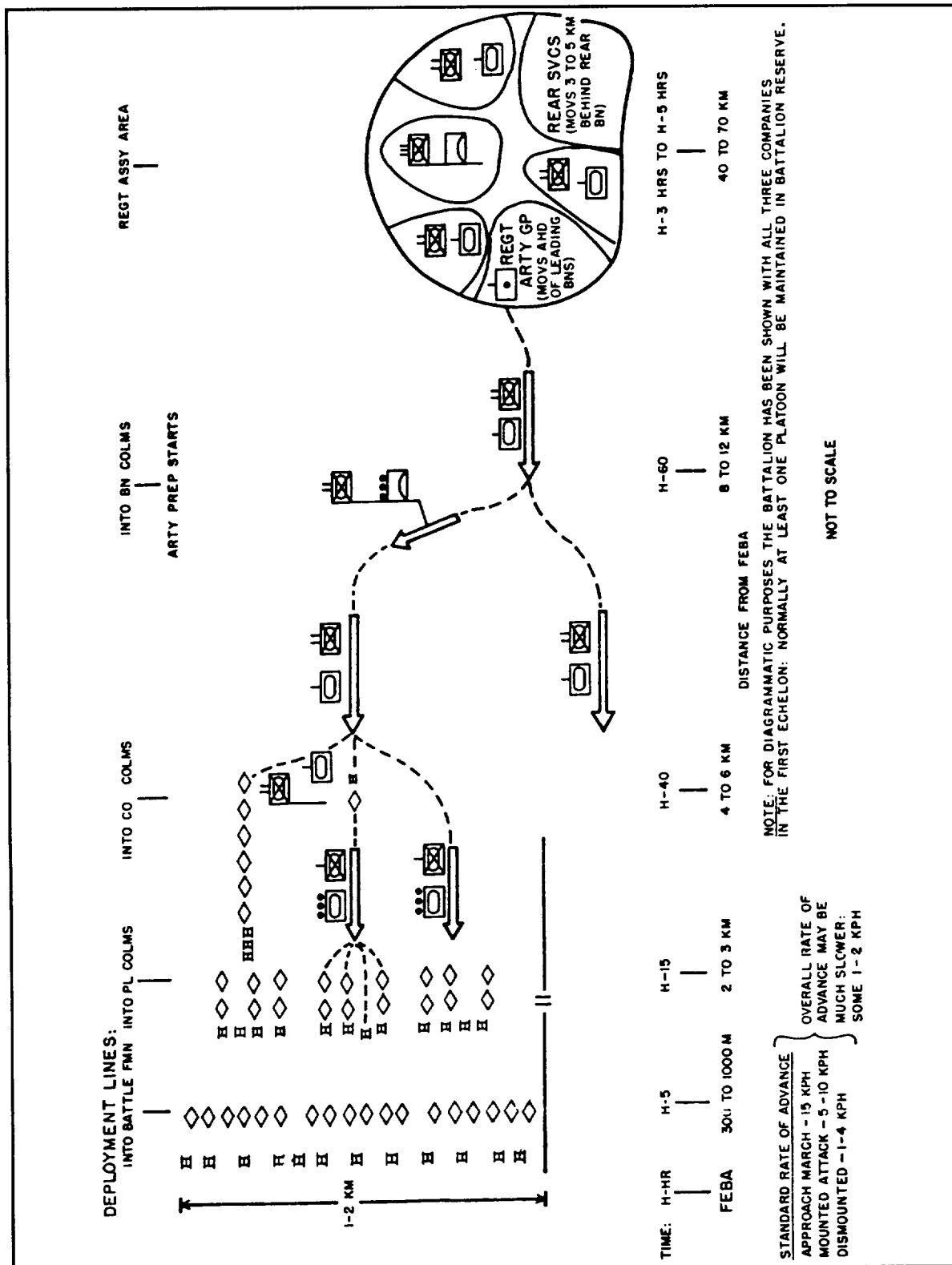


Figure 4-27. Motorized rifle regiment attack from line of march.

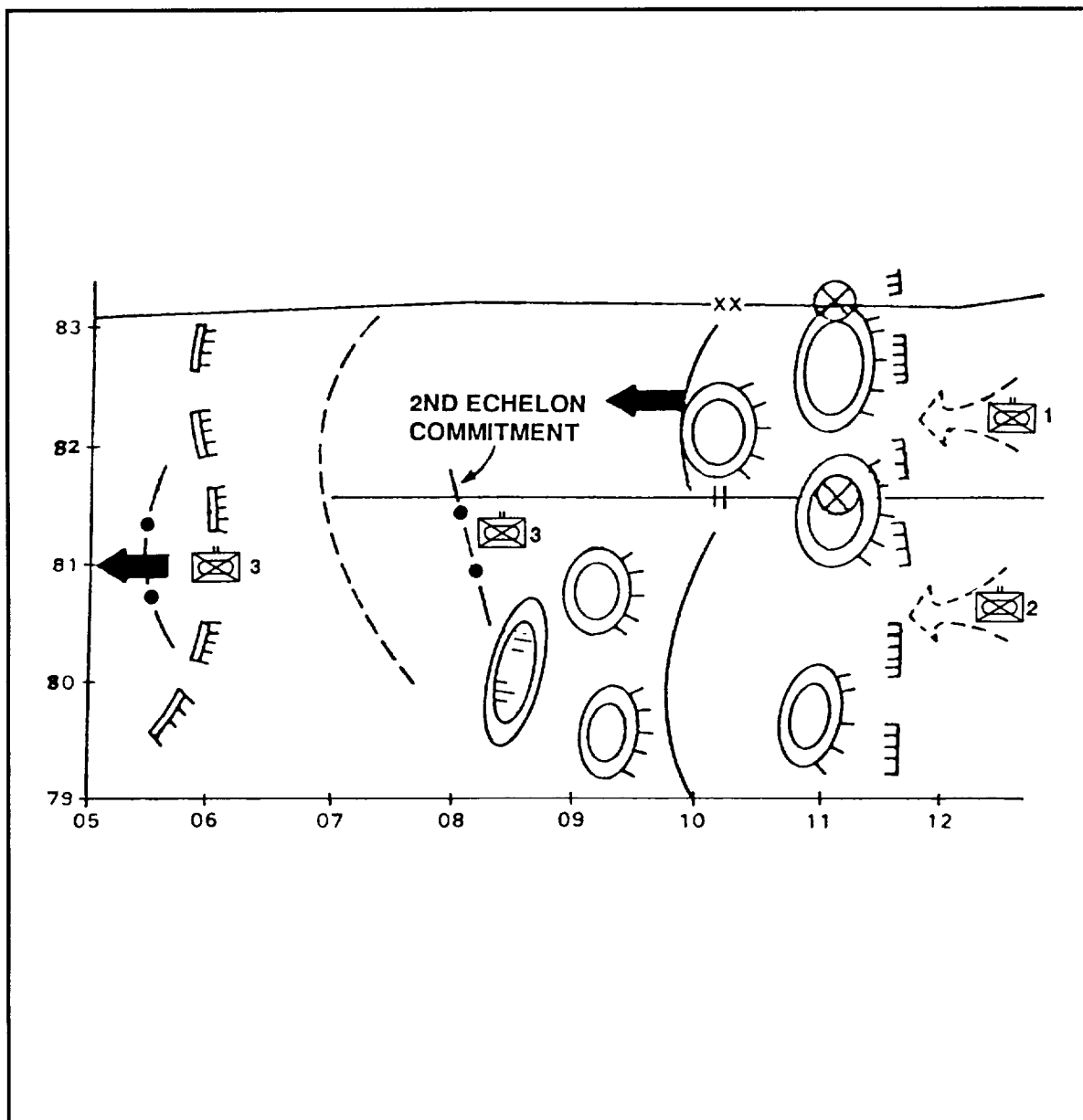
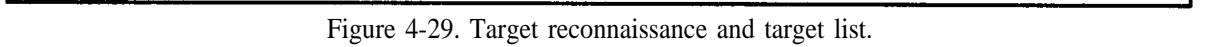


Figure 4-28. Battalion commander's work map.

Reconnaissance and Development of the Target List

At 1230 hours, 17 August, the regimental commander and subordinates assemble in the vicinity of the FEBA to perform the commander's reconnaissance. The information from this reconnaissance will be supplemented by an artillery reconnaissance and target data from units in contact and higher headquarters. The regimental artillery officer develops a map plot of enemy targets and a target list. (Only data for the first MRB's sector to a depth of 3 kilometers is shown.)

The Soviet-style armies believe that reconnaissance is a key factor in refining the preliminary decision, developing the fire plan to include AT suppression, and breaching the enemy defenses. Reconnaissance is complicated by the fact that enemy targets displace and new ones appear. The development of the FS plan is made more difficult (see Figure 4-29).



Development of the Artillery Fire Plan

The commander determines that the attack is preceded by an artillery preparation consisting of three

- A preparation with three fire assaults of 13, 10, and 12 minutes respectively followed by an 8-minute strike, which overlaps H-Hour.

- Based on an ammunition allocation of 1.9 units of fire for the first day, with 1.1 units for the preparation, the artillery commander will develop the fire plan (unit of fire = 80 rounds/weapon). Location and time of supporting fires are planned. The timing of the preparation must coincide with

the development. The planning must accommodate newly detected/displaced targets or targets that have survived the preparation (see Figure 4-30).

		TIME	METHOD OF FIRE AND TARGETS	SIGNALS	1ST BATTERY	2D BATTERY	3D BATTERY
PREPARATORY FIRES		H 40 TO H27 (13 MIN)	FIRE ASSAULT ARTILLERY AND MORTAR BATTERIES CP& RADAR PLATOON STRONG POINTS OF COMPANIES IN FIRST ECHELON OF DEFENSE	<ul style="list-style-type: none"> ● GREEN FLARES ● SNOWSTORM 2121 (RADIO TEL) 	TGT 60 90 RDS	TGT 18 140 RDS	TGT 40 80 RDS
		H 27 TO H-17 (10 MIN)	FIRE ASSAULT PLATOON STRONG POINTS WITHIN DEEPER DEFENSIVE POSITIONS. DESTRUCTION OF TARGETS BY DIRECT FIRE. CONTROLLING FIRES AGAINST ARTILLERY AND MORTAR BATTERIES	<ul style="list-style-type: none"> ● STAR FLARES ● HAIL 3131 (RADIO TEL) 	SECTOR 11 120 RDS	SECTOR 11 90 RDS	SECTOR 11 120 RDS
		H-17 TO H-5 (12 MIN)	FIRE ASSAULT PLATOON STRONG POINTS WITHIN COMPANIES OF FIRST ECHELON OF DEFENSE	<ul style="list-style-type: none"> ● YELLOW FLARES ● HAIL 4141 (RADIO TEL) 	SECTOR 16 120 RDS	SECTOR 16 165 RDS	SECTOR 16 165 RDS
		H 7 TO H +1	OVERLAPPING FIRE ARTILLERY AND MORTAR BATTERIES	<ul style="list-style-type: none"> ● YELLOW FLARES ● HAIL 4141 (RADIO TEL) 	TGT 60 60 RDS	SECTOR 11 150 RDS	SECTOR 11 150 RDS
		FROM H 5	SUCCESSIVE FIRE CONCENTRATIONS (PSO) LINE 1 WOLF	<ul style="list-style-type: none"> ● GREEN FLARES ● HURRICANE 5555 (RADIO TEL) 	TGT 60 60 RDS	SECTOR 11 45 RDS	SECTOR 11 45 RDS
SUPPORTING FIRES		ON CALL	LINE 2 CAT	<ul style="list-style-type: none"> ● STAR FLARES ● THUNDER 6666 (RADIO TEL) 	SECTOR 21 50 RDS	SECTOR 21 50 RDS	SECTOR 21 50 RDS
		ON CALL	LINE 3 TIGER	<ul style="list-style-type: none"> ● YELLOW FLARES ● TYPHOON 7777 (RADIO TEL) 	SECTOR 16 32 RDS	SECTOR 16 32 RDS	SECTOR 16 32 RDS
		ON CALL	FIRE CONCENTRATIONS (SO) INDIVIDUAL TARGETS BARRAGE FIRES (20)	READINESS TO OPEN FIRE ON TARGETS 20, 25, 32, 33, 69, 71 TARGETS A AND B	TOTAL ROUNDS PLANNED SUPPORTING 1152		

Figure 4-30. Artillery battalion fire planning for the attack.

Suppression of Antitank Weapons

Reconnaissance elements have identified enemy-emplaced ATGMs, and have dug in tanks within and between platoon strongpoints. The regimental commander ordered that one tank platoon and one ATGM platoon be employed in a direct-fire role in the sector of the first MRB. An artillery battery has also been allocated for direct-fire support.

The regimental chief of artillery develops the direct-fire plan, to include the table of distribution for the missions (see Figure 4-31). The Soviet-style armies strive to locate 60 to 70 percent of the enemy AT systems, and to destroy 50 to 60 percent. AT suppression must be closely coordinated with the preparation and the assault force deployment.

PRIMARY MISSION						
UNIT	WEAPON NUMBER	TARGET NUMBER	TARGET	DISTANCE (M)	TIME	ROUNDS
ARTILLERY BATTERY	1	17	DUG IN TANK	1150	H 40 TO H 18	4
	2	19	DUG IN TANK	1300		4
	3	20	RECOILLESS	1100		4
		15	ATGM	950		4
TANK PLATOON	1	13	ATGM	1200	H 28 TO H 10	3
	2	14	RECOILLESS	1250		3
	3	15	ATGM	1000		3
ATGM PLATOON	1	IN READINESS TO DESTROY MANEUVERING TANKS AND OTHER ARMORED VEHICLES			H 28 TO H+30	2
	2					2
	3					4

ADDITIONAL MISSIONS				
UNIT	TIME	MISSION	ROUNDS	DISPLACEMENT TIME
ARTILLERY BATTERY	H 18 TO H-10	DESTROY TARGETS INTERFERING ATTACK	48	H-10
TANK PLATOON		JOIN TANK COMPANY		H 10
ATGM PLATOON	H 27 TO H-10	INSURE DESTRUCTION OF TARGETS 17 AND 19	2 PER TARGET	H+30

Figure 4-31. Table of distribution for primary and additional direct-fire missions.

Deployment of First-Echelon Battalions for the Assault

The first MRB (the main effort) attacks from line of march at 0400 hours, 18 August. The battalion crosses the assault line at H-7 minutes. The first MRB commander determines the location of deployment lines and the time. Deployment of the regiment into columns at lower levels is calculated and closely related to the terrain, route passability, timing of the preparation, and the nature of enemy defenses. Any deviation in deployment can impact adversely on the assault and related support (see Figures 4-32 and 4-33).

ROUTE SEGMENT	SEGMENT LENGTH (KM)	PERMISSIBLE RATE OF MARCH (KM/HR)	TRAVEL TIME (MIN)
PLATOON COLUMN TO ASSAULT LINE	1.5	10	9
COMPANY COLUMN TO PLATOON COLUMN	2	12	10
BATTALION COLUMN TO COMPANY COLUMN	6	20	18
REGIMENTAL COLUMN TO BATTALION COLUMN	20	25	48
ASSEMBLY AREA TO INITIAL POINT	<u>5</u>	<u>25</u>	<u>12</u>
TOTALS	34.5	21 (AVERAGE)	97

Figure 4-32. Chart for deployment in columns.

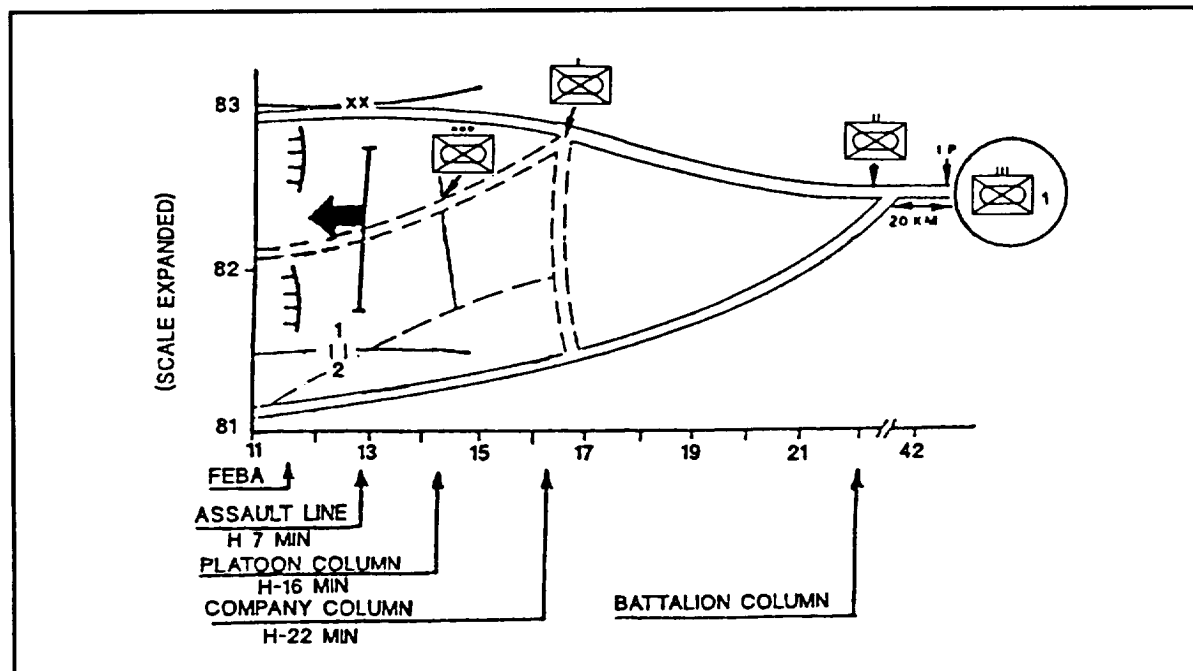


Figure 4-33. Deployment of first-echelon battalions for the assault.

Coordination for the Assault

During the artillery preparation and the deployment of the first MRB for the assault, the first artillery battalion commander and first MRB commander are collocated at the COP.

- Preplanned artillery fires are conducted in accordance with signals contained in the fire plan.
- Direct-fire weapons and ATGMs destroy designated targets,
- A direct-fire tank platoon joins the first MRB deploying for the assault.
- The first echelon assaults on order.
- Engineers clear minefield during the last strike of the artillery preparation.
- Battalion second echelon committed and direct fire means are displaced on order.
- Air defense supports assault.

Timing of the preparation, direct fire, engineer obstacle clearance, and air defense support are coordinated with the deployment and assault of the maneuver elements. A major deviation in timing in any component impacts adversely on the success of the assault (see Figure 4-34).

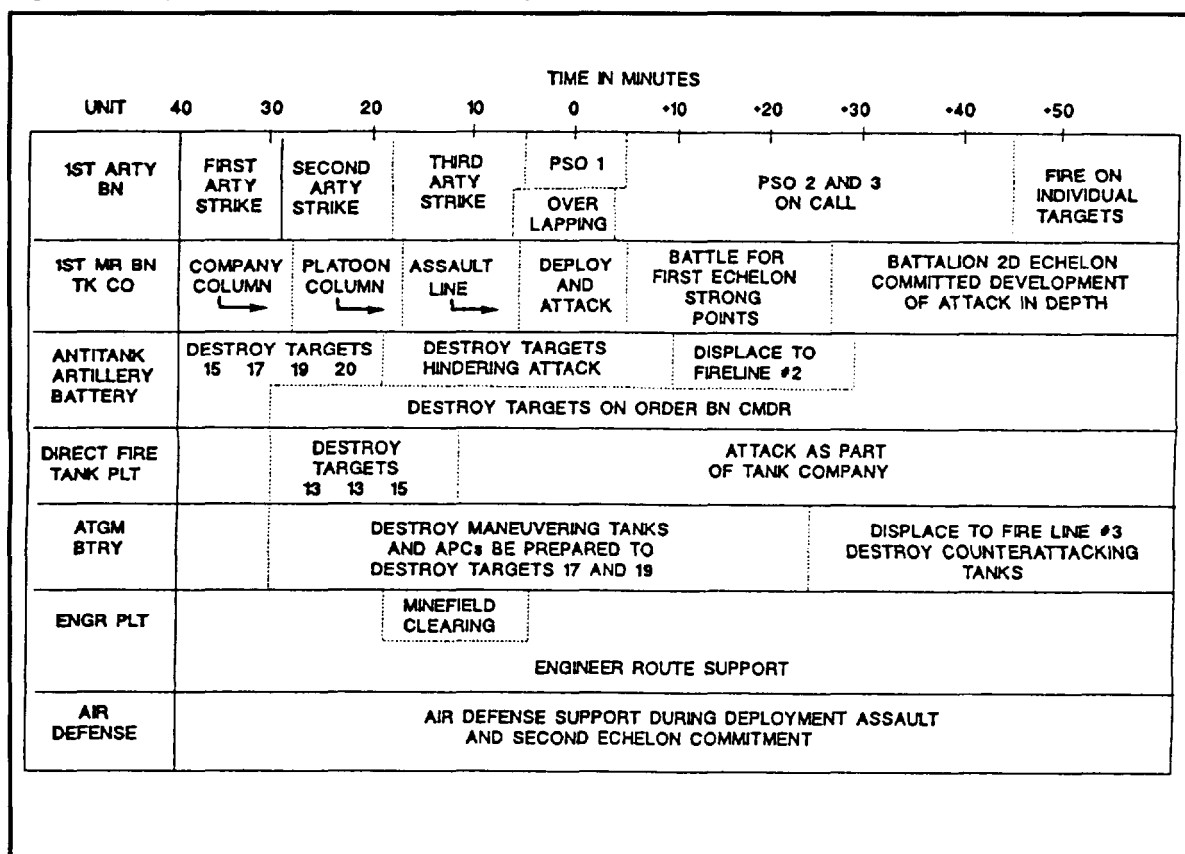


Figure 4-34. Overall coordination measures for the assault.

Artillery Displacement

The first artillery battalion's mission is to support the first MRB with continuous fire. Artillery displacements are based on an average rate of advance of 3 kilometers per hour during the first four hours. The first MRB commander directs the artillery to displace when the assault troops reach specified lines. The first artillery battalion also is tasked to support the commitment of the regimental second echelon.

The first artillery battalion displaces incrementally, that is, the battalion minus one battery followed by that battery. When the battalion is ready to fire in the new location, the balance of the battalion displaces. For example, when the immediate objective is seized at a depth of 20 kilometers, the artillery battalion minus one battery is ordered to displace. When the battalion minus is ready to fire in the new location, the remaining battery is ordered to fire.

Continuous FS is required particularly during critical periods, such as second-echelon commitment. Artillery displacement is determined based on anticipated rates of advance and norms for artillery operations. All aspects of artillery support probably are exercised except for handling ammunition in the quantities shown in the fire plan (see Figure 4-35).

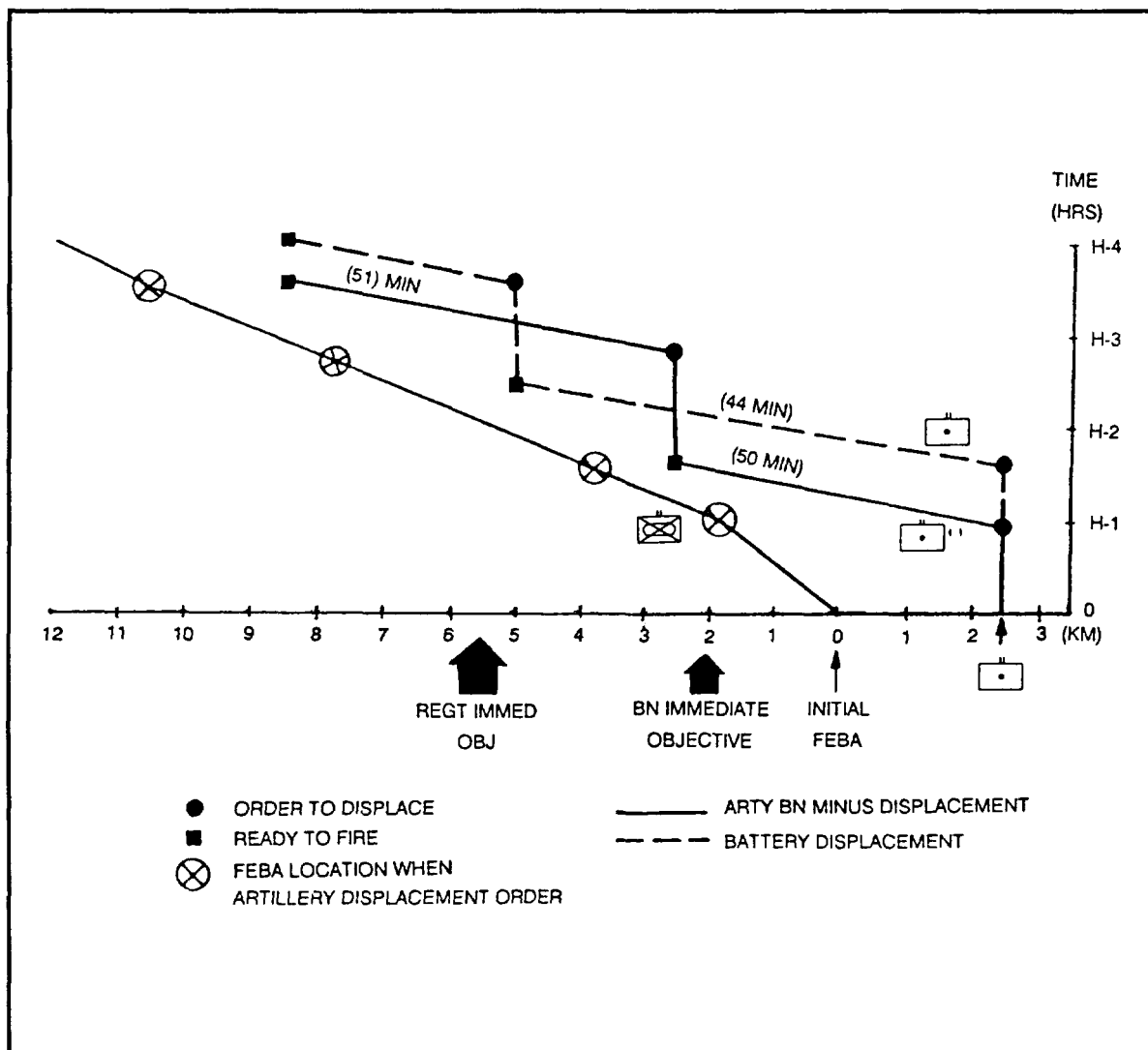


Figure 4-35. Concept for artillery displacement during the attack in depth.

Regimental Second-Echelon Commitment

By 0630 hours (H+2.5), the first MRB has broken through enemy defenses, but met increased resistance north of REDKIY Woods. Enemy forces are moving toward the area from GOLUMBOY Woods. The second-echelon battalion (third MRB), in column near SYCHEVO, received orders to be committed on the right flank of the first MRB with an H-Hour of 0700 hours (H+3).

The 3d MRB is committed from the march; it is supported by a 10-minute fire assault by the first artillery battalion on the strongpoint north of REDKIY Woods. The second-echelon commitment plan is refined and implemented on order. The second echelon is committed on a flank. The timing and the availability of FS are critical elements (see Figure 4-36).

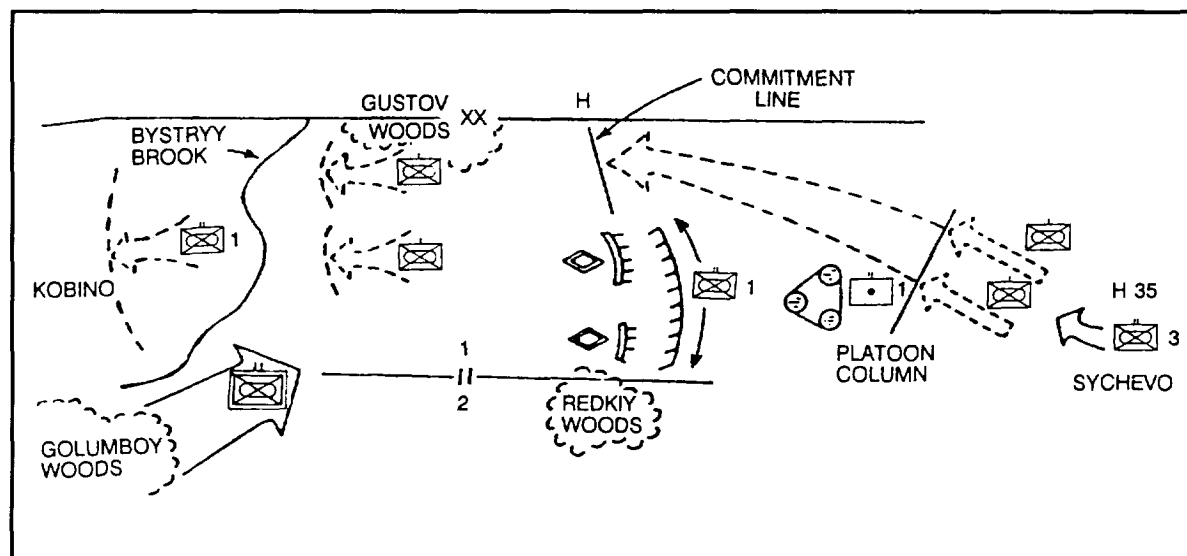


Figure 4-36. Plan for the commitment of the regimental second echelon.

Conduct of a Tank Regiment Attack

Once a gap has been created, tank regiments of tank divisions penetrate and exploit the penetration of the enemy's defense. Objectives are enemy reserves, nuclear weapons delivery systems, and C2 facilities. In an operation conducted by an MRD, doctrine requires that tank regiments be employed as complete regiments. MRRs have an organic tank battalion for support.

In setpiece assaults, the tank regiment receives from 25 to 40 minutes of supporting artillery fire. Priority targets are enemy artillery and AT systems. The goal is to suppress the enemy elements and create a gap through which the regiment can maneuver.

Staff Planning

Once the regimental commander has completed his estimate of the situation and has made his reconnaissance, the following key decisions are given to the staff as the basis for further planning:

- Information on enemy strength and disposition, including obstacle zones and the approaches to the enemy position.
- The mission of the regiment.
- Axis for the attack and breakthrough sector.
- Tasks of supporting arms.
- Nuclear targets and the nuclear safety line.
- Location of artillery; coordination of fire plans.
- Coordination with adjacent units.
- Movement routes, control lines of deployment, and gaps through obstacles.
- Location of control points on the route forward.

The combat orders are then worked out in detail by the staff. Route reconnaissance is made by subordinate staff officers, and control points are coordinated on the ground. Whenever possible, the regimental commander issues his orders orally.

Orders

When issuing his orders to the battalion commanders, the regimental commander assigns immediate objectives for each battalion and gives directions for continuing the advance. In addition to assigning missions, the regimental commander specifies attachments and detachments. The regimental commander relates where and when battalions will deploy into company and platoon column and line. The regimental commander also gives details of the artillery fire plan, which usually will be a timed program. The final part of the order gives coordination details and includes control measures.

Control

The commander and staff establish control measures to regulate the regiment's advance to contact. AAs are designated approximately 8 to 12 kilometers from the FEBA. The AA is a preparation and organization site located away from population centers. The regiment's movement from AAs through SPs and along march routes or axes of advance is monitored by staff officers and traffic regulators. The Soviet-style armies expect their advance elements to drive the enemy's reconnaissance screen, and thus allow the main body of the tank regiment to reach the line of deployment (about 4 to 6 kilometers from the enemy front line). They deploy into a companies-on-line (approach march) formation. The line of deployment is to be out of the range of enemy ATGMs, direct artillery, and tank fire. At about 1.5 to 4 kilometers from the enemy line, the tank battalions cross the line of attack, deploying into platoons on line (combat formation). Whenever possible, the line of attack is designated behind a terrain feature so the battalions are covered from enemy observation as they deploy. The Soviet-style armies consider the axis of main attack the most important control measure for the offensive. It designates their main efforts. The particular axis chosen depends on the mission, strength, and structure of the enemy defense; terrain conditions; and the disposition of friendly troops.

Frontage and Depth

In a movement to contact, the tank regiment is assigned a sector of responsibility up to 10 kilometers wide. When conducting actual offensive operations, however, the regiment may engage the enemy along an attack frontage as narrow as 2 to 4 kilometers, depending on prevailing conditions. The regiment's immediate objective is normally the enemy battalion strongpoints about 4 to 6 kilometers beyond the enemy FEBA; the depth of its subsequent objective is the immediate objective of the division (12 to 15 kilometers [see Figure 4-37]).

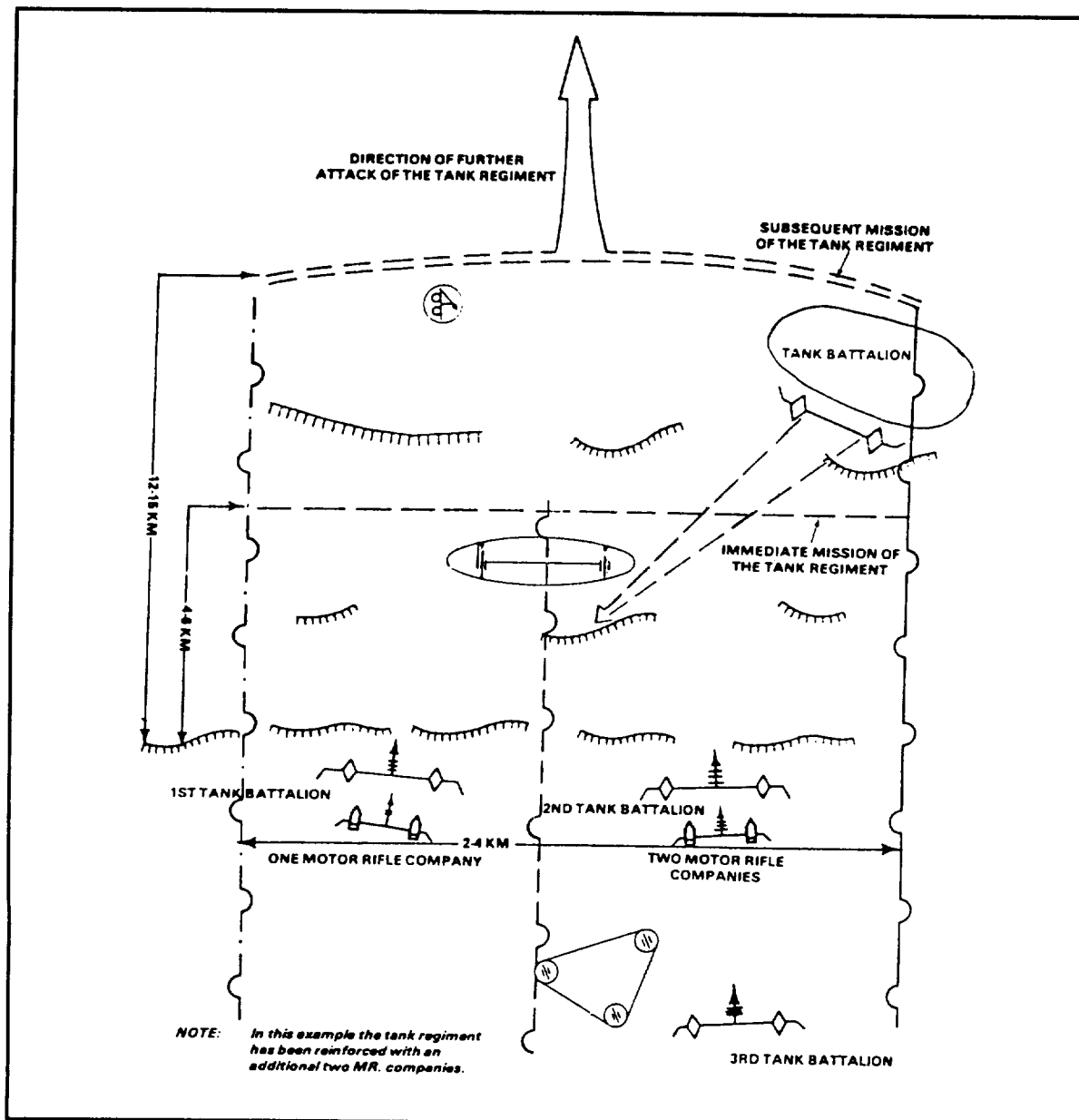


Figure 4-37. Frontage and depth of deployment.

Breakthrough Operations

Concepts

The concept of the breakthrough operation envisages the destruction of an enemy force in prepared positions in a small sector of the FEBA, and subsequent penetration and reduction of positions in depth. Breakthrough operations are conducted as a last resort by concentrations of maneuver elements and firepower at selected points. The Soviets-style armies seek to establish decisive superiority in the breakthrough sector while maintaining pressure all along the enemy's front. Tank regiments take part in breakthroughs as part of a divisional operation. Each regiment is normally organized into two echelons for the operation, and is reinforced with engineer and MR troops. Battalions may be organized in one or more sectors within their zones of responsibility; the attack is usually led by tanks. Frontages will depend on METT-T considerations.

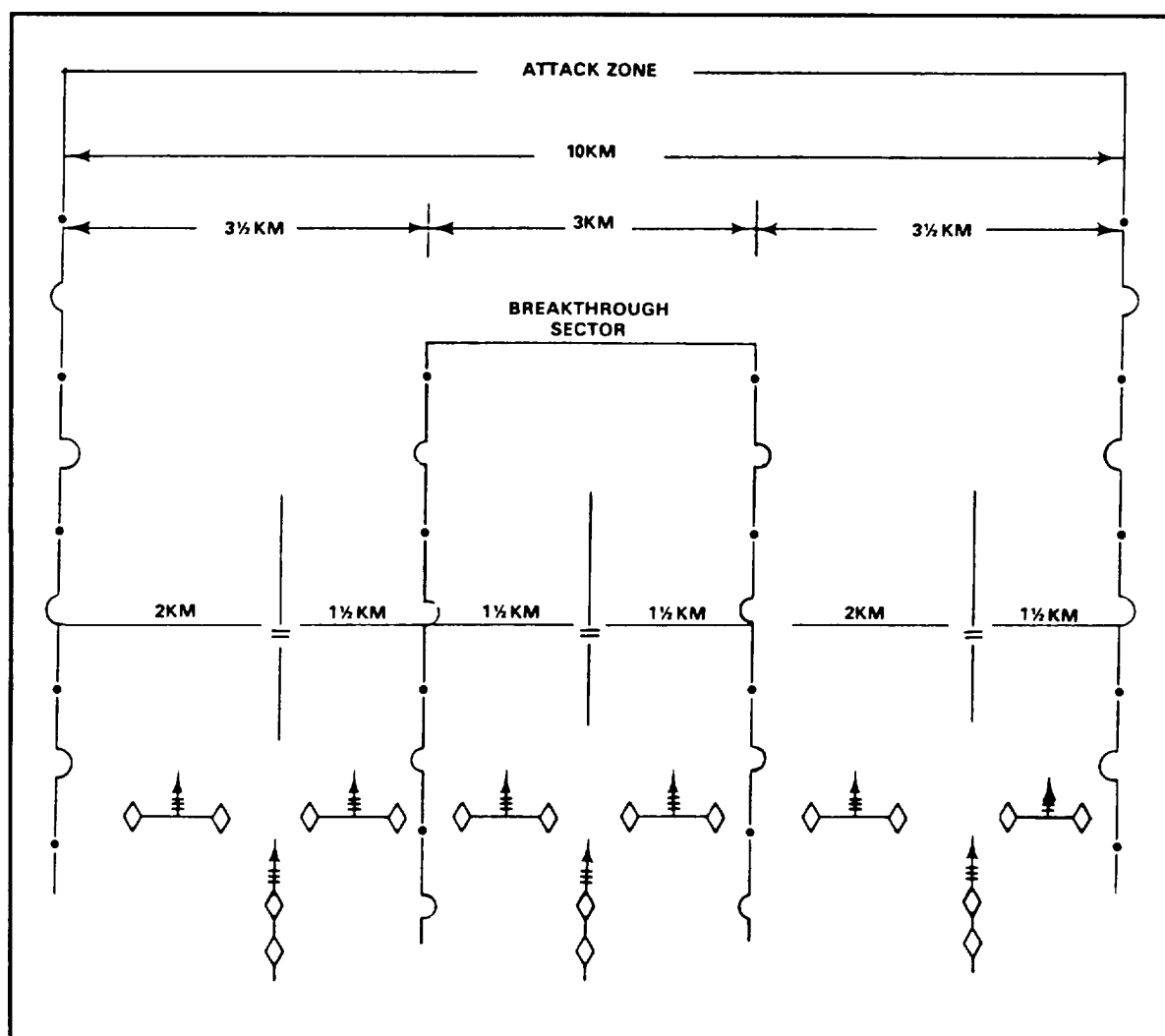


Figure 4-38. Attack formation and frontages of first-echelon battalions.

Fire Support

Division artillery is augmented from army and front units for the breakthrough of a prepared defensive position. Soviet-style doctrine envisions 60 to 100 tubes per kilometers of front. Figure 4-38 includes all indirect-fire weapons and is probably applicable to the MRD. Against a weak defense, such a concentration may not be necessary. Neutralization fire may extend 1,000 to 1,500 meters on either side of each breakthrough sector. Under nuclear conditions, there would be greater dispersion with wider attack frontages. Artillery fire is routinely supplemented by air strikes against immediate objectives and on targets in rear areas. Fire planning is directed mainly against the same type targets as those sought by the MRR's artillery. The second attack echelon is further supported by artillery fire on targets located by the first attack echelon.

Initial Deployment

The tank regiment may conduct its breakthrough operation either from a position of direct contact with the enemy, or preferably, from the march. In the latter case, the regiment launches the operation from an AA at least 20 kilometers from the enemy FEBA. If possible, the regiment moves into this AA under cover of darkness or poor visibility. Reconnaissance and engineer penetration of the route is begun 2 or 3 hours before forward movement of the main body. Routes forward are masked by colored tags and traffic regulators manning control points. Light and radio discipline in the AA receive heavy emphasis in their doctrine.

Task Organization

There is no set pattern for reinforcement of the tank regiment in a breakthrough operation. The units involved depend on the type of division as well as the specific mission and the enemy and friendly situations. However, Soviet-style armies exercise activity shows that self-propelled and antiaircraft artillery frequently accompany attacking units. Also, the MRC may be attached to a tank battalion. Infantry attack on foot or mounted (depending on the situation), and follow the tanks as closely as possible. The infantry task is to destroy ATGMs and clear pockets of ground troops still effective after the artillery preparations. They may also be required to clear enemy mines and obstacles by hand, or the regiment maybe augmented with combat engineers specifically for this task. When AT fire is effective, the infantry precede the tanks and attack dismounted.

Conduct of the Attack

After crossing the LD, normally the forward edge of the AA, the tank regiment moves through march, precombat, and combat formation, deploying along preplanned lines. The first-echelon tank units try to breach the enemy FEBA and fragment its defense so that he can be destroyed by the second echelon. Tanks open concentrated fire on any targets that have survived the artillery preparation. The tank regiment's second echelon passes through gaps between first-echelon positions to destroy enemy elements that have been isolated in the assault. If the first echelon meets heavy resistance, the second echelon may be required to help it complete its mission. Tactical reserves of reinforced platoon strength are usually created at battalion level.

Exploitation

The Soviets-style armies recognize that the advance of regimental elements may be uneven, so they place a high priority on securing to protect against possible enemy counterattacks. The regiment then moves against its subsequent objectives, which are artillery positions and reserves. The second echelon completes the destruction or capture of enemy forces, eliminating and consolidating the regiment's position. If the enemy begins to organize a withdrawal after a breakthrough, the regiment immediately begins pursuit operations.

Defend in Sector

A defensive sector is an area designated by boundaries which defines where a unit operates. Defense in sector is the most common defense mission for the task force.

Planning***Intelligence***

In planning for the battalion defense in sector, the S2 conducts his IPB in the same manner as at the brigade level, but with a different focus.

Terrain analysis. The battalion S2 examines terrain and its capacity two levels down, for example platoon level. Key terrain and platoon mobility corridors are identified for the length of the battalion sector. The terrain analysis allows the commander to view the entire piece of terrain and determine its best use. If an engineer unit is attached to the task force, the engineer commander can provide valuable assistance to the S2 in the classification of terrain mobility. Once all the platoon-sized mobility corridors have been identified, they are combined into company AAs. The enemy regularly maneuvers using logging roads and trails, so even the most innocuous dirt trail may become a major AA.

Conversely, choke points and any natural obstacles that restrict maneuver should be identified. Included are—

- Mountain terrain.
- Slopes of over 60 percent.
- Escarpments (railroad tracks or highways on a steep fill over 1-1/2 meters high).
- Ravines, gullies, streams, or ditches over 5 meters wide.

- Swamps and marches over 1 meter deep.
- Forests or jungles with trees as small as 4 inches in diameter. Tree stumps 18 inches high from recently forested areas are also obstacles.
- Snow over 1 meter deep.
- Railroads.
- Built-up areas.

Situation templating. The S2 examines how the threat will negotiate the terrain and where enemy regiments change formation. He must identify where the enemy is vulnerable. If the enemy is engaged while attempting to change formation, heavy damage is caused by confusion and fragmentation. These pieces of information assist the commander in the development for his defensive plan. The event matrix and the decision support template will be a refinement of this analysis.

Reconnaissance and surveillance plan. To confirm the situation and event templates, the S2 develops an R&S plan (see Figures 4-39 and 4-40). Reconnaissance elements will observe specific locations and areas. If GSR has been attached to the battalion, it will scan likely avenues of approach. GSR must have line of sight to detect activity. The areas assigned for monitoring are the NAI/TAI/DPs identified by the S2. Reconnaissance elements report any activity in these areas. Based on the observations from the R&S plan, the commander will have an accurate picture of enemy activity and will respond accordingly.

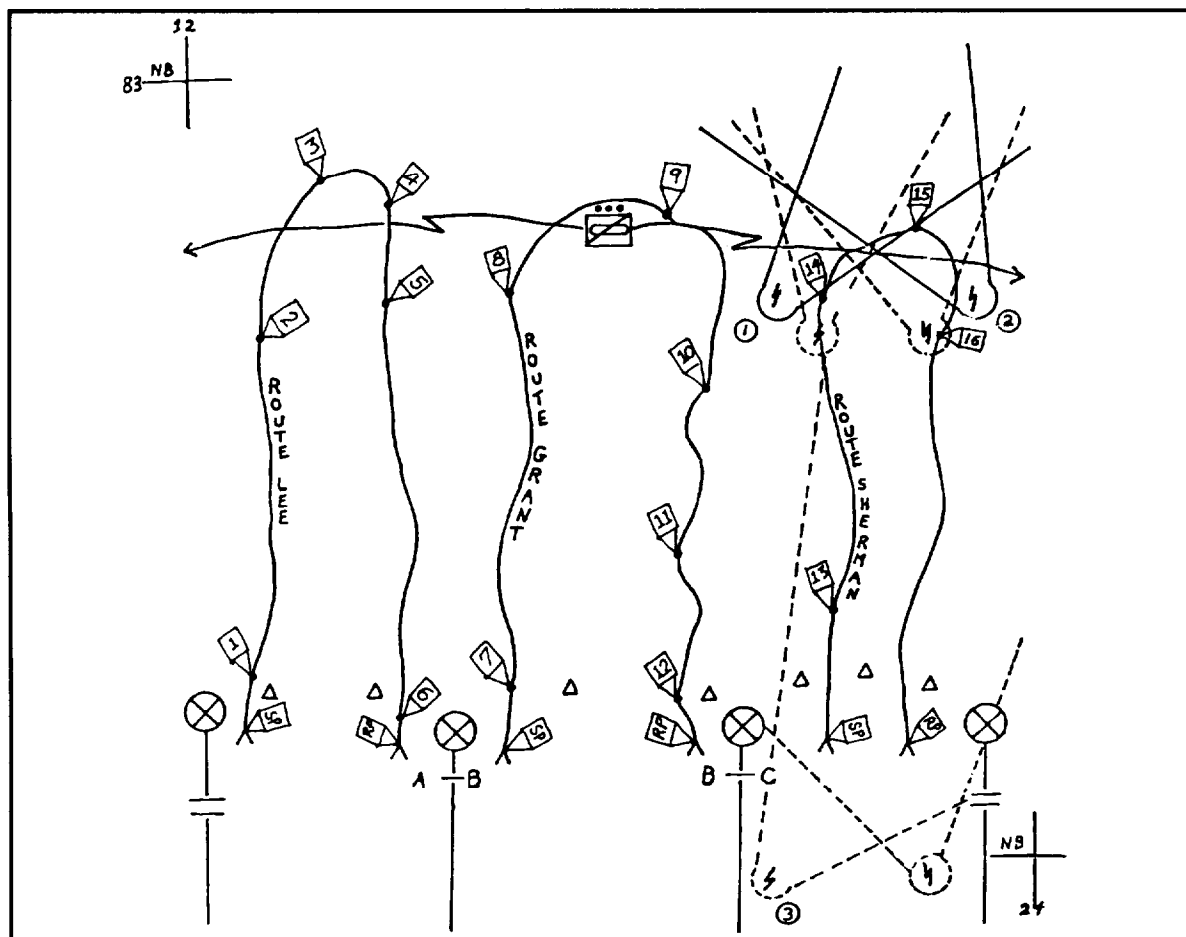


Figure 4-39. Battalion reconnaissance and surveillance plan.

Date: _____ Task Force: _____ NOTE: A check indicates asset named was employed in the listed task.								
ASSETS								
TASKS	Sct	GSR	REM	Tm A	Tm B	Tm C	Tm D	TF
Locate Enemy Recon Assets								
Est Positions 1 & 2								
Est Positions 3 & 4								
Est Forward Screen								
Est 2 Strings								
Est LP/OP								
PATROLS								
Route LEE								
Route GRANT								
Route SHERMAN								

Figure 4-40. Reconnaissance asset utilization matrix.

Example: R & S Plan Instructions

GSR-Establish positions 1 and 2 NLT 1800 hours. Establish positions 3 and 4 on order. Target: Enemy reconnaissance/MRB (BMP with T-62) moving south along AAs. Coordinate withdrawal routes with Tm C and scout platoon leader.

Scouts-Establish forward screen NLT 1600 hours. Target: Enemy dismounted reconnaissance units.

REMs-Establish 2 strings NLT 1800 hours. Target: dismounted reconnaissance and MRB troops infiltrating along forest trails. Coordinate passage with Tm B.

Patrols-Tm A patrol SP NLT 2100 hours. Coordinate Route LEE with scout platoon leader. Target: Locations of enemy reconnaissance/MRB platoon vicinity CP 3 and CP 4.

Tm B+patrol SP NLT 0100 hours. Coordinate Route GRANT with scout platoon leader. Target: Location of enemy reconnaissance/MRB platoons vicinity CP 8, 9, and 10.

TM C-patrol SP NLT 2200 hours. Coordinate Route SHERMAN with scout platoon leader. Target: Locations of enemy reconnaissance platoons vicinity CP 14, CP 15, and CP 16.

TF-TM D (Reserve) attached to scouts NLT 1500 hours. Revert to task force reserve on order.

Distribution-Teams A, B, C, D, SCT, MRT, FSO, S3, GSR/REMs, Engr, Bde S2.

Maneuver

The maneuver plan is formulated from the BHL to the rear boundary of the sector. Once the S2 has identified the enemy AA, his capacity, and his likely vulnerability, the commander determines the number of weapon systems required to destroy the enemy and designates areas of vulnerability as EAs.

Direct fire. The commander plans for direct fire by looking two levels down (platoon). He will determine the number and type of weapon systems required to defeat the enemy based on the S2's depiction of the enemy's formations and areas of vulnerability. To defeat an enemy battalion, the commander must plan at least a company's worth of fires on the engagement, modified by METT-T.

Positioning. The commander now has determined the number of weapon systems required to destroy the enemy in each of his EAs. He determines the best position for his elements. The commander identifies platoon positions using the following criteria as a guide:

- Line of sight from their position to the EA.
- Fields of fire enable them to engage one or a few of the enemy targets at a time without being exposed to the entire enemy.
- They can obtain cover and concealment.
- They can achieve flank shots.
- They are dispersed laterally and in depth to minimize the enemy's success in suppression.
- They have maneuver room to create alternate and supplementary positions.
- They can achieve mutual support.
- The effects of limited visibility will be minimized.
- They allow the weapon systems the freedom to maneuver to other positions if necessary.
- They are not on obvious terrain, which would be the target of planned preparatory fires.

Space is allocated by grouping platoons into company positions, then issuing the terrain to the companies in the form of BPs or sectors. The type of weapon systems required in each area will drive the task organization. It is important to have interlocking fires and mutual support between company BPs. Sectors are usually given in restrictive terrain with no clear enemy avenue of approach.

Risk. All plans involve a certain amount of risk. It is up to the commander to decide where to take risks. For example, enemy AAs not covered by direct fire constitute a risk. OPs, remote sensors, trip wire detonated mines, and pyrotechnics along the uncovered AAs are examples of some security measures taken to reduce risk. Contingency plans are prepared in response to the threat. Supplementary positions and terrain reinforcement are options available.

Fire control. The commander positions platoons in locations where they will provide the most effective fires without adjusting their location. The construction of an effective EA is crucial to the success of the defense. The first task is to determine how best to engage the enemy. A technique favored 15 years ago was opening fire at the maximum range of each weapon system to allow the defender to wear down the enemy continuously and produce an increasingly dense wall of fire as the enemy nears the positions. However, this technique tips our hand to the enemy and allows him to maneuver away from the EA. The preferred technique is to draw the enemy into an EA and commence firing at one time. This achieves surprise and inflicts heavy losses on the enemy. The disadvantage is that if the enemy force is not slowed or destroyed, its remaining combat power may be sufficient to penetrate the sector. There are several direct-fire control measures that should be included in all EA plans.

Trigger lines. Trigger lines are selected along identifiable terrain that crosses the EA (see Figure 4-41). There may be one or more, depending on how the commander wants to engage the enemy. For example, when the enemy is engaged at maximum range, separate trigger lines may be established for each weapon system. Although at first this may seem confusing, remember that to the commander of the weapon systems there is only one trigger line.

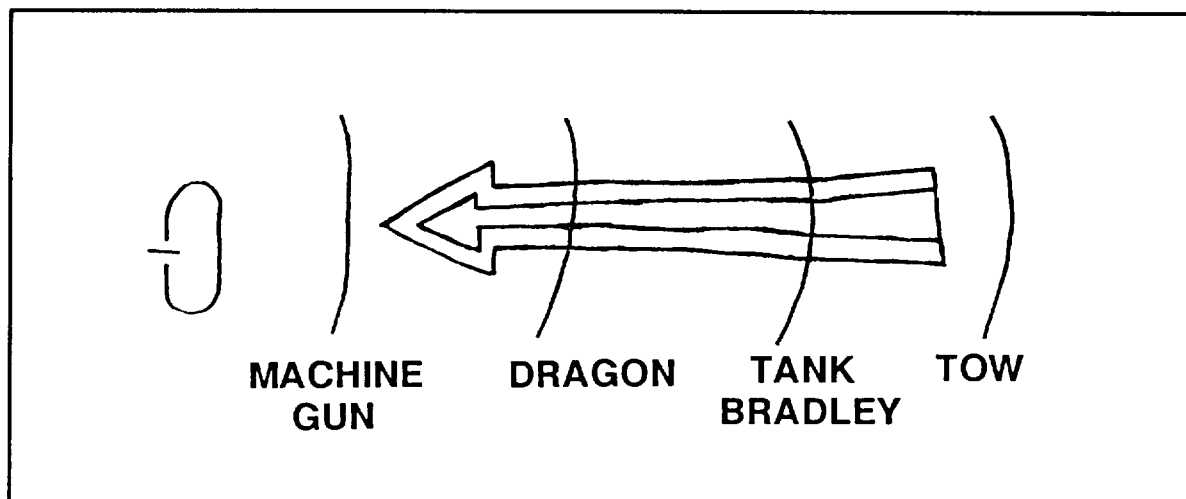


Figure 4-41. Separate weapon systems trigger lines.

NOTE: Figure 4-41 is not presented to endorse a linear army of platoons to achieve an increasing density of fire, but to highlight that in constructing an EA, individual trigger lines may have to be planned for specific weapon systems based on their positioning and range.

A single trigger line allows the enemy to be drawn into the EA and be hit simultaneously by all weapon systems (see Figure 4-42). The trigger line is positioned within range of the shortest range weapon system expected to engage the enemy (for example, Dragon, 1,000 meters), but not close enough that the enemy cannot be destroyed reaching the disengagement line. This requires positioning platoons in depth with respect to the EA, so the optimum range of the different weapon systems reaches the same point.

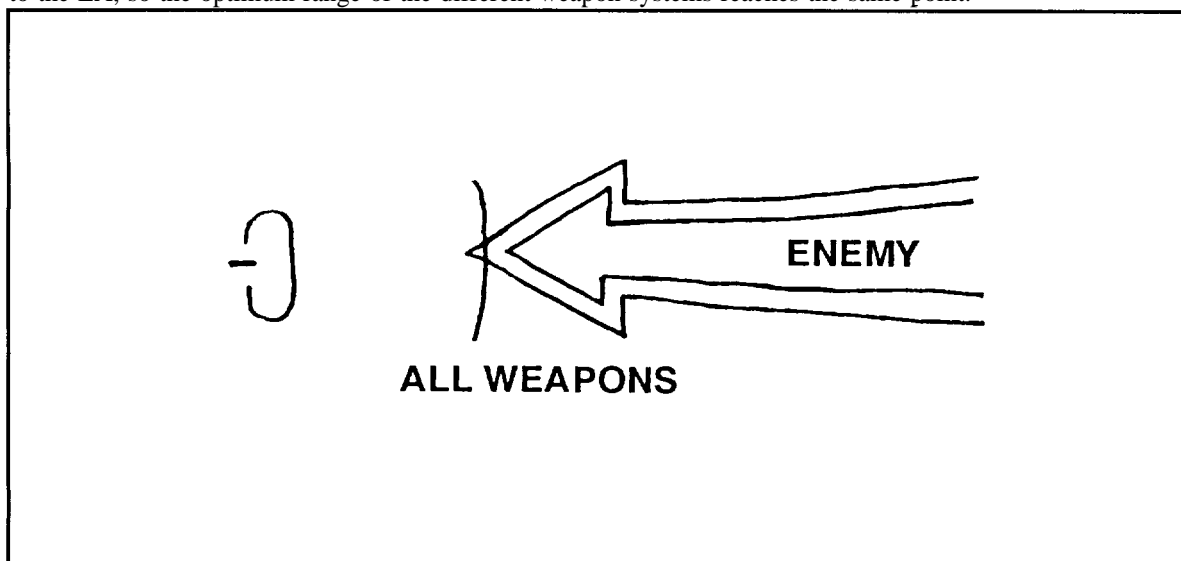


Figure 4-42. Single trigger line.

Sectors of fire. Sectors of fire are designated to allow interlocking fires in the EA. The more companies that contribute from different angles, the better the effect. The battalion designates a sector to each unit, delineating their orientations with TRPs (see Figure 4-43). It is not enough to place TRPs forward of the position as extensions of the left and right limits of the BP. The TRPs must allow for a concentration of fire where the enemy is expected to be most vulnerable, and they must be on identifiable terrain (if none is available, physically mark the position) (see Figure 4-44).

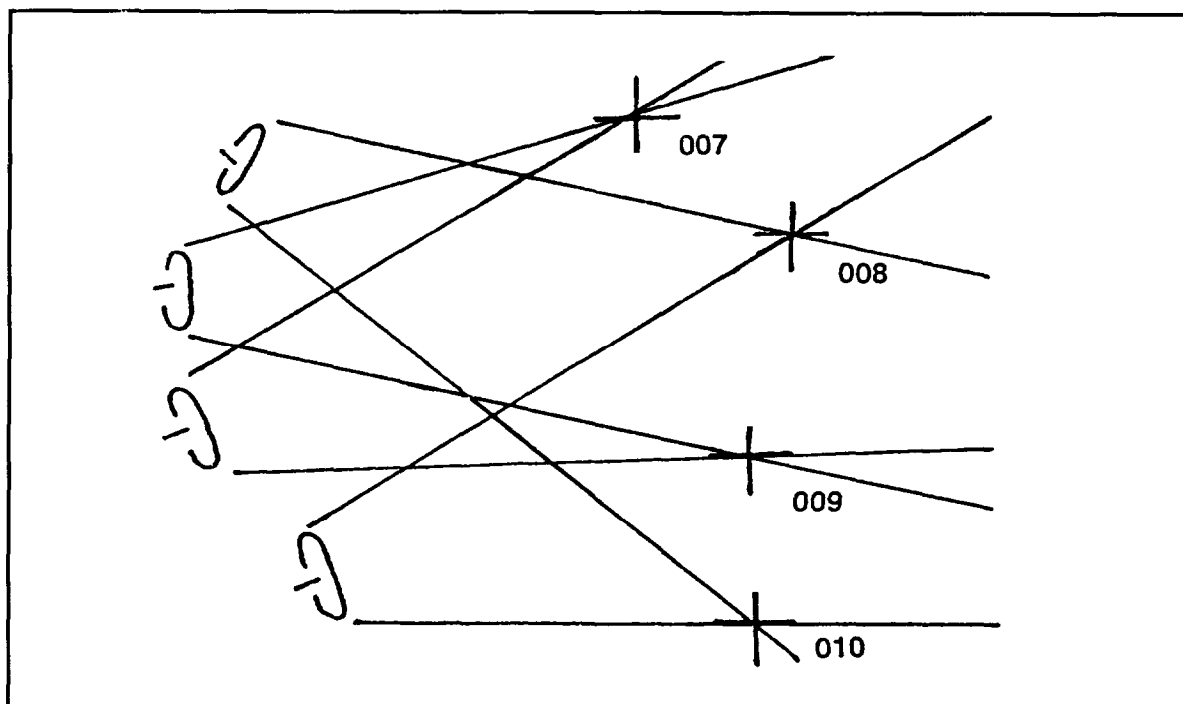


Figure 4-43. Battalion direct-fire plan.

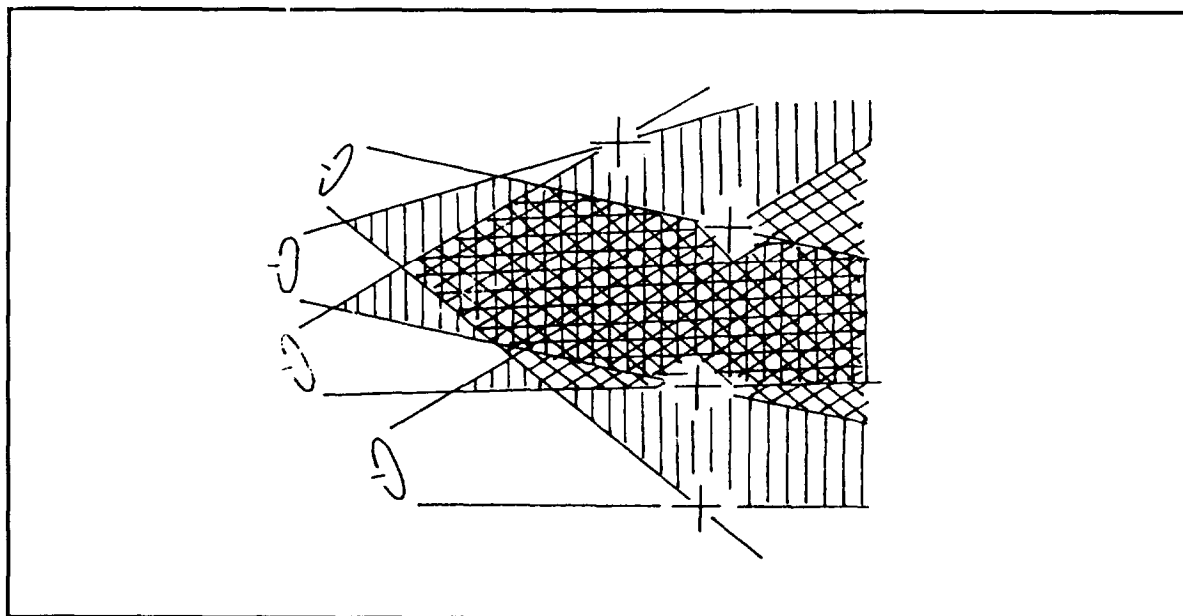


Figure 4-44. Direct-fire plan analysis.

In addition to the primary orientations of the companies, the commander should designate on-order orientations and supplementary orientations (see Figures 4-45 and 4-46). On-order orientations are required if a company will withdraw from the battalion EA fight. The remaining companies will have to shift their fires to cover the same terrain effectively and assist the withdrawing company's movement. Supplemental orientations are designated to companies located on the battalion flank to cover an enemy flank avenue of approach.

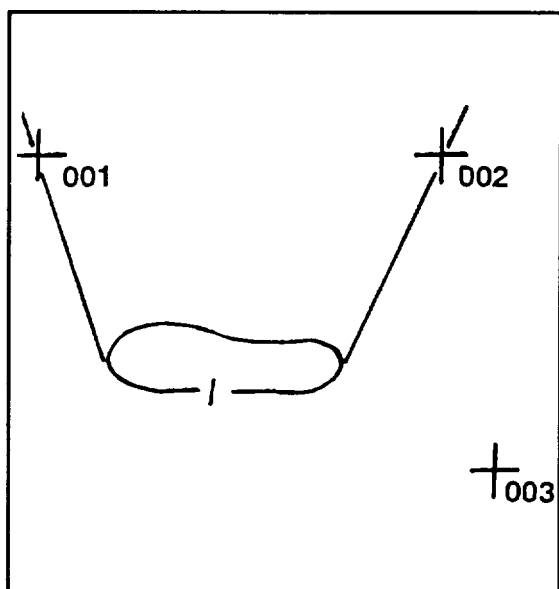


Figure 4-45. Primary orientation.

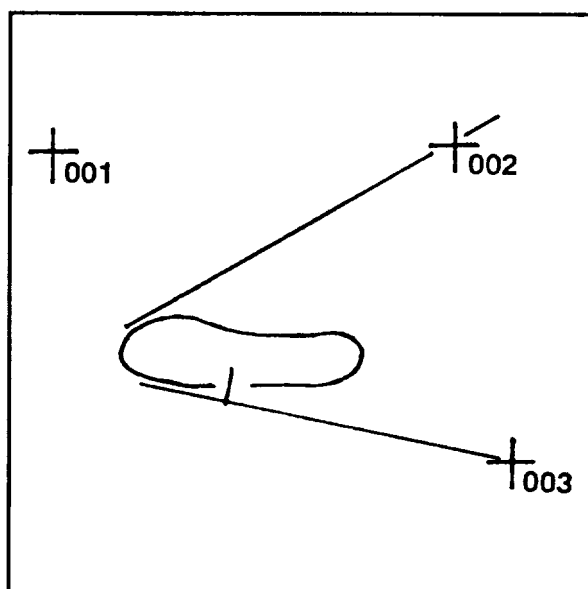


Figure 4-46. On-order orientation.

Additional instruction. Engagement criteria, target criteria, target priority, and destruction criteria are additional instructions given to help use the weapon systems to the best advantage. The battalion commander designates a trigger line as part of the direct-fire plan, and he ensures that large elements are engaged first, rather than one or two vehicles. He then designates engagement criteria, for example, once 10 tanks cross Highway 161, engage. The commander ensures specific targets are serviced in a particular order; for example, C2 vehicles should be destroyed first. The battalion commander designates target priority: C2 vehicles, air defense, engineer equipment, tanks, and BMPs. Last, the commander ensures that each of these targets are engaged by an appropriate weapon system. The commander will designate destruction criteria: tanks will engage enemy tanks and engineer equipment, IFVs will engage C2 vehicles and BMPs, and ITVs will destroy BMPs. Gunners will know when to engage, where to fire, and what to shoot at, and they will know in what order. **EXAMPLE:** company will orient from TRP 001 to 040 and engage the enemy once a platoon-size element crosses the railroad tracks. Target priority is C2, tanks, and BMPs. Tanks will engage enemy tanks first.

Break lines. Break lines are designated by the commander to prevent decisive engagement. The commander tells the units the amount of destruction he wants inflicted in a given area. For example, "I want to destroy two MRBs in EA CHARLIE and one MRB in EA FOXTROT." The enemy may be strong enough to press the attack so break lines are established. It will be difficult for the commander to control the withdrawal of his force by the use of radio or pyrotechnic signals. Event-oriented criteria is used instead; for example, once three enemy vehicles breach the close-in obstacle belt, move to your secondary positions.

Counterattack planning. The battalion commander has essentially two types of counterattack options in the sector defense: counterattack by fire, and counterattack by fire and movement. The commander must decide how the terrain and enemy course of action lend themselves to counterattack. Often a battalion reserve may have contingency plans that encompass both types of counterattacks.

Counterattack by fire. This type of counterattack augments the existing fires of the battalion in the EA. The direct fires of the counterattack force must be integrated into the direct-fire plan. In fact the reserve must undergo the same planning and preparation. The difference between a counterattack and other offensive operations is that it is over friendly ground. If the counterattack is properly planned, the route from the reserve position to the fighting positions for the force will have been prepared. In Figure 4-47 the reserve is depicted conducting a counterattack to block and fire from the flank.

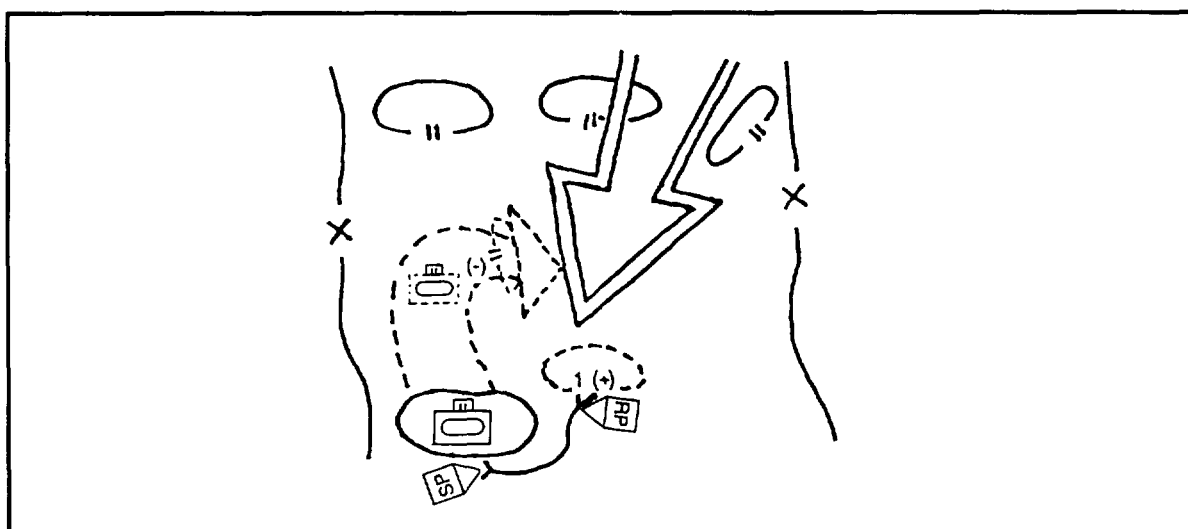


Figure 4-47. Counterattack by fire.

Counterattack by fire and movement to regain terrain. The counterattack force assaults to seize terrain that may be occupied by the enemy. Controlling this terrain allows the defender to augment fires of the task force BPs, or to fire on the flanks or rear of the enemy force. It is important that the counterattack axis be left obstacle free with enough space to let the force cross the LD in attack formation, establish an RFL to prevent fratricide, and a limit of advance to prevent the counterattack force from outrunning their support. Figure 4-48 depicts a counterattack by fire designed to regain terrain.

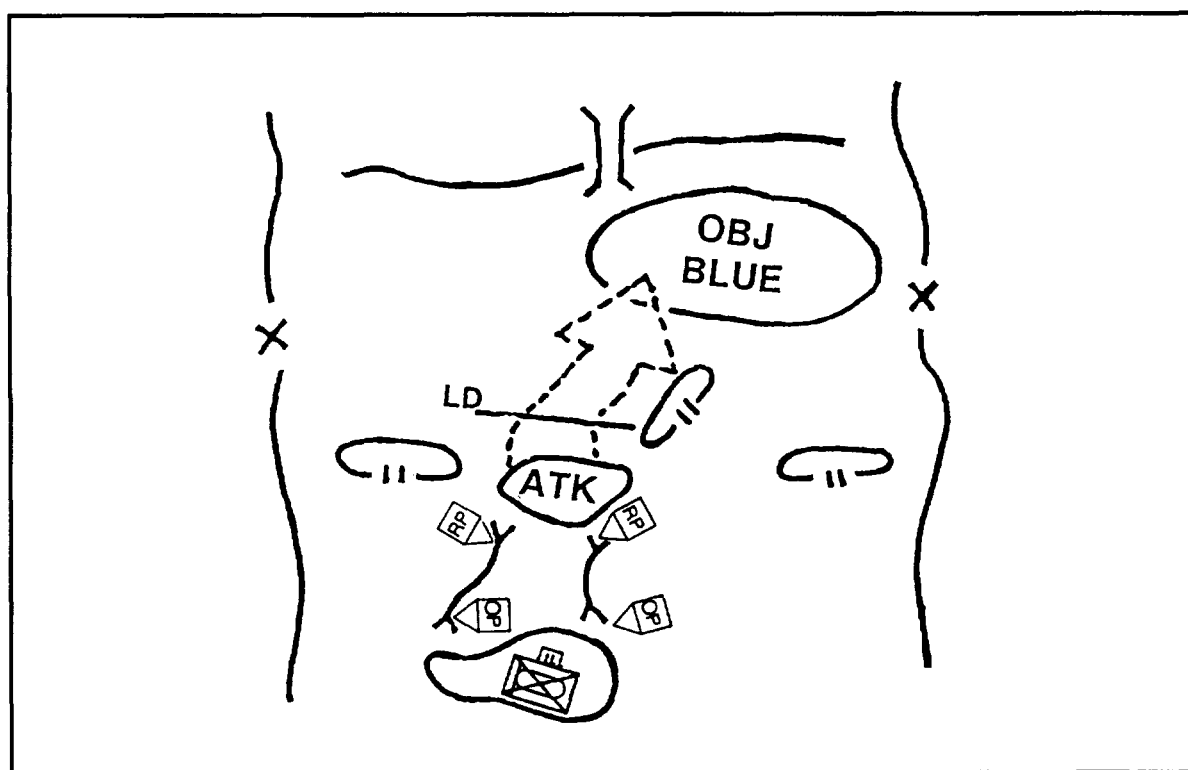


Figure 4-48. Counterattack to regain terrain.

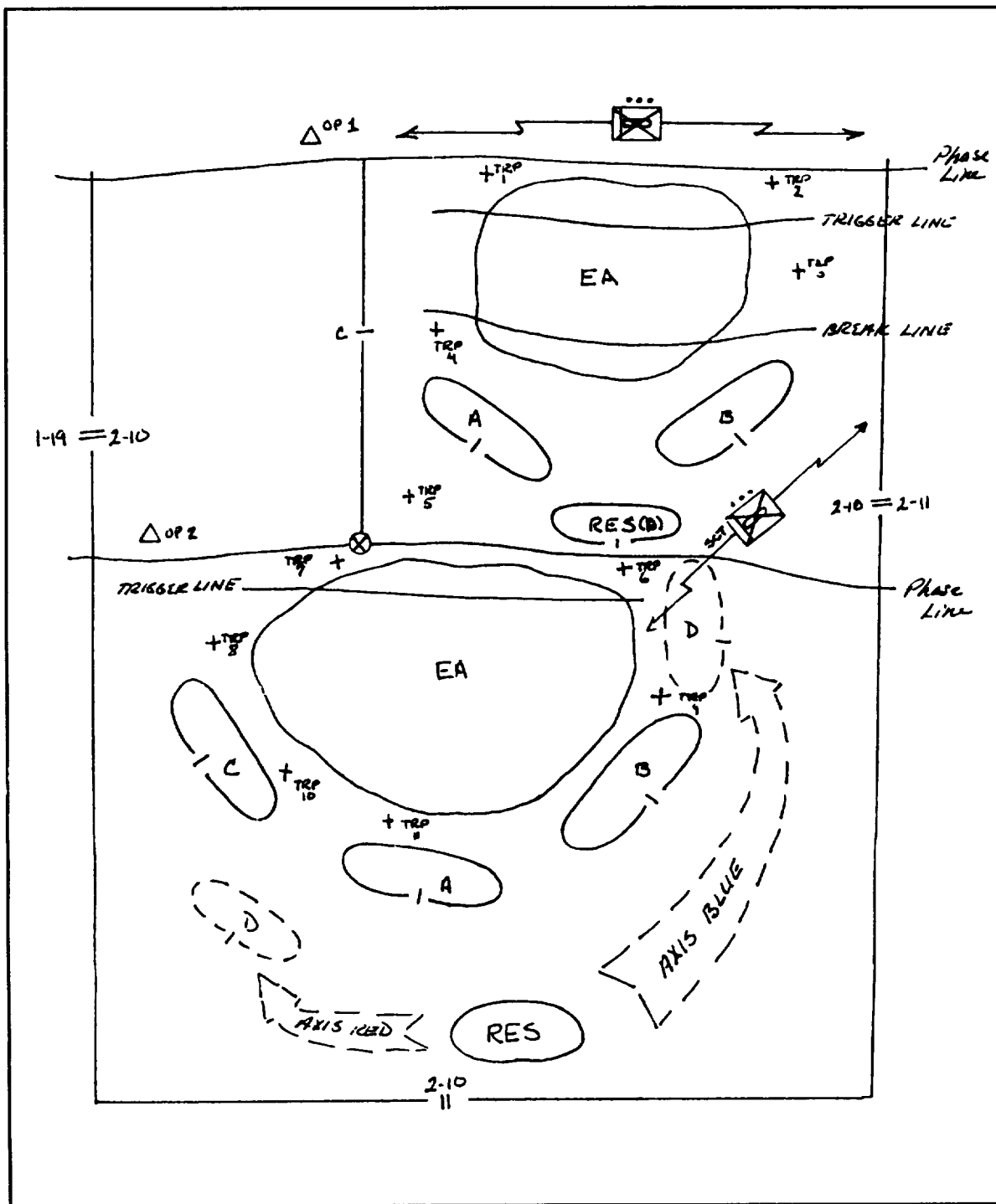


Figure 4-49. Battalion task force defense in sector plan.

Counterattack by fire and movement to destroy an enemy force. The counterattack designed to destroy an enemy force is the most difficult to plan and execute due to the fluid nature of the defensive fight. The IPB will be extremely important in identifying where and how the enemy will attack. The counterattack plan must be very flexible so that from this one plan the counterattack force can actually respond to several enemy

disposition options. The commander must plan to have reconnaissance forces positioned where he can observe the enemy in depth and pass information to the counterattack force as it begins its maneuver. A limit of advance and an RFL should be planned; however, their actual location may vary depending on the enemy. Battalion combat and CS units must be prepared to accept the new control measures. Even though this counterattack is oriented on the enemy, it is not a "draw sabers" charge, in which the attack formation disintegrates as forces become intermingled. Rather it is a controlled assault against a moving force in which the counterattack force maintains security and destroys the enemy through controlled direct fire.

Fire support

The FS plan should be concurrently planned with the maneuver and obstacle plans (see Figures 4-49 and 4-50). The FS plan enables the reconnaissance forces to engage the enemy at maximum range to wear down and confuse the enemy. This may mean that artillery batteries and mortars will be positioned alongside combat elements. Following the initial engagement of the enemy, the artillery slows and canalizes the enemy into the AAs we want him to use, and wears him down.

Within the EA, fires should be planned to reinforce obstacles to provide better shots for direct-fire weapon systems and cover deadspace. Smoke screens assist in separating echelons, and they provide a white backdrop to the assaulting enemy. Weapons not equipped with thermal sites are unable to identify targets in or behind the smoke. ACAs and SEAD plans will be prepared in advance so that aviation assets will be able to augment the direct fires.

Fire planning must also support the counterattack plan. Fires must assist in the maneuver and/or occupation of terrain as well as the destruction of the enemy as requested by the counterattack force's FSO. Likewise, fires must assist in disengagement of forces from their positions, so as not to become decisively engaged; therefore, FPFs will be planned as required. Fires in support of repositioning and along flank AAs will be planned to assist the force in its battle in depth and to respond to surprise enemy actions.

Large sectors and extensive counterattack plans generate a large number of targets within the brigade zone. To break these targets into manageable portions, FSOs may divide target lists into separate plans, one plan for the defense and another plan for counterattack options. This allows the FDC to prioritize targets and munition types.

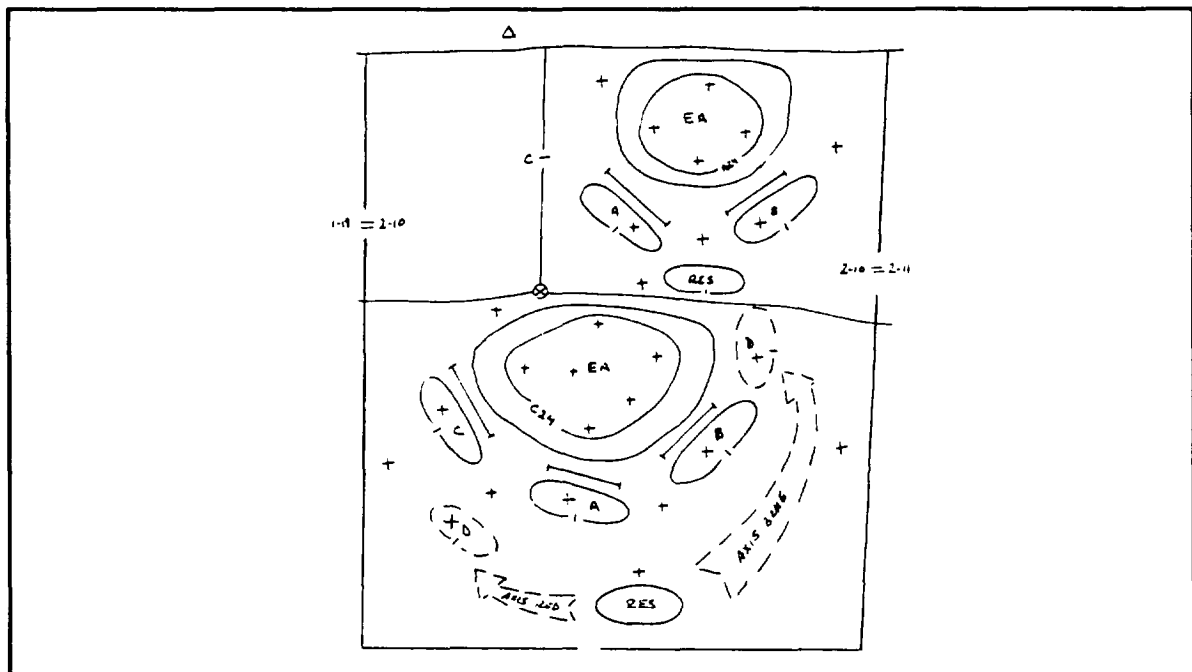


Figure 4-50. Sector defense fire support plan.

Mobility, Countermobility, and Survivability

The task force commander prepares an obstacle plan based on the location and functions of the brigade-assigned obstacle belts. The task force commander designs obstacle groups to achieve the overall function desired by the brigade commander (such as turn, block, fix, and disrupt). Obstacles within the obstacle group may vary in individual function, but collectively must achieve the desired results. The task force commander also plans and prioritizes Class IV and V barrier material for allocation to the company teams as protective obstacles. The task force commander must also weigh the use of available bulldozers or M-9 ACEs for preparation of survivability positions or obstacle construction. Employment of these digging assets must be carefully planned and coordinated by the task force commander.

Turning obstacles. Turning obstacles are used in conjunction with a BP to deflect an threat formation. This can be a critical obstacle application to force the penetration to occur in a desired area, or to allow fires from a defensive position to engage vehicle flanks or rear (see Figures 4-51 and 4-52).

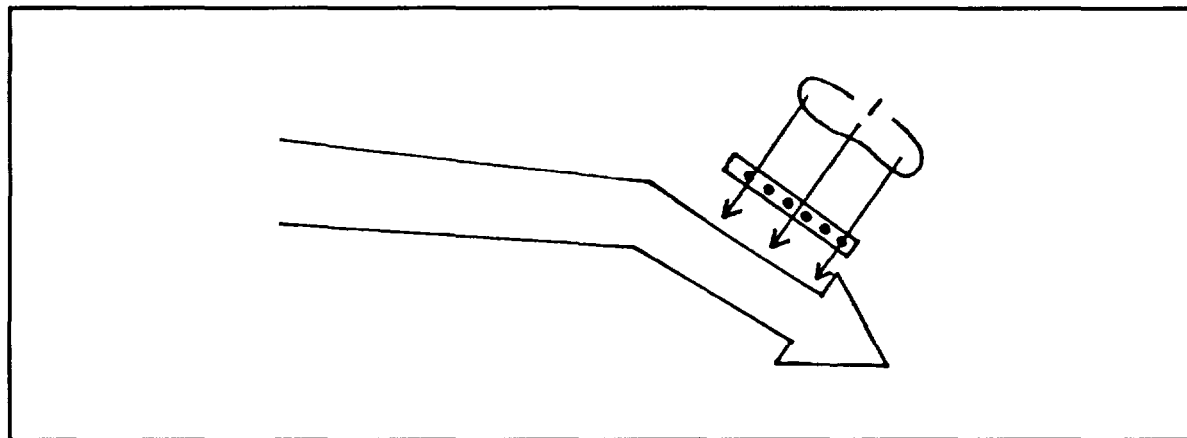


Figure 4-51. Diversion.

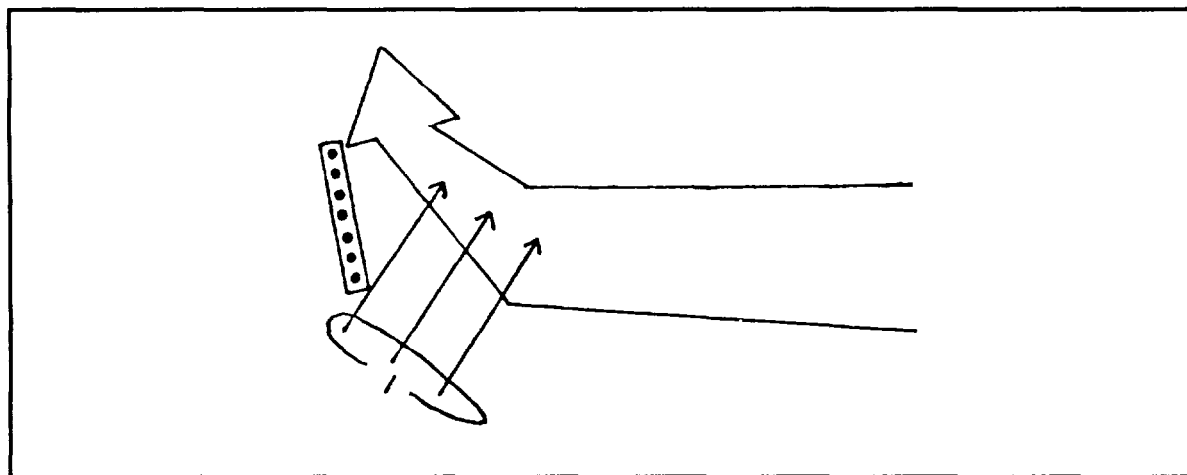


Figure 4-52. Flanking fires.

When designing a turning obstacle system, the most important considerations are its siting and orientation. The threat must not know that he is being manipulated in the desired direction. Turning obstacles divert the threat in small stages, and allow him to move in a direction close to the direction he desires.

Blocking obstacles. Blocking obstacles are similar to the traditional barrier obstacles. The intent is to make an extremely dense, deep obstacle system that is very expensive to penetrate. This type of obstacle is used to

limit a penetration, to stall an attack (setting a counterattack), or to protect key terrain that must be retained (see Figure 4-53).

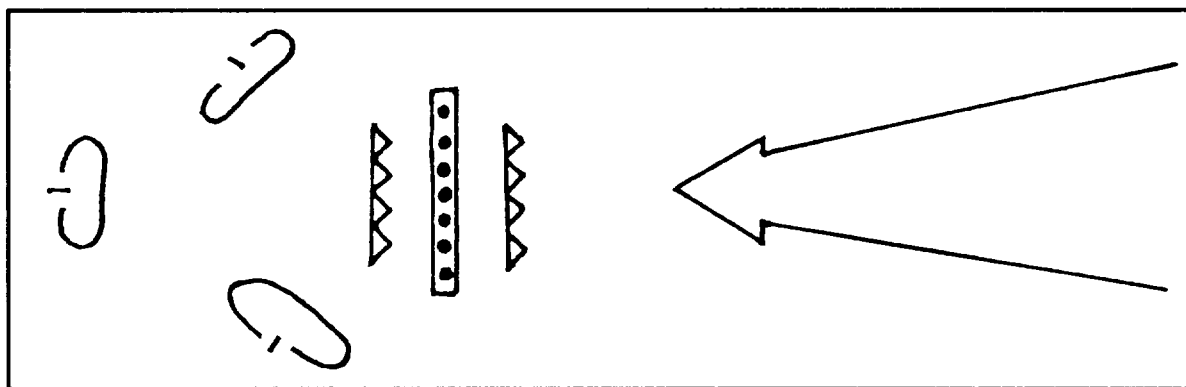


Figure 4-53. Blocking obstacles.

Blocking obstacles should be designed to defeat Soviet-style armies breaching techniques composed of a variety of obstacles in depth, well covered by fires. Minefield density should defeat repeated bull-through attempts. Key principles are depth, density, and counterbreach devices. Blocking obstacles must be carefully tied in with restrictive terrain.

Fixing obstacles. Fixing obstacles have been sited at the optimum weapon range from defending positions, so that vehicles are engaged while coping with the obstacle. This allows the threat to hit the obstacle with a small advanced force and maneuver with the main body. The optimum solution is to have the threat force deployed when it strikes the obstacle. To do this, the threat should be engaged by direct-fire weapons before striking the obstacle. If the obstacle system is sited so that a deployed force encounters it, vehicle attrition and C2 confusion will be maximized. The obstacle system should be sited at less than the optimum engagement range from the defensive position in a location not under long-range observation by the threat (see Figure 4-54).

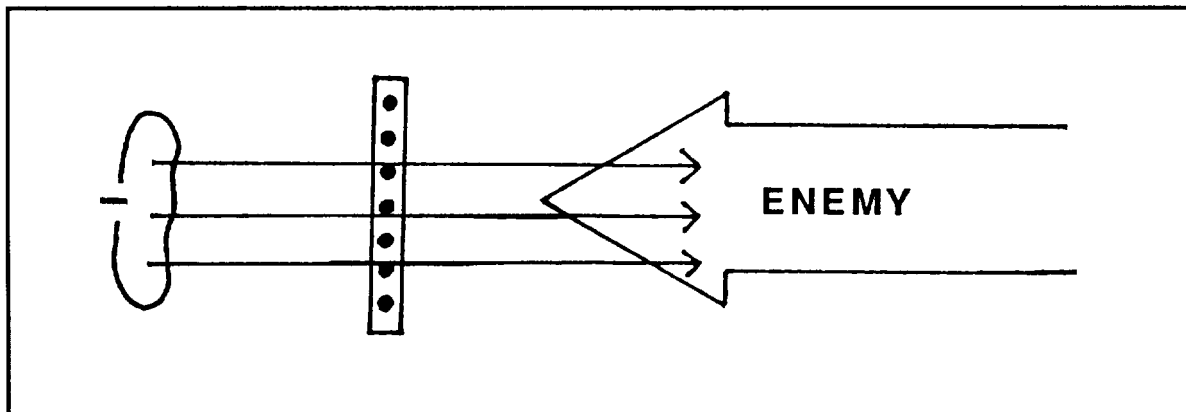


Figure 4-54. Fixing obstacles.

An extensive obstacle system could have the wrong effect and divert the threat to where it is easier going. Fixing obstacles should be relatively thin and simply make the ground sticky. Closer-in obstacles may be a different type to contain the threat or limit his advance, but those supporting the primary EA should be thin. Fixing obstacles are oriented perpendicular to the threat route of advance, spaced and in depth, to cause him to execute repeated breaching operations or to have much lateral movement.

Disrupting obstacles. Obstacles do not always need to be in range of direct-fire weapons. The primary use is to delay the threat and disrupt his timetable, thus adding time depth to the battle, with a secondary mission to exhaust his breaching assets. Disrupting obstacles are used to frustrate and delay the threat so he will

abandon routes. This is particularly important when sheltering compartments parallel to the threat direction of attack (see Figure 4-55).

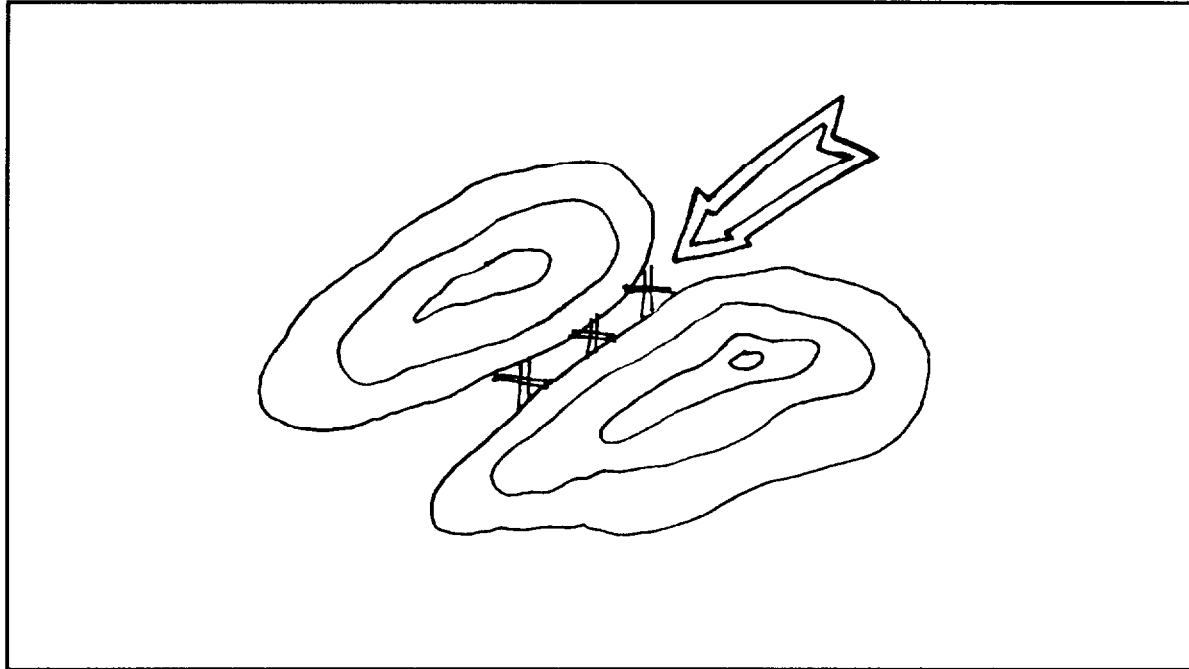


Figure 4-55. Disrupting obstacles.

Disruption obstacles must be in sufficient depth to cause the desired degree of frustration and delay. They also should be quick to install, as they are normally a secondary component of the defensive system. A good example of a set of disrupting obstacles would be a series of craters along a hard-surface road. Each would require improving the road later on to allow wheeled vehicle passage following the attacking force.

Commander's guidance. The task force commander should provide the following information to his engineer for obstacle planning:

- Locations of BPs.
- Locations and functions for obstacles within obstacle belts.
- Priority of obstacle emplacement.
- Priority of blade effort (obstacles versus survivability positions).
- Assistance in the transportation of barrier materials.

The engineers would provide the task force commander with the following when the obstacle plan is complete:

- Obstacle overlay.
- Obstacle list with grid coordinates, type of obstacles, and priority.
- Timetable for execution of obstacles/survivability plan showing emplacing unit, start time, and completion time.
- Defending and executing unit for all obstacles.
- Routes to be left open to support tactical and logistical requirements (see Figures 4-56 and 4-57).

OBSTACLE	UNIT	TIME	REMARKS
Minefields			
Surface laid, row, 1 km front:			
500 mines per 1 km	1 Engr Plt	2 hrs	Does not include time for hauling and uncrating mines. Includes time for marking.
1,000 mines per 1 km	1 Engr Plt	4 hrs	
Buried, 500 mines per 1 km front	1 Engr Plt	8 hrs	
 Point Minefield	1 Engr Squad	1 hr	24-ft roadway with 18-ft shoulders. 11 rows of concertina.
GEMSS Minefield	1 Squad	15 min	
500 mines, 1,000 meters front			
Antivehicular Wire Obstacles	1 Squad	1 hr	
Tank Ditch			
V-ditch, 500 m	2 dozers	6 hrs	Best in clay.
Trapezoidal Ditch, 500 m	2 dozers	6 hrs	
Road Crater	1 Squad	2 hrs	Del, 6 hole.
Antitank Wire Road Block (15 m)	1 Squad	15 min	11 rows concertina.
Abatis (hasty)	1 Squad	1 hr	
Bridge Demolition (hasty)	1 Squad	1 hr	
Bridge Demolition (massive)	1 Squad	2 hrs	Time may vary with larger bridges.

Figure 4-56. Tactical Obstacle Plan.

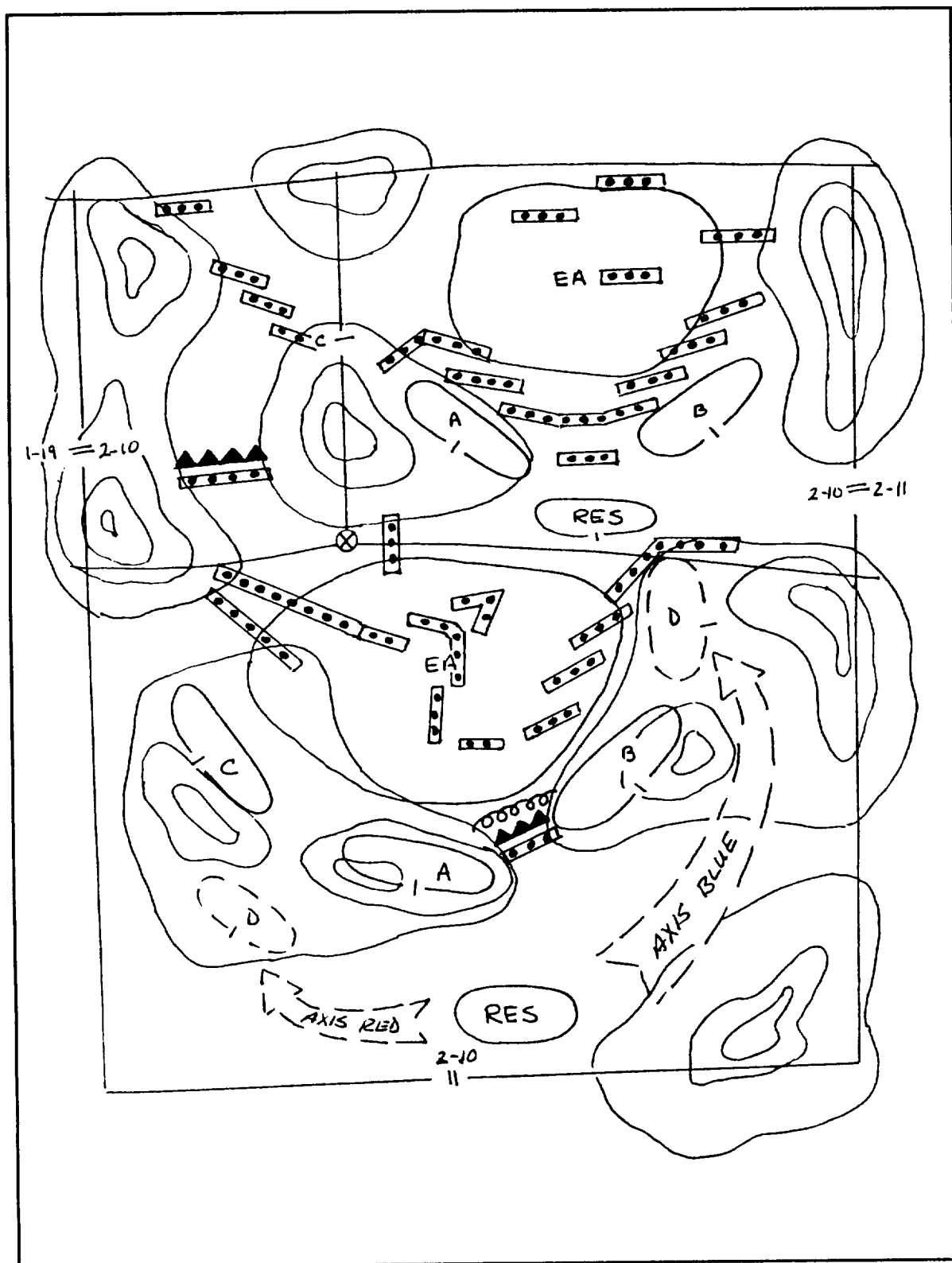


Figure 4-57. Battalion task force obstacle plan.

Disrupting obstacle siting should be designed to attack only a part of his formation directly, to slow that part while the remainder continues to move at full speed. This not only can manipulate the formation by causing it to change direction (pivoting around the obstacle like a swinging gate), it directly disrupts his C2 (see Figures 4-58 and 4-59).

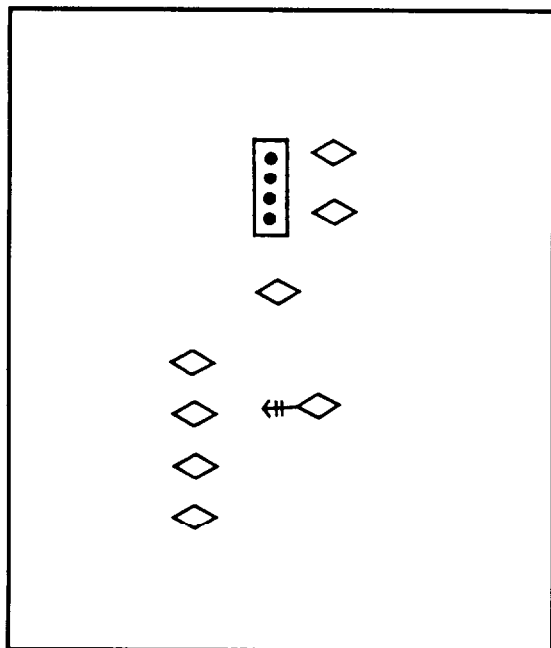


Figure 4-58. Partial formation attack.

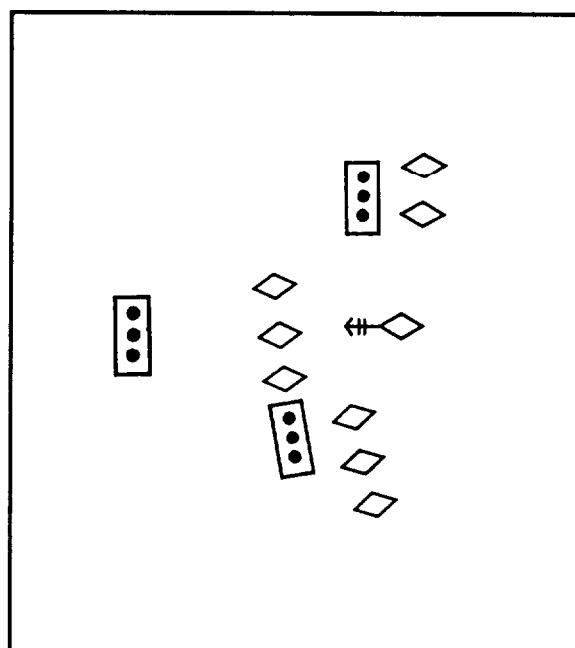


Figure 4-59. Complete formation attack.

If the function of the obstacle is to disrupt or cause attrition, the same principle should be applied several times sequentially. An obstacle should slow part of the formation, and a later obstacle should slow the rest.

The threat is also manipulated when his direction of attack is changed against his will. This can be accomplished with turning obstacles that partially block his route and deflect him onto a new path (see Figure 4-60). These obstacles are designed to be difficult to breach, and are well supported by direct fires to make a continuation in the original direction very expensive and slow.

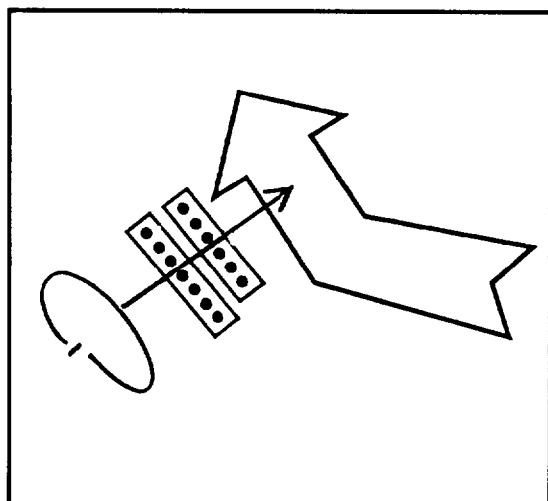


Figure 4-60. Pivoting obstacle.

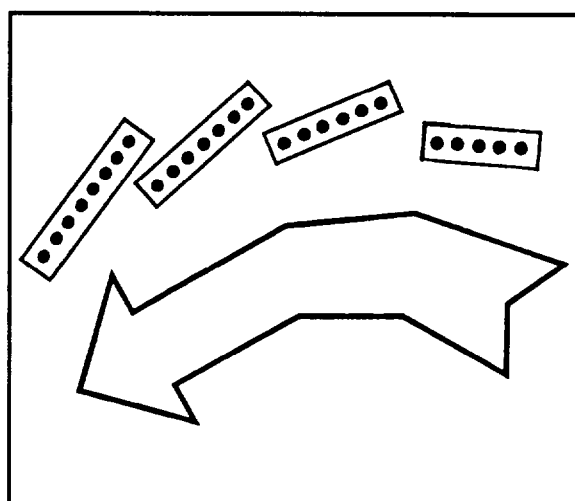


Figure 4-61. Turning obstacle.

A turning obstacle may perform the same function with more subtlety (see Figure 4-61). This obstacle is much weaker and less defended, but it only deflects the threat. It works, not because it forces the threat, but because it leaves an open route that seems to meet his requirements.

A technique useful for turning obstacles, as well as for producing flank and rear targets, is the thickening oblique pattern (see Figure 4-62). This uses obstacle segments slanted in the direction the threat wishes to travel. The formation will glance off the obstacle. Thickening the base of the obstacle prevents a final attempt by the formation to resume its original direction by making breaching more difficult.

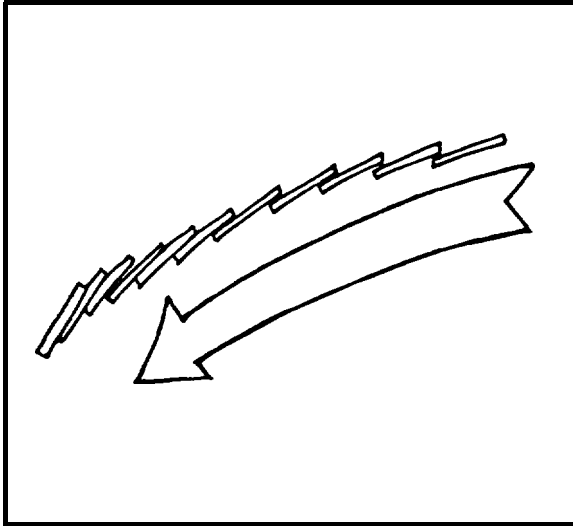


Figure 4-62. Thickening oblique pattern.

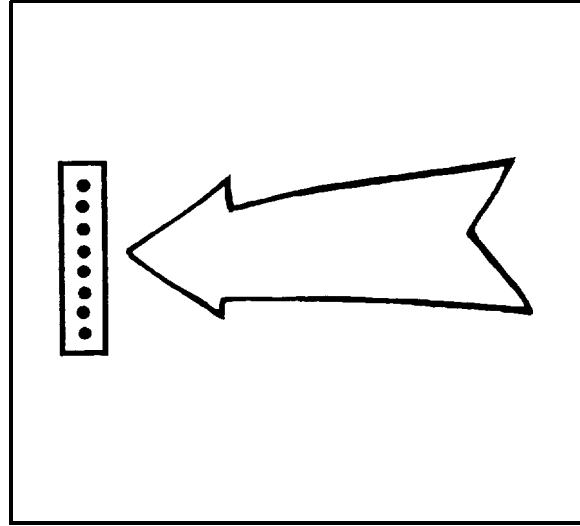


Figure 4-63. Linear perpendicular pattern.

Employment tactics blend the terrain, the defensive plan, the desired obstacle function, and the threat response into a cohesive whole. Obstacle siting must be tailored to the terrain. The pattern is a simple linear obstacle perpendicular to the threat AA, extending across the entire avenue (see Figure 4-63). This obstacle has the advantage of ensuring threat interaction. It has the disadvantage that a single breaching effort allows passage. It provides minimum confusion to the threat as his entire formation is stopped by the obstacle, and it does not turn him to produce flank and rear targets.

The staggered perpendicular is a linear obstacle broken into several short segments (see Figure 4-64). The initial obstacle encounter will slow and deflect a part of the formation, while the remainder continues to

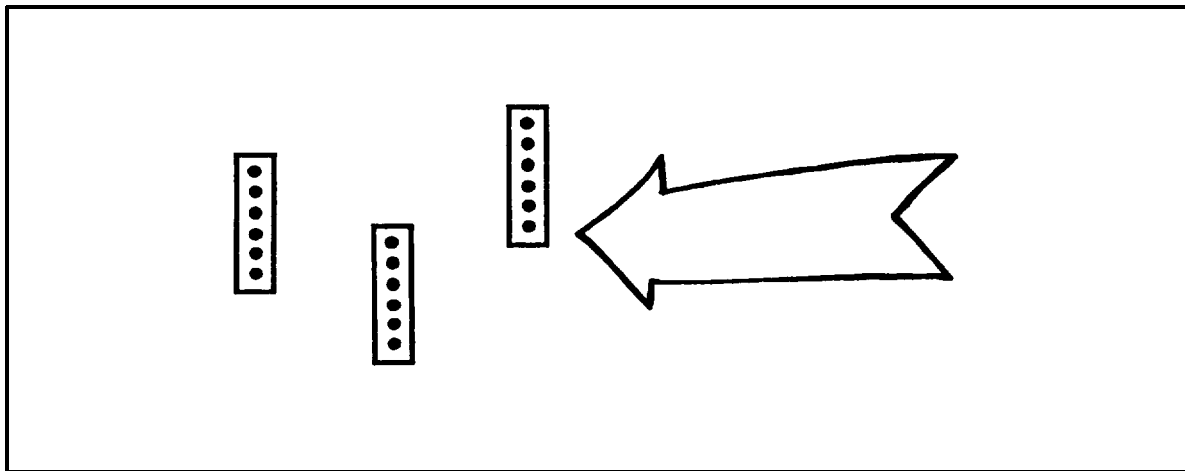


Figure 4-64. Staggered perpendicular pattern.

travel unimpeded. This causes the formation to fragment. When the next obstacle segment is encountered, the results are the same. Instead of a simple straight-ahead breach, the threat commander is forced to make many decisions and communicate them to his vehicles in the middle of a zone of obstacles while under fire. This technique also forces much vehicle maneuver and exposes flanks to fire.

The Christmas-tree pattern can be used to split a formation by gently leading each side away from the other (see Figure 4-65). This is done by having the obstacle segments almost parallel the direction of attack at first. Successive segments slant farther and farther from the direction the threat wishes to travel. Continuing to travel straight into the Christmas tree is a very difficult breaching undertaking because of the overlapping obstacle depth. This pattern is useful if the terrain opens up into a wide bowl where overwatching BPs cannot range into the center. A Christmas-tree pattern can split a formation and force the two sides into EAs in front of the BPs.

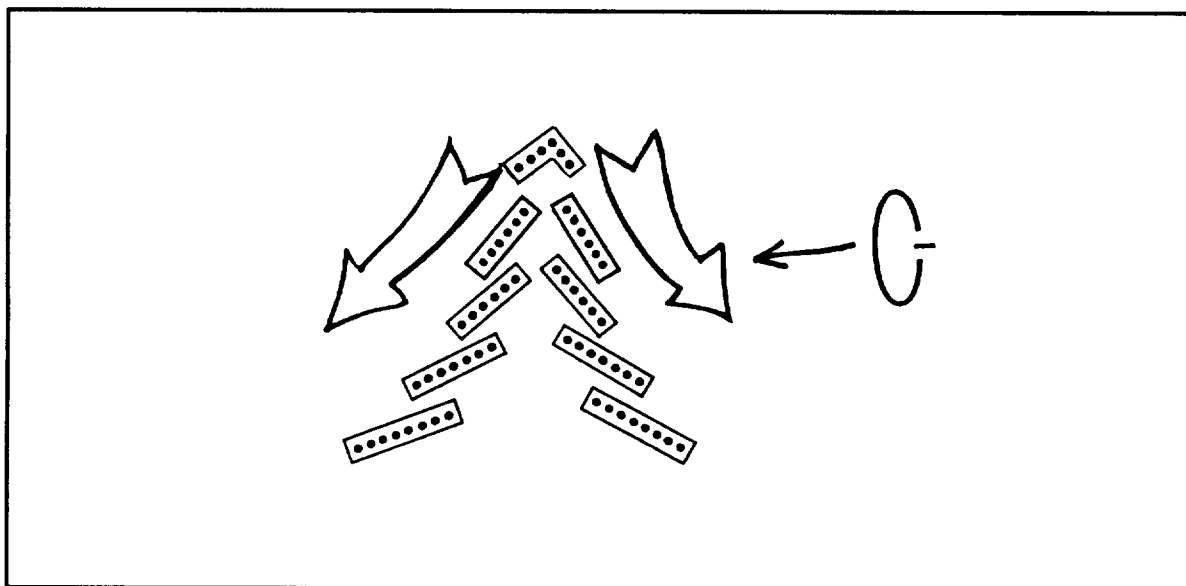


Figure 4-65. Christmas-tree pattern.

The chevron pattern has an effect similar to the Christmas tree (see Figure 4-66). It is used to split a formation, but instead of leading and deceiving the threat, it forces the separation. The obstacles in depth in

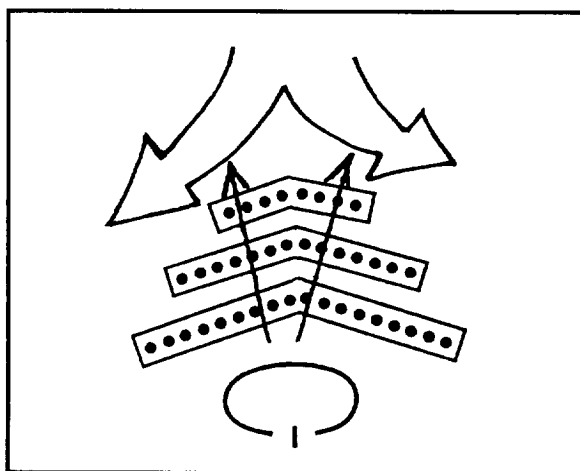


Figure 4-66. Chevrons.

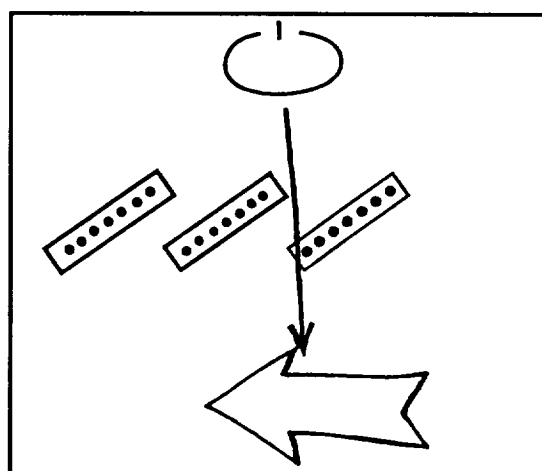


Figure 4-67. Herringbone pattern.

the center make the breaching effort difficult, and tend to force the attacker into easier going on the flanks. This pattern is used to force an attacker in a wide bowl into flank EAs.

The herringbone pattern consists of overlapping angled obstacles extending into an avenue of approach (see Figure 4-67). It causes vehicles to turn, exposing their flanks for better shots, and discourages direct attack of the BP. It lends itself to counterattack, since an attack into the threat rear is possible by passing between the obstacles.

It is important that some actual minefields be marked so that whenever the threat discovers a marked minefield, he considers it real. When a minefield is marked, the psychological effect will stop the threat from attacking and cause him to bypass or breach. With this in mind, placing a series of dummy minefields is both expedient and effective if done properly. Figure 4-68 illustrates the completed obstacle plan.

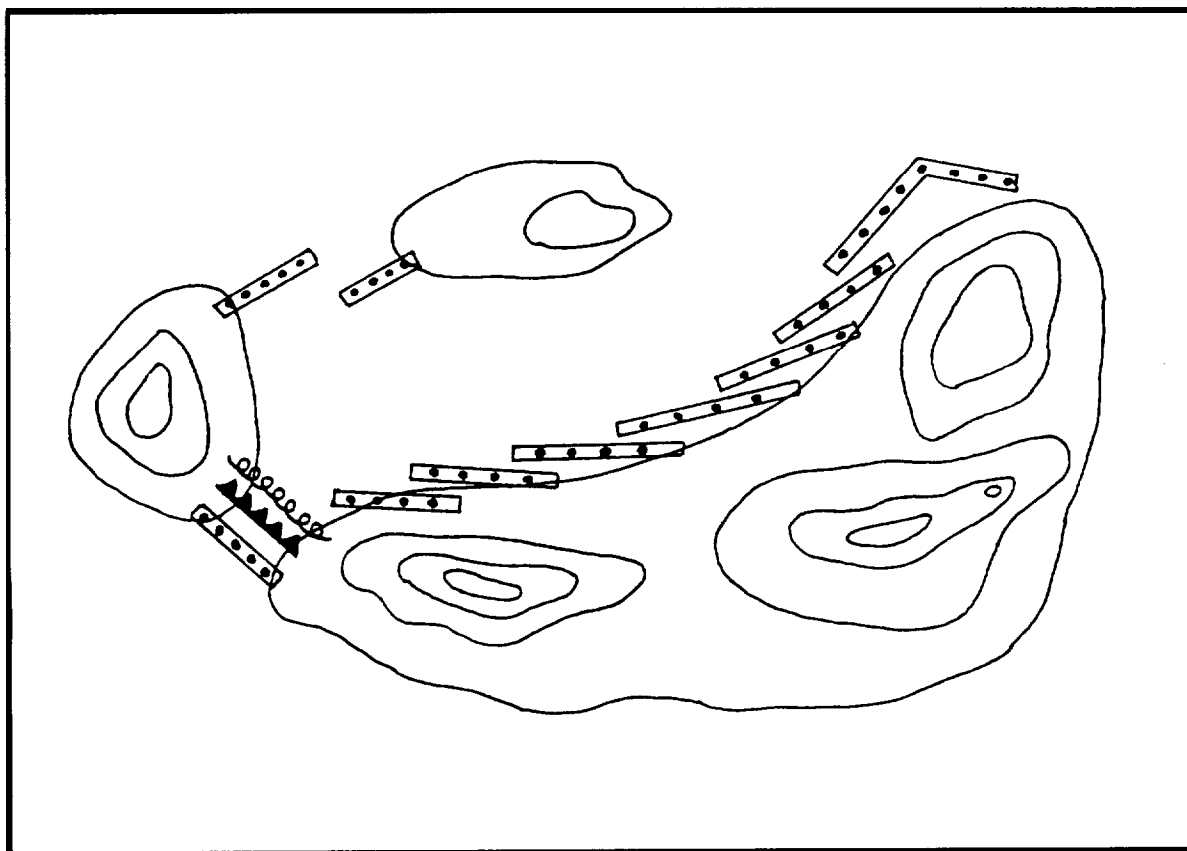


Figure 4-68. Battalion battle position obstacle plan.

Air Defense

The battalion commander determines the priority of protection within the task force defend in sector mission. Each Vulcan carries a Stinger gunner, so there is a gun missile mix. The Stinger teams are used to protect units that are deployed over larger areas. The range of the Stinger will easily cover the disposition of a defending company team or logistical unit. The battalion field trains will be protected by the ADA assets guarding the BSA; however, some protection should be given to the combat trains and/or the UMCP. Maneuver units, and particularly the battalion reserve, should have priority so they can concentrate on the ground battle. They must be linked into the ADA warning net so as to execute SAFAD.

Combat Service Support

CSS elements must be positioned away from obvious locations, such as road intersections and known maintenance facilities, as they are targets for artillery. The CSS assets should be out of threat artillery range.

if possible, but close enough to support the battalion's defense. The battalion combat trains seek a reverse slope position with good cover and concealment. UMCPs should follow the same guidance even more carefully because of their necessary proximity to the MSR or other road networks. Pre-stocks of ammunition should be planned for BPs deemed essential. The support platoon must conduct emergency resupply near the BPs.

Command and Control

The commander must ensure that each of the company teams are tied into their flanks. This includes the flanks of company teams in adjacent sectors. If the terrain dictates defending in parallel company sectors, the battalion commander must have adequate graphic control measures and know the location of each unit BP in sector. The most dangerous situation is the development of a gap or exposed flank.

The commander must ensure that his direct-fire plan is synchronized with the other combat multipliers. The commander must think through contingency planning. The conditions under which the reserve is committed must be understood. In planning for the signal to execute the counterattack, redundancy must be included. Radio, wire, visual signals, and runners all must be part of the plan so that precious time is not lost in execution as a result of threat interference.

Preparation

Intelligence

The S2 executes the R&S plan. He ensures each element monitors its assigned area. If the R&S plan properly covers both the mounted and dismounted avenues of approach, it will strip away the reconnaissance. Where the threat is most likely to attack is based on the location of their probes. As threat reconnaissance elements are captured and/or destroyed, information from the reconnaissance elements is passed to the S2. Patrols are debriefed to develop a complete picture of the threat. All the information is collated and given to the commander and his staff in preparation for the defensive battle.

Maneuver

When the battalion rehearses the defensive battle, there are several aspects of the battalion defense that the commander will have to check. First, he ensures that each member of the battalion understands his role and the commander's intent. Next, he verifies his ability to control the operation. He must be able to track the location of each company team, the scout platoon, the mortar platoon, and any other asset under task force control. Each element reports its location to the headquarters each time it changes. The crossing and clearing of PLs also determines when units are free to fire.

Once the sequence of movement, execution of targets, routes to alternate positions and other physical tasks are understood, the commander checks his fires synchronization. The commander will check that each company team commander understands when to engage, what to engage, where to engage, and how to engage the threat. As elements displace to alternate and supplementary positions, the remaining commanders must know to shift their direct fires. As the threat attempts to move to dead space, the appropriate commander must know to adjust indirect fire. Disengagement criteria is checked for execution without instruction.

Vehicles will drive the threat avenues of approach. As units engage, they will report their activities to the commander. It is important that "threat" vehicles travel at the speed commensurate with doctrine or experience, so that gunners can get a feel for the target exposure time. If the commander is traveling with the "threat" vehicle, he should note any exposure of his forces to the threat or other weaknesses of which the threat may take advantage. Corrections will be made as soon as possible. The commander may find that it takes units longer to reposition than planned. This may require moving the break line farther from the defensive positions.

Fire Support

The FS plan is rehearsed with the maneuver plan. The commander ensures priority targets are fired and the FS plan is flexible enough to respond to a changing threat situation. Artillery targets should be registered so that everyone will be confident in their accuracy and know precisely the time of flight. This is important in the synchronization of artillery with the direct-fire trigger line.

The mortar platoon must also rehearse repositioning as part of the maneuver plan. The mortars will initially be placed forward to support the scout platoon and protect other reconnaissance assets. Once the reconnaissance screen is in, the mortars must bound back to positions for the defensive battle to cover the width of the battalion sector. This means that the mortars will fire from split sections.

Mobility, Countermobility, and Survivability

Target turnover is an important aspect of the obstacle plan during rehearsals. The company team or element given responsibility for target turnover demonstrates the conditions for execution. With respect to reserve targets, communications systems and signals must be redundant and understood by the individual given the mission to execute. It is important that the commander drives the route of the threat approach. Are the obstacles obvious? Can they be camouflaged? Do they accomplish their intended purpose? Are dead spaces mined? Are the obstacles covered by direct and indirect fire? These are but a sample of the questions the commander must ask himself as he evaluates the obstacle plan.

Air Defense

The air defense plan is checked to ensure that the ADA early warning net is interlined. Stinger teams must be under armor or dug in for survivability and positioned along the air AAs. They should also have a prestock of missiles.

Combat Service Support

The MSRs are compared to the maneuver plan to check that the forces will not restrict each other's movement. The CSS plan is rehearsed concurrently with the maneuver plan. Ambulances are moved to the exchange point, verifying the evacuation route. Recovery vehicles should do likewise with the UMCP. Alternate locations for the combat trains are reconnoitered and the route checked. Local security for all CSS elements is checked against possible Level 1 or 2 threat. Rehearsals are conducted to take up immediate all-around defense on order.

Command and Control

The commander is both the driving force behind the rehearsal and the standard to be exacted from his unit during the rehearsal. During the rehearsal he must demand that everyone execute *exactly* as he would in combat. Likewise he must not allow mistakes to go uncorrected. The commander who cares the most about his soldiers is the one who forces them to prepare. If the commander is made aware of a weakness in the plan or in one of his elements and there is no time to make a legitimate correction, he notes the weakness. He will spot-check that weakness to ensure it has not been discovered. He develops contingency plans should a problem arise. It is important that the commander understand his vulnerabilities as well as his weaknesses and his strengths.

Execution

Intelligence

The defense in sector battle begins with the withdrawal of the covering force or forward positioned elements (see Figure 4-69). The battalion's reconnaissance assets remain forward to execute the battalion R&S plan. As threat reconnaissance elements are identified and destroyed by the task force, the information concerning their position, composition, and other attributes are forwarded. The S2 should begin piecing together the threat's attack plan. Reconnaissance units direct artillery as planned, and execute targets to slow the advance of the threat. As the threat presses the attack, the reconnaissance screen will have to be withdrawn. The S2 will relay information to the commander as part of the decision support template execution. These reports will confirm or deny a particular threat course of action, and allow the commander to make the appropriate decision in a timely manner. The S2 will monitor the spot reports of the maneuver units as well as calls for fire on the artillery net. This should give the S2 a relatively clear picture of the threat situation. One note of caution: in the heat of battle, the defender will often fire first and report later. As a result, it is best if those C2 elements attempt to retain some distance from the immediate fight to assess the situation, issue clear orders, and report accurately and in a timely manner. The S2 may also want to monitor the task

force command net to obtain information. Although the S2 will not get exact information, he will nevertheless be able to get an overall "feel" for the battlefield.

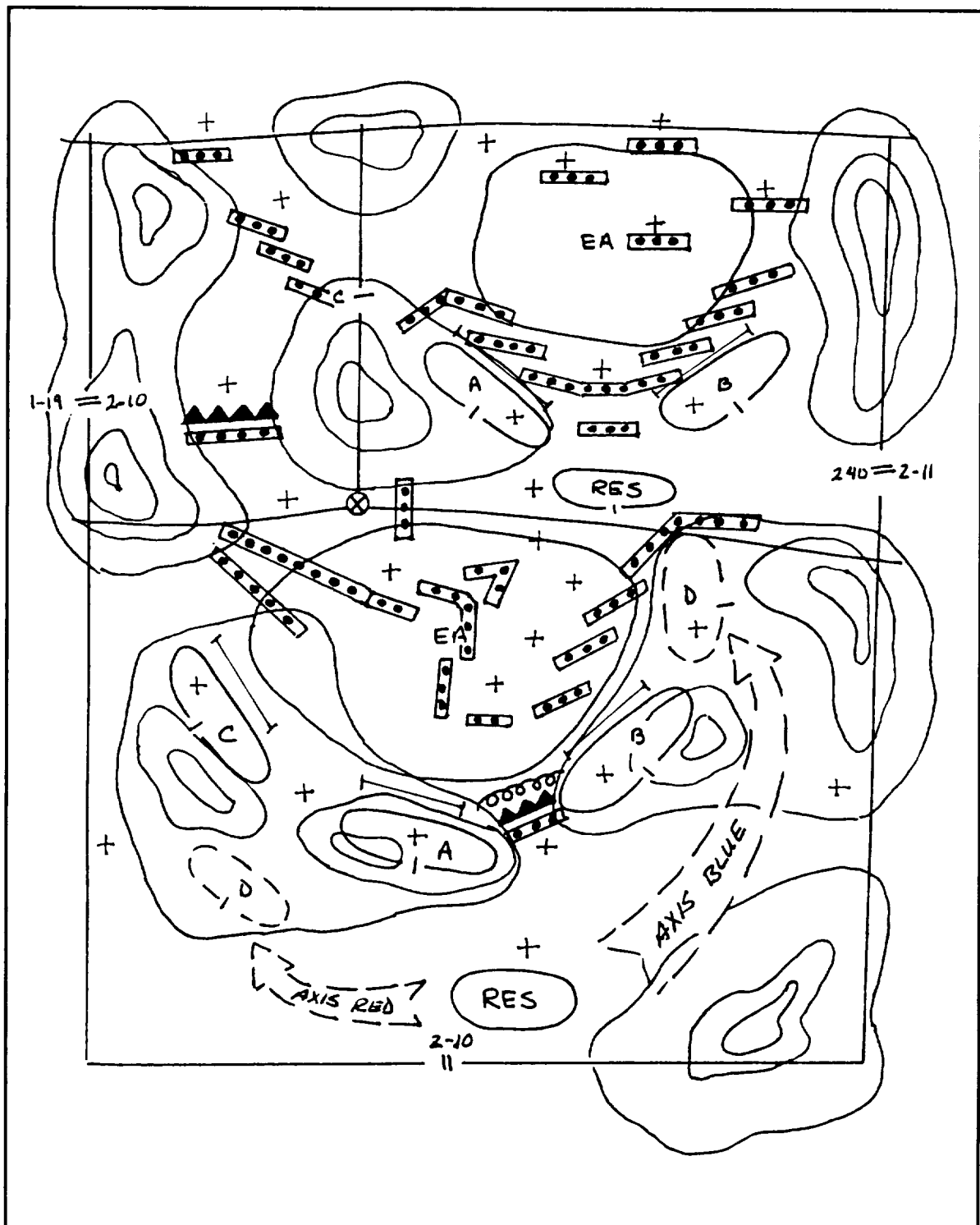


Figure 4-69. The battalion sector defense plan.

After the scout platoon passes to the rear, it can be given a flank security or rear area security mission. In this case, its position and responsibilities would be included in the battalion security plan. If the battalion is locked in with its flank units and not as concerned about a rear area threat, then the scout platoon could join the reserve and assist in the execution of the battalion counterattack plan.

Maneuver

When the engagement criteria has been met and the units commence firing, few changes can be given to the maneuver units or confusion may ensue. As the threat strikes the obstacles, the destruction of engineer equipment becomes paramount. Artillery should be adjusted to reinforce the effect of the obstacle. As the threat presses the attack meeting the break criteria, companies defending in sector request to move to secondary positions. The commander must weigh the need to pull back the units against the need to maintain fires on the EA. When ordered to move, forward units report their movement to the main CP and execute the appropriate obstacle or indirect-fire target. Mortars assist by firing smoke to obscure the withdrawal.

Aware of the threat's attrition and rate of advance, the commander will determine whether or not to commit the reserve, and in which specific manner. In this example, the reserve will counterattack by fire and movement from a flank/depth position that affords rear and flank shots against the threat and allows the companies defending in sector to reestablish their initial positions following the complete destruction of the threat. Once the threat reaches the appropriate DP, the commander will give the command to counterattack. The scout platoon will lead the reserve as it moves along the designated route. On their arrival at the assault position, the scouts clear the area. The scouts will guide the counterattack force to the objective, providing immediate information concerning the threat's disposition. Once on the objective, the scouts can reestablish the battalion's forward screen to provide early warning of the arrival of the threat's next echelon.

Fire Support

Fires will initially be targeted against reconnaissance vehicles. Remember that using artillery to destroy moving point targets is extremely difficult. To assist in effectiveness, COLT can paint the targets for engagement with Copperhead. Once the screen is brought in, the mortars and artillery reposition for the main defensive battle. Fires will be adjusted in support of the obstacle plan. Units required to reposition may request FPF against a close threat or have a smoke mission shot to cover the move. If smoke is selected, remember that the weather conditions must be favorable and that it will take time for the screen to develop. In the case of mortar smoke, advance preparation includes coordination for prestock of smoke ammunition.

Mobility, Contrmobility, and Survivability

Once the obstacle plan is complete, the engineer elements continue to work in depth. Barrier materials, which are the responsibility of the S4, will continue to arrive to strengthen the sector in depth. The engineers should work continuously throughout the battle. The digging assets may be used to prepare fighting positions on secondary or tertiary BPs. Engineer assets must follow the progress of the battle so they will not become exposed to the fight unless planned.

Certain engineer assets will be designated to close obstacle lanes. Lane closure may be controlled by the company team commander in whose area the obstacle is located. Other engineer assets may be task organized to the reserve to assist it in conducting its counterattack.

Air Defense

The air defense assets will provide early warning to the task force of any impending threat air attack. In particular, the commander will probably be most concerned about the helicopter threat. Generally, the fast movers will have difficulty pinpointing a specific dug-in target, especially one that is properly camouflaged. Helicopters, on the other hand, have more of an ability to seek out a target and fire from a stand-off position. The ADA commander is aware of all of this and will position his forces to react not only to the threat of fast movers but to helicopters as well. Keep in mind that, within about 3,000 meters, a tank's main gun sabot round will soundly defeat a threat helicopter hence, the need to be linked into the ADA warning net.

Combat Service Support

During the battle, CSS elements must be sensitive to the needs of those companies that are defending in sector, as they may require assistance in the evacuation of material and wounded. Given the depth of the

sector and the amount of support assets attached, the S4 may want to place some battalion assets in a position to better assist these units. As for units fighting as part of a battalion EA, their expenditure of ammunition and potential losses will be higher. Push-packages of ammunition must move forward at a moment's notice, as should ambulance support. The objective of CSS support is to maintain the rate of fire and combat power needed to sustain the fight.

Command and Control

Throughout the operation, the commander will monitor the battle, ideally from a vantage point that allows him to visually assess the effectiveness of the plan. Certainly the commander will not be able to observe the entire battlefield; therefore, his S3 should be positioned to cover the other areas. The commander should be with the main effort and if appropriate, the S3 should be with the remaining forces.

Using the decision support template and his operational graphics, the commander tracks the progress of the battle, noting position changes, target turnover, and any other pertinent activity. Assuming all goes according to plan, the most important decision the commander will make will be the commitment of the reserve. At the appropriate DP, the commander will give the order to counterattack. Simultaneously, the no-fire artillery zone will be established, an RFL will go into effect, and temporary obstacles in the path of the counterattack route will be removed. Units in position will notify their elements of the impending arrival of the counterattack force so as to avoid fratricide. Usually the counterattack force becomes the main effort, causing CS to readjust accordingly. If the counterattack is to be successful, the battalion must throw its entire weight behind it, to include the stationary defending units. The force must be protected so that they are able to defeat the threat from a position of relative safety.

Defend a Battle Position

A BP is a location and orientation of forces on the ground from which units defend. It is used when the brigade will control the maneuver of forces throughout the sector, or at some point within it.

Planning

Intelligence

The selection of a task force BP represents the culmination of the brigade's IPB/estimate process. The brigade S2 identifies a significant threat AA and the key terrain dominating that approach. At the task force level, the battalion S2 refines the brigade S2's IPB. The area of interest surrounding the BP is examined in terms of both mounted and dismounted AAs down to platoon level. This is a problem because a dismounted platoon can travel with a frontage of less than 1 meter.

The S2's concern is infiltration of reconnaissance elements into the battalion defensive position. The static nature of the battalion position makes it susceptible to targeting. Two intelligence operations take on even greater importance: the R&S plan and the deception plan. The R&S plan is conducted in the same manner as described in the defense in the sector section; however, there are some additional considerations:

- Any reconnaissance element positioned outside the BP must be coordinated with the brigade.
- Active intelligence-gathering systems, such as GSR, should be positioned away from the BP so that the threat will not be able to vector-in the location of the battalion.

The deception plan should include the construction of dummy positions within the battalion EA, the establishment of fake headquarters elements to reinforce the dummy positions with an electronic signature, dummy minefields covered by conspicuous maneuver elements, and poor sound and light discipline. The most important aspect of the deception plan, however, is to make it believable.

Maneuver

Concentrating fires. A BP is less restrictive than a strongpoint and requires less preparation. As a method of defense, a BP may be terrain-oriented or threat-oriented. Regardless of which, it is an excellent technique for concentrating fires and is most often used—

- Ž To place fires as the threat approaches.
- Ž To block threat AAs.
- Ž To hold terrain determined to be critical by the brigade commander.
- Ž Near terrain where multiple positions can concentrate fires on one AA.
- Ž On clearly defined AAs.
- On routes into the defender's flanks.
- Ž For positions near potential threat airborne/airmobile LZs.
- Ž For reverse and counterslope defense.

The commander may maneuver his elements freely within the assigned BP. If he chooses to maneuver forces outside of the BP, he will have to notify the brigade commander and coordinate with adjacent units.

BPs are identified by a number. One technique is to assign numbers sequentially for ease of control. When company BPs are used in positioning units within a battalion BP, the battalion BP number is indicated first, followed by the company BP number. If platoon BPs are used, they are further designated alphabetically. When the company BP is referenced outside the battalion, its complete designation is used.

Levels of preparation. Because BPs are used to control maneuver, each company is usually assigned more than one BP to allow for greater maneuver. Each position is given a task or level of preparation that is related to the mission to be accomplished. The levels of preparation include—

- Occupy. This is complete preparation and occupation of the BP.
- Prepare. This is complete preparation of the position, with occupation by a small security force. The main force will occupy the position after departing from their initial position.
- Reconnaissance. The position is reconnoitered for occupation, with each element given a designated position and direct-fire instruction; however, the position is not physically prepared for occupation.

Tasks. To prepare a BP properly for defense, the following tasks should be accomplished:

- Post security (task force scouts or other elements).
- Plan fire control measures (sectors, TRP orientations, and EAs).
- Prepare alternate positions.
- Designate supplementary positions.
- Designate hide positions.
- Dig primary fighting positions for anticipated fighting condition (day, night, limited visibility).
- Achieve mutual support/concentration of fires.
- Emplace obstacles.
- Clear fields of fire.
- Establish coordination or contact points.
- Emplace wire for communications.

- Prestock and dig in ammunition.
- Prepare range sketches.
- Designate OPs and patrol routes.
- Mark and prepare routes.
- Rehearse movement back to and into the position.
- Develop/consolidate defensive sector sketches.
- Use backbriefs to ensure mission intent is understood.
- Emplace chemical agent alarms.

Considerations for deployment. The task force is not restricted to the boundary of the BP, but will coordinate with the brigade commander to place elements of the task force outside the position. Some considerations for deployment are—

- Security force and scouts to screen forward of the position.
- Scouts or infantry to occupy contact and/or coordination points forward of or between BPs.
- Combat trains.
- Task force mortars.
- Infantry patrol routes.
- OPs.
- Night and limited visibility fighting positions when required.
- Antiarmor ambushes.
- Maneuver to enhance combat power at a decisive point.
- Resupply routes.

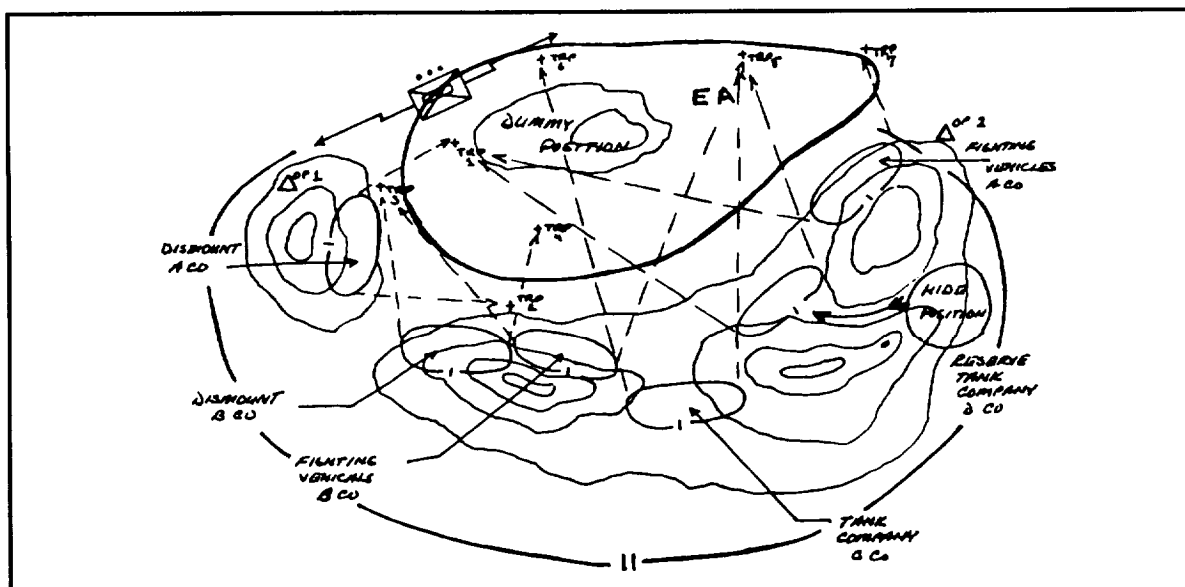
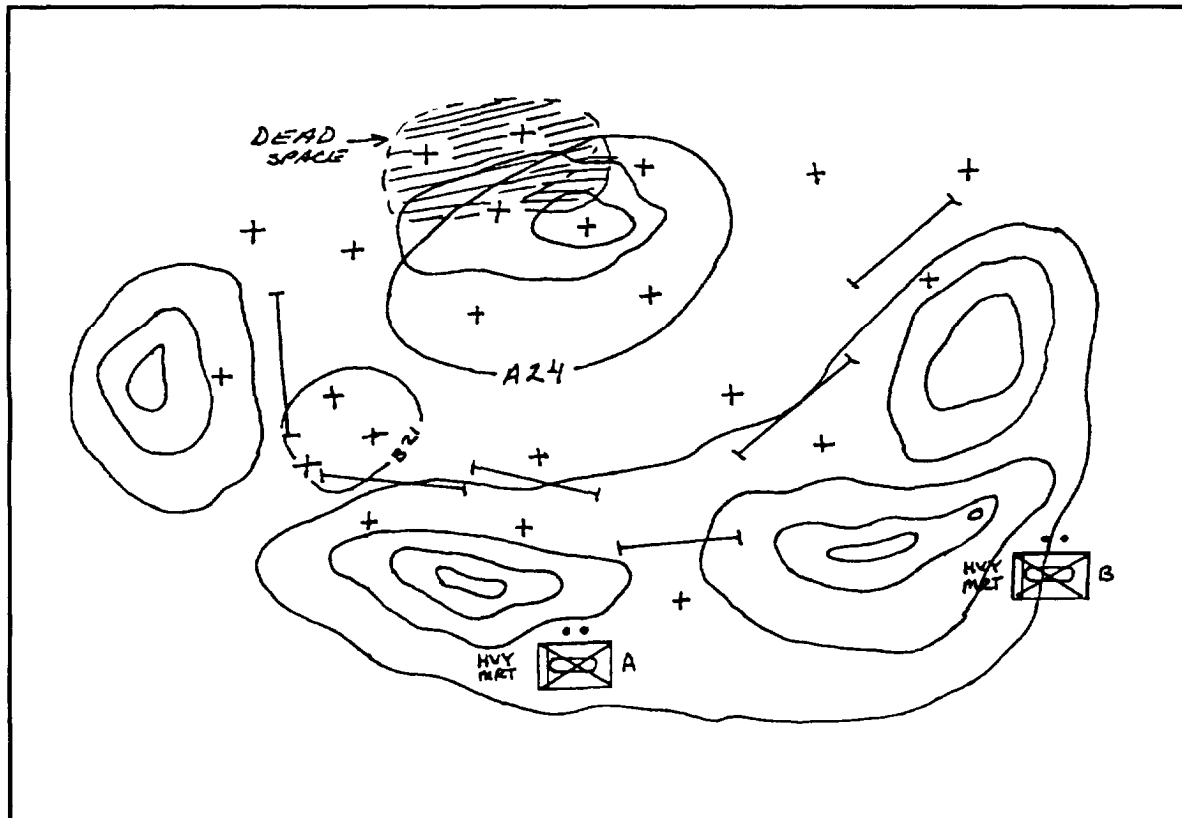


Figure 4-70. Battalion battle position defense plan.

Fire Support

Mortar priority targets should be established along the dismounted AAs. Actual FPFs must be planned for the key company team BPs to ensure their security. As with the defense in sector mission, artillery must be thoroughly integrated particularly with respect to obstacles.



4-82

Mobility, Countermobility, and Survivability

The considerations for engineer support are similar to those considered in defend in sector mission previously discussed. Emphasis should be placed on emplacing disrupting obstacles in such a manner as to direct the enemy force into established EAs. Mobility along counterattack routes may need to be improved. Survivability positions for individual vehicles within the BPs must be prioritized. Supply caches must also be considered and prioritized along with fighting positions. The commander prioritizes the allocation of engineer assets based on the number and type of assets and time available.

Air Defense

The air defense plan will be oriented on the air AAs with the priority of protection to the BP. The survivability of the air defense assets will be of special importance. Expecting a severe threat artillery preparation and realizing that Stinger teams have a HMMWV, Stingers must be placed under armor or properly dug in. Prestocking missiles will be essential.

Combat Service Support

Prestocks of ammunition and other supplies must be incorporated into the plan and used before emergency resupply is conducted near the BP. Battalion combat trains must be positioned on a reverse slope and away from easily targeted locations if possible.

Command and Control

The commander must be prepared to follow the battle, keeping abreast of each of his elements. An execution matrix is an excellent way to control his forces.

Preparation

Intelligence

The S2's preparation for the battle includes the execution of the battalion R&S plan. It is important that the deception plan be executed so the threat's reconnaissance is oriented toward the wrong terrain. If any threat elements are not stripped away, the reports sent to their commander will be of the dummy positions rather than the actual ones.

Maneuver

The rehearsal for the battalion BP defense will be conducted from the point of threat identification through to final destruction. The task force elements will be in hide positions when the threat begins their movement along the AA. Engagement must be well defined, with multiple ways for the commander to signal the initiation of fires.

Once the command is given, the forces will occupy their primary BPs. Once in position, the commander needs to verify the direct fire plan. As with the defense in sector, the best technique is to actually drive the threat AA toward the BP. As the commander and S2 reach the trigger lines for units or weapon systems, those commanders will radio their action. The commander will then look in the direction of that unit to see if it is observable to the threat. The commander will continue along the route replicating the proposed actions of the threat while the battalion continues its engagement.

The company teams must move to their alternate positions to continue their engagement of the threat. Again, he will be looking for exposed elements or anything else that gives away positions. As the threat draws near, the commander will check to ensure the units understand the disengagement criteria and move to their secondary BPs. In particular, he should check that the move is overwatched.

The commander checks the conditions for conducting counterattack. He will look to see that the force arrives at the right place and time with respect to the threat. If this does not occur as planned, the counterattack plan is modified. This is evaluated not only by examining the final position of the counterattack, but also by the route taken and the formation adopted by the force as it reaches the EA. If the reserve is exposed as it moves into position or arrives in an ineffective formation, the threat may be forewarned.

Fire Support

The FS plan is rehearsed simultaneously with the direct-fire plan. The reconnaissance elements will begin by calling for artillery and mortar fires against the threat's reconnaissance. As the screen is withdrawn, the mortars will displace to positions behind the primary BPs. The commander will continue to maneuver along the AA, triggering calls for fire from the appropriate units. He should check to ensure that those elements given a priority target understand when and under what conditions to call the target. Finally, he should check that FPFs are called as a unit under pressure displaces.

Mobility, Countermobility, and Survivability

The commander should inspect the level of preparation of each of the BPs to ensure they meet his guidance; the commander should make the extra effort to ensure that his secondary BPs are prepared as directed. In the rehearsal, target turnover and placement are reviewed.

Air Defense

There are several concerns the battalion commander will have with respect to the positioning of Stinger teams. First, if the teams are separated from their vehicle, an alternate means of ADA early warning must be secured for the team, for example, wire to an armored vehicle that monitors the ADA early warning net. Second, if the team is dug in, how will they move to their secondary positions? Their HMMWV will not be available for transportation, and they will need room to carry their missiles. Third, is it possible to place the Stingers under armor, for example, with a three-man tank crew?

Combat Service Support

In the case of a BP defense, firepower is critical. Without adequate and properly placed prestocks, the force will not maintain its rate of fire. The commander must be prepared to modify aspects of his plan if a unit cannot reasonably sustain the fight from its assigned position. Above all, in preparing for the fight, the commander must know how long he can retain the position given the threat situation and the supplies on hand.

Command and Control

The battalion commander must tell his units when and where he plans to destroy the threat. If the company team and special platoon leaders understand, they will know what must be done. While conducting the rehearsal, the commander should stand where he plans to destroy the threat and ensure all weapon systems are on him. He must verify that his direct and indirect fires are synchronized. Finally, as the forces are in their final BPs, the commander must designate a line which the threat will not cross and where the threat's destruction is essential for victory. Given the intent and nature of BP defense, he must impress on his command that this is where they must make their stand.

Execution***Intelligence***

The BP defense will begin with the reconnaissance screen reporting the advancement of threat reconnaissance elements. The scout platoon will use artillery to strip away the threat reconnaissance. Once the screen has been withdrawn, the threat will continue to press the attack toward the locations that were identified by earlier reconnaissance. In this case, if the deception plan was successful, the threat should be attracted to the dummy position. The decision support template becomes a critical asset as the commander follows the threat situation. He will especially watch the speed of the aggressor versus the stubbornness of the defender. Eventually, however, he will probably reach the point where he must commit the reserve. If the IPB and decision support template are accurate, the commander will be able to direct a timely and effective counterattack against an identifiable threat weakness.

Maneuver

The commander will begin the execution of the battalion BP defense by monitoring the conduct of the R&S plan. He must ensure that the scout platoon is able to report the location of threat reconnaissance assets effectively so that they may be stripped away by indirect fires. As the threat presses the attack, he must

safeguard the withdrawal of the screen by overwatching the rearward passage of lines through the forward BPs. This includes the mortar platoon and other assets that were in support of the scouts, such as COLT, GSRs, and tank platoon. He must ensure the screen can withdraw out of contact. He must be prepared to issue FRAGOs that will allow the battalion to separate the scouts from the threat.

It is important that the commander receive timely information concerning threat disposition and possible intentions. This information will be applied to his decision support template, which will help him make effective decisions against the threat maneuver. Next, the threat will negotiate the first belt of obstacles. In this example, they are designed to break up the threat formation and mislead him into thinking the dummy position is the actual defensive position. COLT will target engineer equipment and C2 vehicles.

Fires engage the threat as it nears the dummy position, and if possible, direct-fire simulators may be used on the position itself to make the defense of the dummy position more realistic. The threat assault of the dummy position triggers massed direct fires of the company team BPs. Within the battalion BP, companies may have to adjust their positions to take advantage of exposed threat flanks. The second-echelon battalions will not be fooled by the dummy position and will attempt to continue the momentum, bypassing the destroyed lead battalion, driving deeper into the defensive area.

In this case, the commander decided to modify the threat's movement through the use of a thickening oblique pattern. This will turn the threat, exposing his flank, while slowing him as he reaches the multiple belts perpendicular to his direction of travel. The company teams will move from their primary BPs to their secondary BPs during the time gap. This will allow the defender to be in new positions, unknown to the threat, forcing him to repeat any combat reconnaissance.

As the threat confronts the obstacle belt, it will be turned until it reaches the point where it feels it is taken off course. At this point, the threat may attempt to breach. If the obstacle was properly installed, the attempt will be where the obstacle is thickest. If the threat's breach is unsuccessful, it will attempt to maneuver to bypass, since all its alternatives have been exhausted and its attrition is growing greater the longer it remains in the EA.

The commitment of the reserve to occupy a blocking position will bar the escape door for threat maneuver. It is important that the reserve remain in hide positions until the last moment. The threat must see its window of opportunity and maneuver to seize it. At that point, the reserve should arrive in position and contain the threat.

Fire Support

The FS plan will initially address the support of the reconnaissance screen. Once the screen is withdrawn, the FS plan will orient on the engagement of the lead threat battalions. The augmentation of the obstacle plan coupled with the mass target engagement within the EA are the first order of battle. If the threat is able to penetrate the defense and maneuver against a BP, FPF will be fired as the company team withdraws. To prevent threat observation, smoke missions may be fired to assist in the movement to subsequent positions.

Mobility, Countermobility, and Survivability

The execution of the obstacle plan begins with the scout platoon executing target turnover and slowing the threat reconnaissance so that he may be engaged by direct and indirect fire. As the screen begins its movement to the rear, lanes in obstacle belts will be closed and reported to the battalion main CP.

As the threat begins his attack in the MBA, direct-fire assets must cover their respective obstacles by fire. If the situation permits, engineers may continue to improve positions in depth, particularly those that were initially identified as positions to reconnaissance.

Air Defense

Those Stinger teams dug in and away from a vehicle will receive early warning messages from a vehicle that is monitoring the ADA early warning net, and will engage from their position. If the unit is forced to move to subsequent positions, the Stinger teams will mount the vehicle that is linked into the early warning net.

Combat Service Support

CSS elements will support the force by having push-packages of ammunition and other quickly expendable supplies available on request. There must not be a break in the distribution of fire, both direct and indirect. Damaged vehicles need to be fixed as far forward as possible to reduce turnaround time. Similarly, ambulance exchange points need to be established so that the companies are never without medical support.

Command and Control

The proper selection of the TAC CP location for the operation is essential. The commander must be able to observe the action without drawing undue attention to himself, or he will surely be targeted. As he watches the battle unfold, he must be prepared to adjust his defensive plan accordingly. The shifting of forces to meet the threat from a position of advantage is essential. On-order orientations must have been rehearsed prior to execution for the battalion to maintain its needed flexibility.

Within the conduct of the BP defensive plan, the commander must guide the control and distribution of direct and indirect fires.

Defend a Strongpoint

A battalion task force is given a strongpoint defense mission when terrain retention is required to stop or redirect enemy formations. Battalion strongpoints may be positioned adjacent to restrictive terrain or other defensive positions.

Planning

Intelligence

The strongpoint also represents the culmination of the brigade S2's IPB and the commander's estimate of the situation. Based on a METT-T analysis, the brigade commander determines that a piece of ground must be held. If the enemy were to seize the terrain, the battle maybe lost.

The battalion S2's first task is to analyze the terrain in a detailed manner. Unlike other types of defense, the strongpoint must be defensible in 360 degrees. As a result, the terrain analysis (OCOKA) must be conducted with the understanding that enemy offensive operations, from an infiltration to a major attack, could appear from any direction.

Finally, the event template and the R&S plan are essential to the effectiveness of the strongpoint (see Figure 4-72). Some reconnaissance assets may be able to operate initially outside of the position to provide early warning; however, if the strongpoint becomes encircled, the unit must be able to anticipate the actions of the enemy and respond internally. LP/OPs positioned outside the position must be sustainable if the strongpoint becomes surrounded. There should also be a plan for bringing dismounted patrols or other reconnaissance assets into the position despite enemy presence. The reconnaissance plan must also ensure these routes change regularly so that no specific pattern develops. Electronic systems are particularly useful in collecting information and providing early warning. Because they are small, easily camouflaged and sustainable items such as REMS and, to a lesser extent, PEWS devices, are particularly useful. GSR will also assist in the identification of enemy movement; however, due to their active nature, they may be targeted by enemy EW collection assets. Because the strongpoint is a static defense, the S2 must use all available resources to safeguard its integrity. Similarly, the S2 must provide the commander with as much early warning as possible so that appropriate actions may take place within the strongpoint.

Maneuver

The strongpoint is the most labor-intensive operation a task force commander may execute. Despite the static nature of the strongpoint defense, the construction must allow for flexibility. The key to an effective and sustainable strongpoint defense is to have a solid direct- and indirect-fire plan coupled with properly constructed fortifications. The commander must take a personal interest in the interface between combat, CS, and CSS elements.

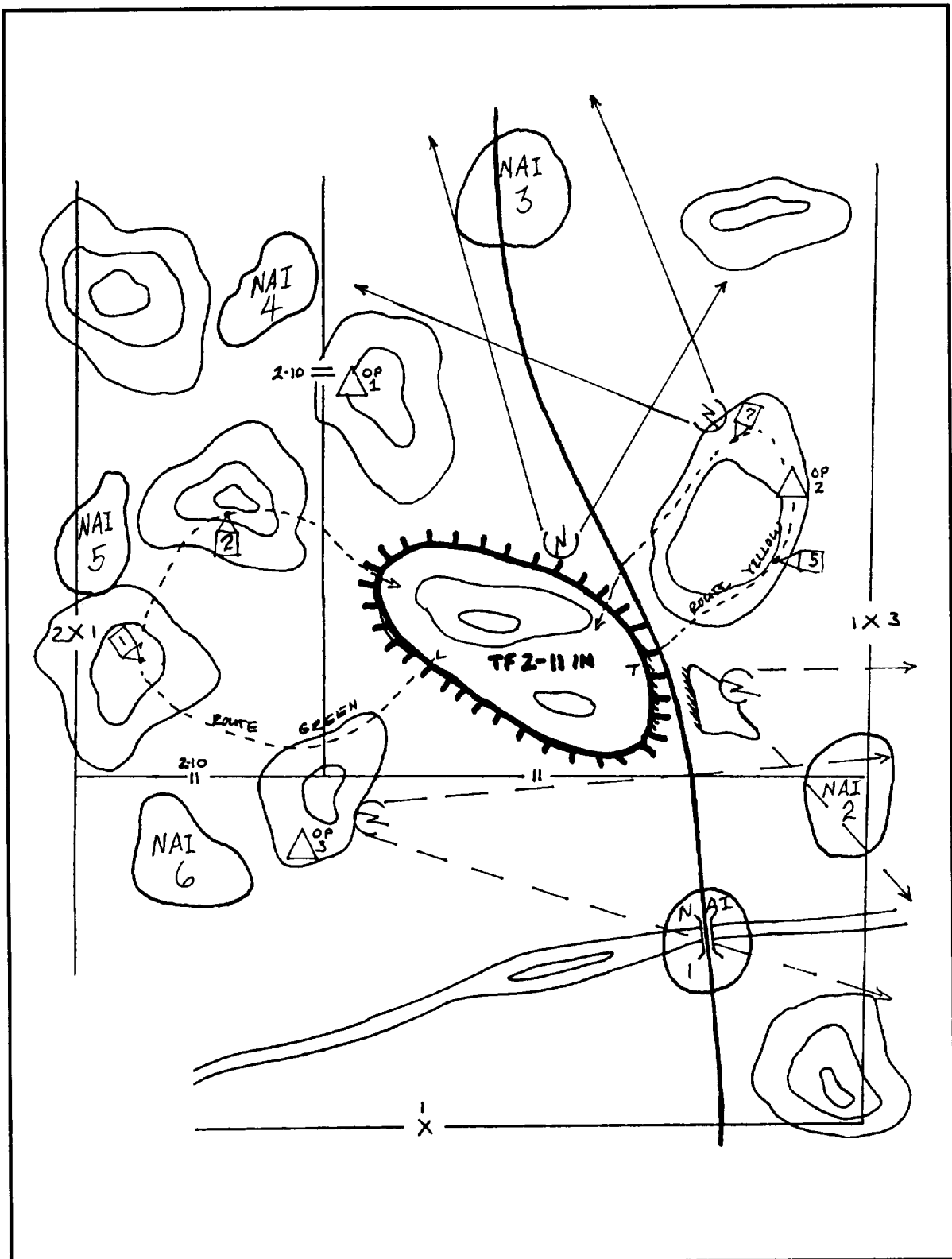


Figure 4-72. Battalion task force strongpoint reconnaissance and surveillance plan.

The selection of company, CS, and CSS positions is the first priority of the battalion commander. He must plan that his weapon systems are able to engage the threat effectively along the major expected threat AA. These positions will be the result of the S2's line-of-sight analysis coupled with the IPB and perhaps the brigade obstacle plan. The actual construction of the task force EA and the direct-fire control measures is identical to that discussed in earlier sections. There may be a difference in the considerations for weapon systems employment, particularly with respect to the lack of depth in the strongpoint itself. In a strongpoint, it is much more difficult to achieve a depth of fires than in sector defensive operations.

Generally, dismounted elements will protect the outskirts of the perimeter along side or slightly to the left or right front of tanks. If tanks are to shoot directly over the dismounted infantry, fighting positions must have overhead cover and soldiers must wear hearing protection due to the blast, over pressure, and discarding sabot. There is less danger from the fires of the IFV; they are also less survivable. As a result, they are positioned to the rear of the tanks and infantry where they can achieve long TOW shots and augment tank fire with the chain gun. If ITVs are attached to the task force, they are best positioned where they can achieve standoff but not be detected by the threat. If properly emplaced, the only visible part of the ITV will be the hammerhead.

NOTE: This weapon emplacement is based on strongpoint space limitations.

Once the commander has determined which locations are suitable for each type of weapon system, he will select the company team BPs. There are several considerations that must be addressed before finalizing the BPs. First, how much firepower is needed to cover the threat AA? Second, how can BPs be selected so they may also be responsive to threat attacks from other directions? Third, what task organization is best suited to the terrain yet meets the security needs of the battalion?

The reserve. In a strongpoint defense, it is important to maintain a reserve that can react to threat activity against the position. The reserve may be mounted, dismounted, or both. The reserve needs to be located in proximity to the CP to provide close-in protection for the headquarters and to be quickly reached by the commander for commitment. The reserve may be given the following missions:

• Block a threat penetration of the perimeter.

- Reinforce a position or section of the defense.

• Counterattack to restore a portion of the strongpoint.

Concept of defense. The commander must be able to transition from the defensive plan where he is defending as part of the brigade defense, to a perimeter defense where he is isolated and must hold his position. Weapon systems will be oriented as they would be for any BP. The commander must be prepared to man the entire circumference of the position in anticipation of the threat assault. Remember, if the position is important enough to us that we would dedicate all the time, effort, and resources for its retention, it is probably just as important to the threat. In this regard, the threat artillery preparation will be tremendous, followed quickly by a massive assault.

The commander must ensure that in addition to the primary fighting positions he has established along the outskirts of the strongpoint, he must also have a series of alternate and supplementary positions within the strongpoint. The threat situation may be such that through a relentless attack they are able to penetrate the initial defensive positions at a point along the outer perimeter. The commander assessing the situation pulls the penetrated unit back to its secondary position and as the threat fills the trench line, pre-positioned, hidden AP mines are detonated the length of the trench line. The unit then retakes their initial BPs, forcing the threat to repeat its assault. This is the type of activity that must be planned in advance and, if possible, rehearsed to assure effectiveness.

When conditions permit, mobile assets may remain outside the perimeter to provide early warning and perhaps confuse or delay the threat. Once all the forces have been drawn into the strongpoint, the object of the operation is to hold it against the threat. Direct fires must be planned over the entire position. Even within

the strongpoint itself there will be a piece of key terrain. Mutually supporting internal direct fires, counterattack by fire positions, as well as the usual external direct-fire control measures must all be planned to detail.

Figure 4-76 is an example of the type of direct-fire control measures required for the battalion strongpoint defense. Notice that they are actually a series of direct-fire plans superimposed on the strongpoint position. The outermost control measures are meant to take advantage of the brigade obstacle system. Should the threat press the attack and begin to encircle the strongpoint, the next series address the 360 degree defensive fires. Keep in mind that with proper reconnaissance and intelligence gathering, the commander may be able to weight his defense to meet the threat's main effort. Next, the internal direct-fire measures represent the secondary defensive positions required if the threat is successful in breaching the outer perimeter. Along with these control measures are found the counterattack plans that will allow the battalion to reoccupy its initial positions. In this diagram, there are locations within the strongpoint that the commander has chosen to fortify more heavily than others. They are, as it were, strongpoints within the strongpoint. These positions will give the position the strength in depth that it needs and also serve as a departure point for offensive operations within the strongpoint, such as a counterattack.

Last, and perhaps most important every member of the battalion task force must have a fighting position that supports the battalion commander's concept for the defense. Cooks, mechanics, and all other CS and CSS soldiers who are not directly involved in the fight must be prepared to fight as infantry, knowing their position in the line, weapon orientation, and combat mission.

The scout platoon. The scout platoon can initially be used to screen forward of the strongpoint. Members of the platoon may be assigned stay behind patrol tasks in support of the battalion R&S plan. The remainder of the platoon returns to the strongpoint. The scout platoon at this point in the operation may serve several functions the scouts could fight as infantry, the vehicles may be added to the defensive direct-fire plan, or the platoon could be saved for dismounted night patrolling. Remember, a scout platoon has a significant amount of firepower and are more experienced in reconnaissance operations. The commander must establish his priorities for their use early in the planning process.

Fire Support

If the threat is able to force the adjoining friendly forces from their positions, the FS plan must be oriented on those terrain features which may be occupied by threat forces. Dominating terrain features, mounted and dismounted AAs and likely threat AAs hidden from direct observation from the strongpoint should be targeted. In this way, the FS plan will assist in keeping the threat at a distance from the strongpoint. If the threat is able to reach the strongpoint in significant strength, the close-in FS plan is essential to the integrity and survivability of the position. Fires must be planned on obstacles close to the position, even if they are danger close. here may come a point in the battle where evacuation of the position is necessary; if fires are planned on the position, the threat can be destroyed and the positions reoccupied for continued defense. As a last resort, the defenders may also move to bunker positions and call artillery on themselves. This should only be considered if the fortifications are prepared to the appropriate level of protection.

The mortar platoon. The mortar tubes are best used dismounted from the vehicles. This is so they may easily respond to calls for fire in any direction. If the mortar tubes remain in the tracks, fires in any direction will be difficult to achieve without moving the vehicle or damaging the track if it remains stationary. The vehicles may remain in proximity to the tubes, dug in, and serve as an ammunition storage facility. Figures 4-73 through 4-76 illustrate mortar platoon positioning in the strongpoint as well as the overall battalion FS plan.

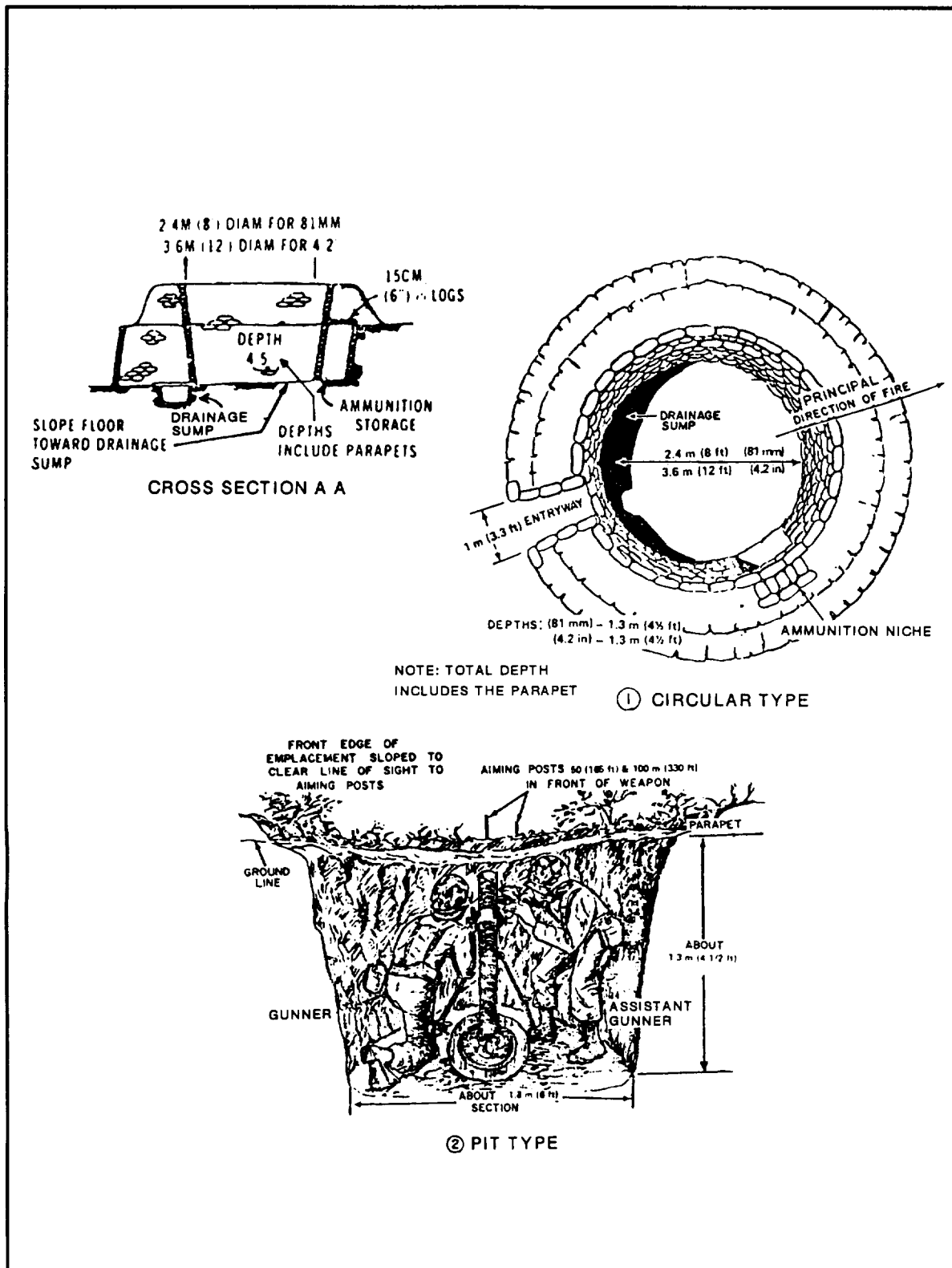


Figure 4-73. Individual mortar position.

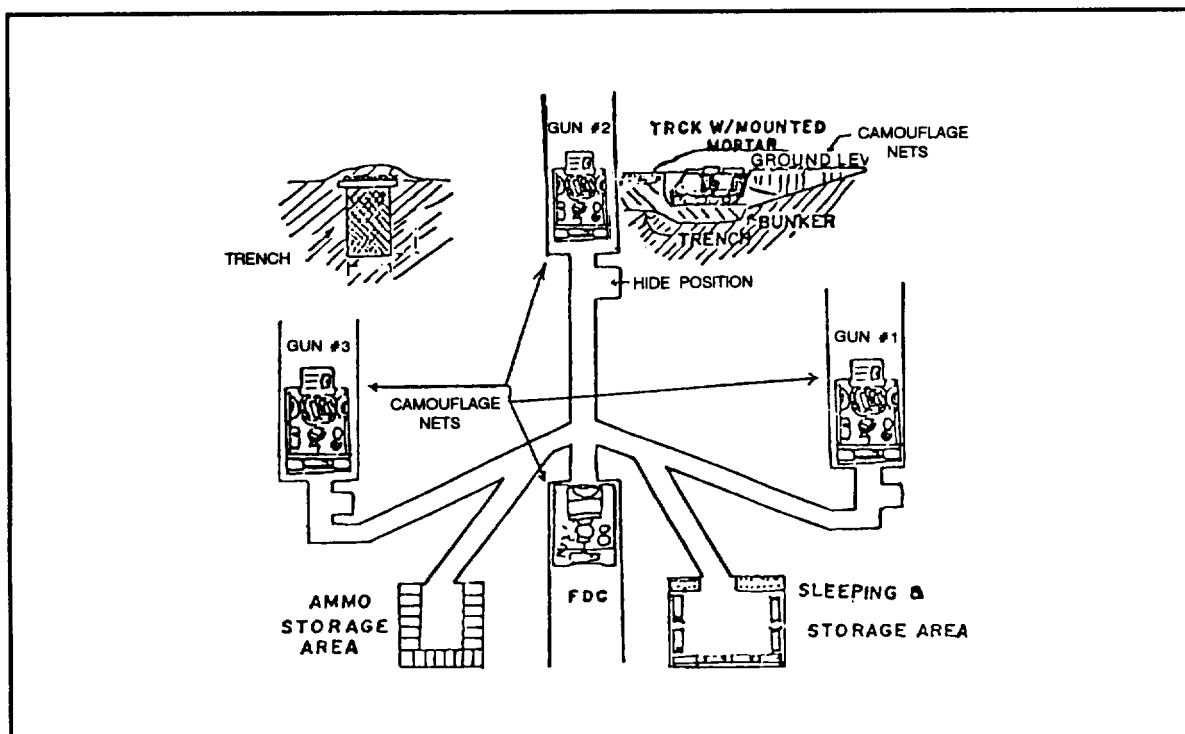


Figure 4-74. Track-mounted mortar position.

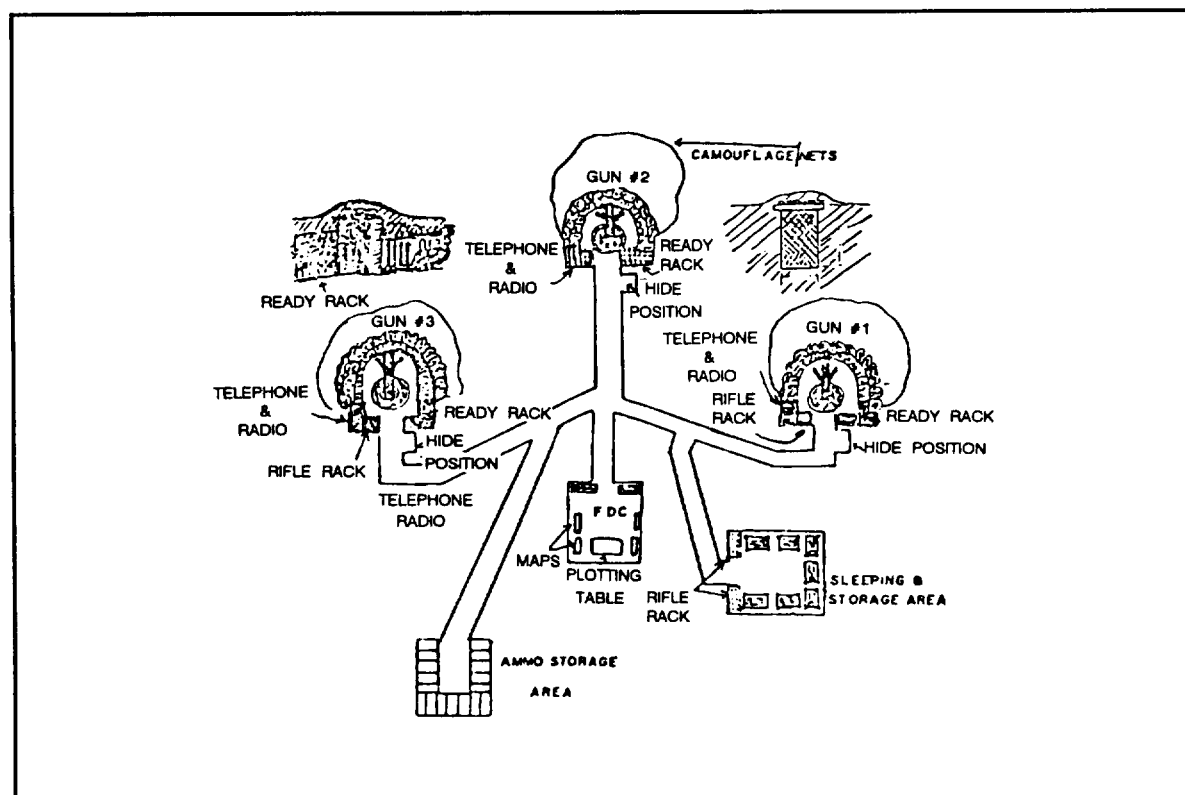


Figure 4-75. Ground-mounted mortar position.

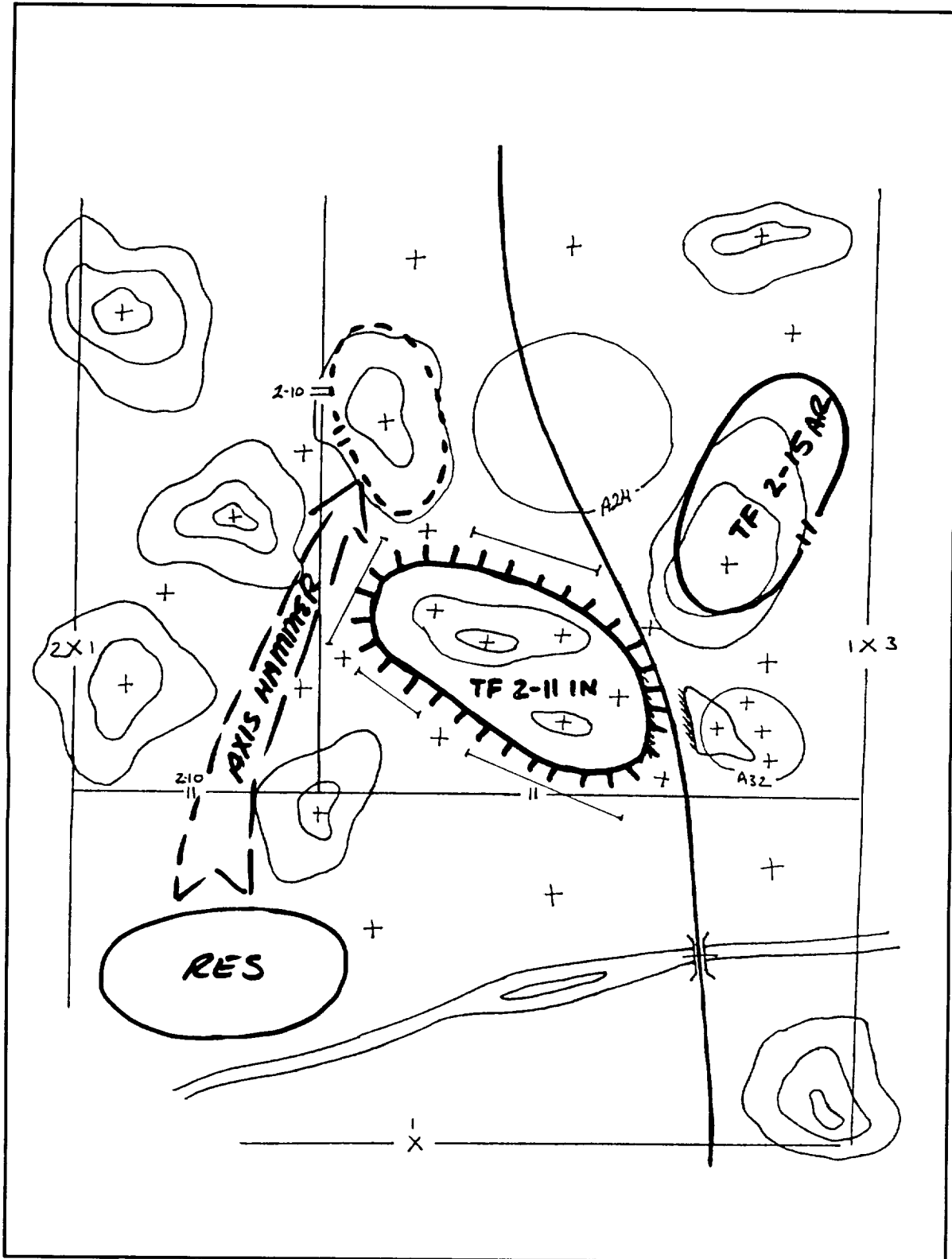


Figure 4-76. Battalion fire support plan.

Mobility, Countermobility, and Survivability

A strongpoint should be far enough from the LC to allow development time and avoid detection. The engineer commander will accompany the maneuver commander on the reconnaissance of the strongpoint area, and will prepare the position in accordance to the following guidelines:

- Make the position physically impassible to tanks.
- Plan indirect fires and scatterable mines to slow, disrupt, and canalize the advancing threat.
- Enhance the killing power of AT weapons with obstacles.

The engineer commander determines the effort needed to prepare task force positions and obstacles. Based on the commander's guidance and priority, the engineer commander determines priority of emplacement for fighting positions and obstacles, and then allocates the assets needed to accomplish the mission. Strongpoints are constructed from the inside to the outside. Regardless of the configuration of the strongpoint, there are essential tasks. These tasks include—

- Prepare obstacles to prevent being overrun by tanks.
- Prepare hull-down positions for fighting vehicles.
- Emplace obstacles at optimum weapon range.
- Construct protected routes between positions.
- Plan and coordinate for scatterable mines.

Maneuver units can handle most individual and light crew-served weapons positions. Engineers concentrate on labor-intensive heavy construction. Blade time must be split between vehicle fighting position construction and countermobility operations. The sequence of effort is for the maneuver units (assisted by the engineers) to prepare fighting positions, shelters, and protective obstacles. Engineers help units build fortifications using demolitions. Dump trucks will stockpile earth for filling sandbags in each platoon location, and CEVs will prepare vehicle fighting positions.

Dummy trenches armed with booby traps should be clearly delineated, but not obvious to the threat. The engineers begin constructing the obstacle plan (see Figure 4-77). This will serve two functions. It ensures the obstacles are covered and the obstacle placement is appropriate to the commander's intent.

Sample Heavy Equipment Construction Plan

Bulldozer Priorities:

First 24 Hours]

1. C2 bunkers.
2. Tank ramps/positions.
3. Hull-down positions for TOW, mortar, and APC.

Second 24 Hours

4. AT ditches.
5. Improve concealed routes.
6. Alternate and supplemental positions.

Backhoe Priorities:

First 24 Hours

1. Primary fighting positions with overhead cover.
2. Primary fighting positions without overhead cover.

Second 24 Hours

3. Alternate positions.
4. Connecting trenches.

Bucket Loader Priorities:

1. Assist bulldozer as a team.
2. Assist with material handling.
3. Assist in digging where soil permits.

Figure 4-77. Battalion task force strongpoint obstacle plan.

Air Defense

The air defense commander identifies positions that facilitate engagements of threat fast-moving aircraft and helicopters. The air defense commander must ensure the engineers site the actual positions properly. The engineers know how to construct positions, but it is up to the occupant to ensure the position is properly oriented. Figure 4-78 illustrates an air defense position for a Stinger team.

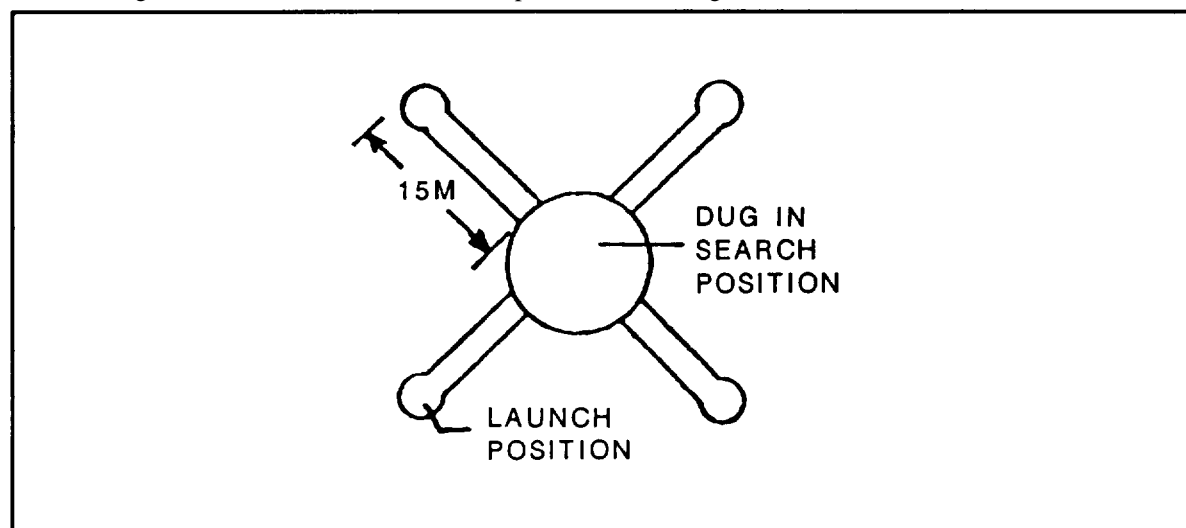


Figure 4-78. Stinger fighting position.

The Vulcan platoon must be dug in to ensure survivability. The Vulcan is buried so that the hull of the carrier is not visible to the threat. The turret must traverse 360 degrees. This is to serve the effective use of both the gun and the radar. The air defense commander should ensure that the route taken to reach each gun is expeditious and that bunkers are constructed for each gun to hold stockpiled ammunition. As each Vulcan carries a Stinger gunner, the ADA commander can construct additional Stinger positions near the Vulcans or use the Stinger gunner as an ammunition bearer. Both Vulcan and Stinger positions should be linked to the ADA early warning net.

Combat Service Support

In developing the CSS plan, the battalion S4 will examine the engineer's strongpoint construction plan and determine the best places to stockpile ammunition and supplies. The units will further refine the stockpile plan by positioning smaller stockpiles adjacent to individual crew-served weapons. Once the unit stockpiles have been identified, the battalion S4 develops a resupply plan. Battalion caches must be dispersed throughout the strongpoint to prevent a single detonation.

In a similar manner, stretcher bearers must be prepared to evacuate wounded from the perimeter to the aid station. The aid station is dug in and located with easy access to each unit. A water supply, generators and, if possible a bunker, should be made available to the aid station. In the case of an elongated strongpoint, the aid station may split to provide support from two locations. A clean and sufficient water source is important to the sustainability of the strongpoint.

Even though vehicles in the position are static, they will burn fuel during idling; particularly to run their thermal sites. Therefore, a refueling plan must be developed. Tailgate or service-station type refueling will probably not be a viable option, which leaves the requirement of refueling vehicles by hand with 5 gallon cans. The S4 must make sure a sufficient quantity is on hand as well as an appropriate storage source for the strongpoint. The S4 constructs an internal strongpoint traffic control plan. When you consider the width of a trench, it becomes readily apparent that one-way traffic is the preferred method. Accordingly, separate routes must be designated for evacuation from, and supply to the perimeter.

The combat trains CP is dug in separate from the battalion CP. It serves as the alternate CP should the main CP be destroyed. It is positioned away from the main CP but in proximity to the aid station and supply activities. Redundant communications must be established with the main CP so that direct communication via landline, for example, is possible between the two headquarters. Antennas should be remoted away from the CP and sited directionally to foil EW targeting (see Figure 4-79).

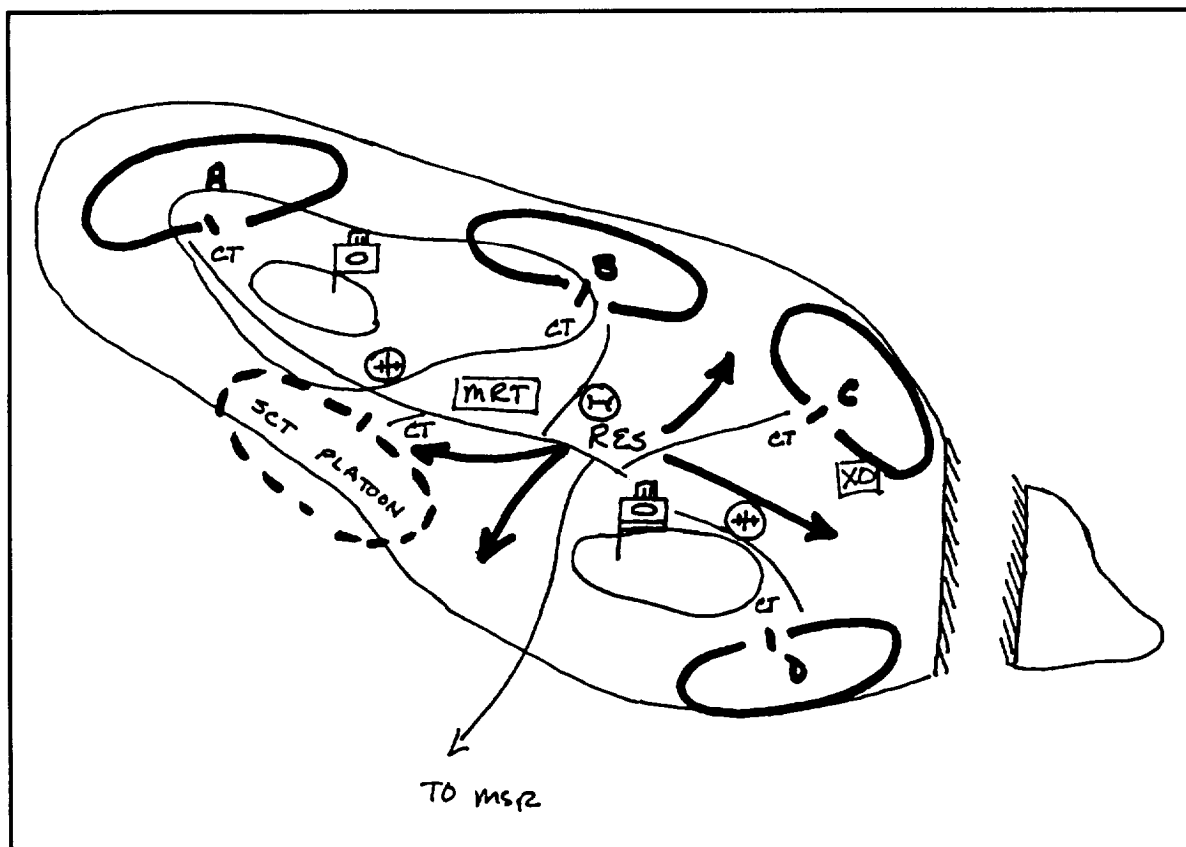


Figure 4-79. Battalion task force strongpoint combat service support plan.

Command and Control

The commander must develop his strongpoint defense plan by using the terrain to its utmost advantage (see Figure 4-80). He should try to ensure dead space is absolutely minimized; and where it cannot be helped, it should be made inaccessible with obstacles and covered by indirect fire. The commander must do everything in his power to force the threat to remain in the open, making the threat suffer heavy casualties. Additionally, he must maintain an internal strongpoint mobility so the threat will never accurately predict the location of forces on the position. Each time the threat attacks, the defense should be a little different. The commander should use every dirty trick possible to confuse and foil the threat. Deception, explosives, and ambushes should be planned throughout the strongpoint. Camouflage must be perfect.

The commander must be able to traverse the strongpoint in response to an attack from any direction. His OPs must afford him the opportunity to observe the battle without becoming an obvious target. On the other hand, he must be able to move forward to inspire the troops if need be. He must be aware of threat actions all around the strongpoint, and not become fixed on a specific location. To this end, the battalion S3 should be located where the commander is not; remaining in constant communication and keeping him informed of the areas he cannot see. Communication wire must be buried deep in the strongpoint and field phones made available throughout the position.

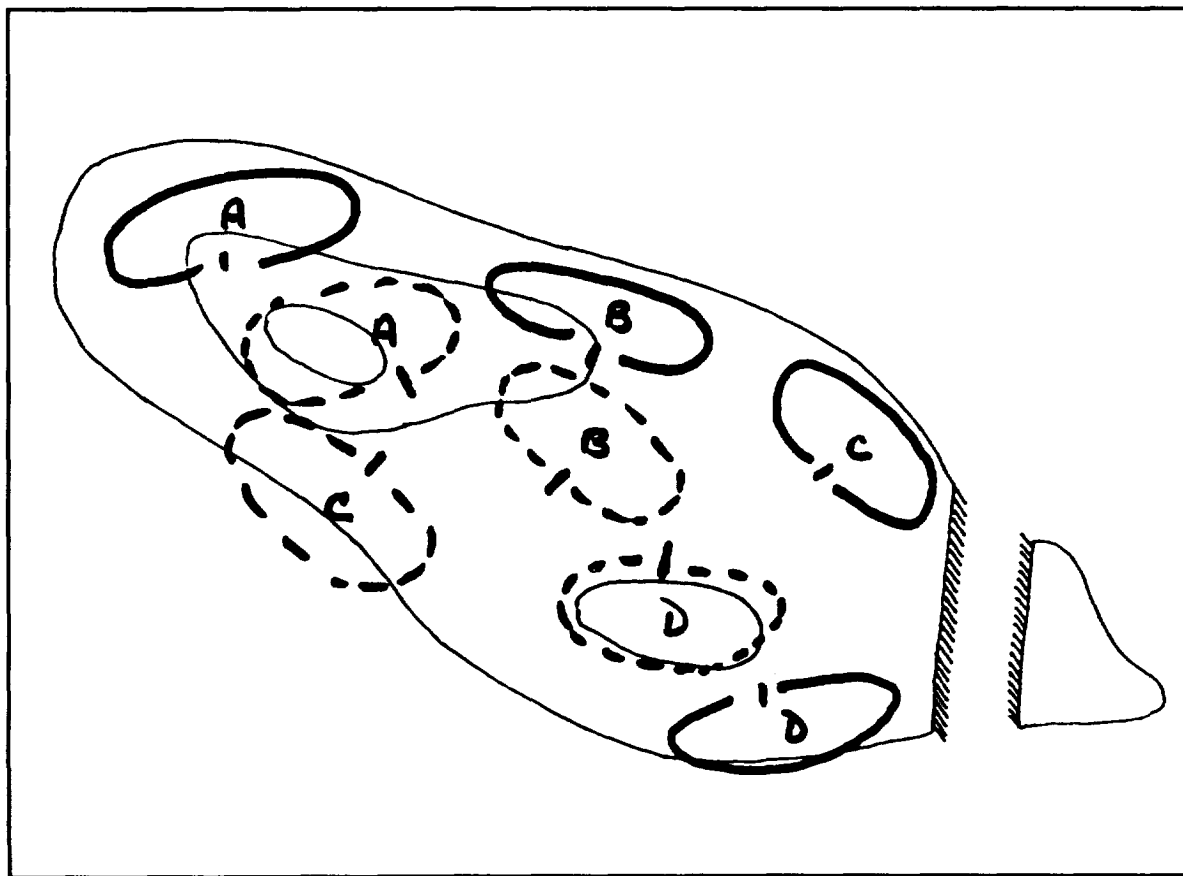


Figure 4-80. Battalion strongpoint defense plan.

Preparation

Intelligence

The S2 executes the R&S plan. In addition to fighting the counterreconnaissance battle and alerting the battalion for the defensive fight, the reconnaissance elements are positioned to alert the battalion of impending encirclement. The S2 checks positioning to ensure they are satisfied with the positions he selected. Adjustments are made as needed and reported to the headquarters and maneuver elements.

The S2 reviews the decision support template with the commander, ensuring that threat courses of action have been taken into consideration. Finally, the S2 will assist the commander with the conduct of the maneuver rehearsal by representing the threat commander. He will ensure the threat actions are properly depicted during the rehearsal so the commanders and staff will then be able to anticipate these actions during execution.

Maneuver

The battalion commander will prepare for the battle by rehearsing the MBA direct-fire plan. As with the direct-fire rehearsal, the commander and/or the S2 will physically move along each mounted and dismounted AA and determine which defensive positions need to be better prepared or camouflaged. Additionally, to ensure the proper synchronization of his direct- and indirect-fire elements, the commander must also ensure his units are able to respond to his FRAGOs. Specifically, the units must rehearse repositioning, per the commander's orders. Counterattacks to reoccupy previously evacuated positions, as well as reserve actions, must be rehearsed to the satisfaction of the commander and the confidence of the soldier. The reserve must know which route to use and what to do once they have arrived in position. Similarly, CS and CSS personnel

must also be prepared to assist in manning fighting positions. The conditions under which this occurs, and the execution itself must also be incorporated as part of the rehearsal. Direct-fire orientation and synchronization must be checked for each phase of the strongpoint battle. In doing so; however, each man must feel confident in his ability to fight back to his final position. Likewise, he must know that the harder he fights initially the less likely it will be for him to fall back to those positions.

Fire Support

The FS plan will be rehearsed as part of the maneuver plan. The commander will rehearse the strongpoint FS plan. First, he will want to verify that it is linked to the R&S plan so that indirect fires may be directed. Next, he ensures that fires that are designed to protect the strongpoint from assault are integrated with the obstacle and direct-fire plans. The FSOs must know when to call for the fires so that the arrival of the rounds will be linked to the direct-fire control measures (for example, trigger lines). As for the internal strongpoint defense, the commander must ensure that FPFs are planned forward of each main defensive position and that fires are planned on the positions themselves. This is critical if we are to deny the threat the ability to remain in our own defensive positions. The commander will check the control measures and signals used to call each of these type missions.

Mobility, Countermobility, and Survivability

As the commander maneuvers through the battalion EA, he will inspect the obstacles with the engineer commander to ensure they are properly camouflaged and emplaced. If target turnover is an aspect of the defensive plan, the commander ensures the responsible party understands his orders.

Close-in and on the position itself, the commander will continue to check the obstacle system and its integration with direct and indirect fires. He should be especially interested in the ability of the obstacles to stop both mounted and dismounted threat forces. Enfilade fires are the most effective in defending an obstacle close in; likewise, hand grenades should also be stockpiled at the fighting positions.

Within the position, the commander should check the aboveground and belowground obstacle plan. Demolitions should be emplaced and camouflaged throughout the system, allowing the defender to clear the threat force's. Other examples of the engineer effort within the strongpoint are dummy trenches complete with booby traps or gradually raised floors to provide head shots of the threat. Above the ground, AT and antipersonnel mines should be placed all over the position. The mission of the engineer is to deny threat armor access to the position. Disallowing vehicular and dismounted movement above the trench line forces the threat to a one-man front. Of course, this also means these areas are inaccessible to our own people unless lanes through minefields or trenches are marked. Should the threat penetrate the position, all of these paths should be easily closed.

Air Defense

The ADA commander will check to see that the ADA crews react appropriately. He should rehearse the ADA crews for threat air attacks along each of the identified threat air AAs, and rehearse simultaneous attacks from multiple routes.

Combat Service Support

The CSS plan for a strongpoint is clearly a complicated affair requiring the same level of detail in rehearsal as the maneuver plan. To this end, each support system must be rehearsed to ensure its effectiveness. Stretcher bearers, ammunition carriers, and all other logistical support members must travel their routes with the same amount of supplies that they would be expected to transport in combat. This will help identify areas within the plan that may require modification. Likewise, the signal to use alternate routes must be issued to see if the elements are able to adapt to a fluid situation.

In addition to the CSS plan, these soldiers must rehearse occupation of BPs, should the situation warrant. Since there will always be a need for some type of evacuation or resupply, not all CSS soldiers will join in combat.

Command and Control

The commander should prepare for the strongpoint defense by considering two things: Has he properly prepared for his role in the main defensive battle, and has he properly prepared for the defense of his strongpoint? All through the rehearsals, the commander must evaluate the physical characteristics of his defense, the execution of the defense by the battalion task force, and his own decision making, which will initiate their actions. Ultimately, he must make sure he is able to bring fires to bear at the right place and at the right time. How he does this must be a matter of his own rehearsal. The commander and the S2 must work hand in hand throughout all phases of tactical operations. In this case, the S2 should review the likely threat courses of action with the commander. The commander, equipped with his decision support template, must know and understand how much time is available to make a decision and what the ramifications will be. Above all, he must make sure he has the ability to position himself throughout the battle wherever he may be needed.

Execution

Intelligence

As the threat approaches the strongpoint, reconnaissance elements will report as per the R&S plan. The S2 must take this information and apply it to the event template of the threat, as well as the decision support template. The primary responsibility of the S2 in this regard is to give the commander the clearest possible picture of the threat to confirm or deny the threat's course(s) of action, and forecast of his next probable course of action. Specifically, he must determine whether or not the threat is maneuvering as per his IPB; and if not what their current and future actions are. If the threat situation is markedly different from the decision support template, the S2 must be able to give the commander a new template or modifications to the original. In so doing, the S2 must have an understanding of the commander's defensive plan.

The point to remember is that the commander will try to avoid making any major changes to his defensive plan, especially once contact has been made. He will attempt to see how his concept for defense can be modified in the least dramatic fashion so as to avoid confusion in the battalion task force. Sometimes, however, this is unavoidable. The commander, in this circumstance, must issue clear and concise instructions to the battalion, keeping the maneuver as simple as possible. In preparation for this FRAGO, the S2 should explain not only the current threat situation, but his likely vulnerabilities.

Maneuver

For the purposes of this discussion, we will begin with the threat's attack of the strongpoint. For a discussion of the MBA fight, see the previous two sections.

As mentioned earlier, the threat will probably not devote the time and effort to seize a strongpoint unless they have also determined the piece of terrain essential to their offensive operation (in which case, the amount of resources allocated for the assault will easily reach a ratio of 6 to 1, if not more). The battalion commander must be aware of this when he executes the fire plan,

The threat will begin by suppressing the strongpoint with massive amounts of artillery. It is safe to say that anything not dug in and prepared with adequate overhead cover stands a good chance of being destroyed. For the units and those elements manning weapon systems, it is at this point that personnel should be in bunkers or prepared fighting positions. Simultaneous with the suppression, the threat maneuver elements will form up for the assault and move to the strongpoint. Their objective is to arrive at the position as the indirect fires are lifted. With this knowledge, the commander's stay-behind patrols will report the location and disposition of the attacking forces before they reach the EA. Because the DS and reinforcing artillery are not located on the strongpoint, they will be able to fire against the threat. It is doubtful that the mortar platoon will be effective during this phase of the operation.

As the threat nears the position and the artillery suppression continues, the direct-fire weapons must be prepared to engage despite the threat fire. This demonstrates the need for adequate fortifications. Due to the extremely large threat mass, the direct fire from the strongpoint must be maintained at a sustained high rate. Obstacles will initially fragment the attackers; however, their sheer mass almost ensures that a significant force will reach the main EA. Direct and indirect fires will reach a crescendo as the threat attempts to force a

close-in breach of the protective obstacles. At this point, the commander must be prepared to unleash absolutely all direct and indirect weapons at the deepest point of threat penetration. To accomplish this, he will have to direct the fires via FRAGO.

If, however, the threat is able to establish a foothold, the commander will direct forces within the strongpoint to seal off and isolate the penetration. This is accomplished by units within the strongpoint orienting some weapons down the trench line toward the area of penetration. Mortar fire should be directed against the trenches occupied by the threat, as their high angle trajectory is well suited for the role. Demolitions that have been prepared along the trench line and in the positions should be detonated in symphony with a local counterattack to reestablish the positions. In the meantime, the remaining forces must do their best to ensure the threat is unable to reinforce their penetration. Repositioning to achieve enfilade fire, parallel to the perimeter is the most effective.

Reserve forces maybe called on to restore a weakening portion of the perimeter; however, they should be used wisely as their numbers may be needed later in the battle. If the threat is able to attrit the battalion and weaken the outer perimeter, the commander may be forced to order a withdrawal to the secondary line of defense. In this case, FPFs will be shot as units withdraw. It is important that this maneuver be done orderly and in a controlled manner, or the threat may be able to take advantage of the rearward momentum. Fire obstacles are especially helpful in allowing a clean break with the threat. Fifty-five gallon drums filled with FOOGAS, positioned and prepared for demolition, will create a temporary, but effective wall of flame between defensive perimeters.

During this final stage, the reserve becomes extremely important. It must be able to maneuver in response to threat success from any direction. This includes counterattacking by fire to reestablish a breach in the perimeter. Prepared tank paths may offer some added strength in this regard; however, it must be up to the dismounted soldier to maintain the integrity of the trench line. This is probably the point of fiercest fighting on the position. The threat knows that it has made some progress, but must destroy the force to gain the position, while the defender must stand his ground or die trying. This is also the point where many of the systems will have been degraded by attrition and destruction. The commander must assess the situation carefully, wait for the optimum moment, and commit the reserve at the place and time where it is able to inflict the greatest amount of damage, and break the will of the attacker.

Last, the commander may call for artillery or air on the position itself. The defenders will move to bunkers or well-prepared positions, orienting their weapons toward the threat's likely location. In the meantime, virtually every round on hand will be shot in an attempt to destroy anything that moves on the position. Keep in mind that some threat will find cover and survive the bombardment. So even though the suppression is over, as the defender moves out of his bunkers, he must be prepared to continue the fight. At this point, higher headquarters will also attempt to rescue the strongpoint by committing a force to counterattack.

Fire Support

Much of the FS plan execution is inextricably linked to the maneuver discussion. In isolation, the execution generally begins with the main defensive battle. This will be fought as per the discussion in the preceding two sections. Once the threat has determined to assault the strongpoint, however, the focus shifts to initially interdicting the attacking force before it reaches the position itself. The artillery will rely on the observations of the FIST and reconnaissance assets at this point. Remember, stay-behind patrols should be equipped with the capability to adjust indirect fire.

As the threat draws near, indirect fire will be shot to reinforce the obstacle plan and to destroy massed threat formations short of the obstacle. FPFs will deny threat penetration of the position, or assist in the evacuation of the initial defensive perimeter. Should the threat penetrate the strongpoint, fires will be oriented against those threat-occupied areas while other indirect fires (linear sheaths) will deny threat reinforcement of success. Lastly, fires may be fired on top of the position as a last attempt to clear the threat from the strongpoint. These are only the fires directed against the furthest point of success. It is important to remember that fires must extend in depth throughout the operation in order to fragment and disrupt second-echelon forces from reinforcing success.

Mobility, Countermobility, and Survivability

The execution of the obstacle plan begins with target turnover. Once the mobile reconnaissance elements have been ordered to move into the strongpoint, those targets that were emplaced to close lanes (in obstacle belts for example) will be executed. As each target is detonated, a report is sent to the headquarters so that the commander can be sure the obstacle plan is in effect as planned. Once the attack begins, there is little the engineers can do in support of those obstacles outside the perimeter. However, as the threat draws near to the protective obstacles and dismounts their infantry, some preplanned demolitions and mines (such as the Claymore) may be detonated to deny a breach of the obstacle belt.

Engineers may continue to improve obstacles and booby traps within the position. They may also continue to improve the survivability of the fortifications. However, construction materials, like all other types of supplies, must be preplanned in order for this to be satisfactory. Otherwise, the engineers will have to develop field expedients. If the threat penetrates the position engineers can detonate preplanned charges, mines, and flame weapons. They may also be called on to man defensive positions and fight as infantry.

Air Defense

The execution of the air defense plan relies on several factors. The ADA weapons must receive early warning via the early warning net. This may be a problem during threat artillery suppression. Radar from the Vulcans is an alternate means for early detection; however, it too is vulnerable to artillery. This leaves visual identification, which will also be a problem during threat preparation. As a result, the battalion may find itself unable to respond to an air attack if the artillery suppression is effective. Therefore, the strongpoint must rely on the support of ADA assets located on adjoining and depth positions.

Once the preparation has ended, the ADA plan may be executed. Most likely, some of the weapon and communications systems will have been damaged during the artillery suppression; therefore, redundancy and rehearsals will have paid off.

Combat Service Support

The CSS plan will have difficulty being executed unless the strongpoint is equipped with a tunnel system. This is unlikely, however, due to the intensity of resources and construction time. As a result, the S4 must ensure that the stockpiles are sufficient to sustain the fight without resupply until the preparation is expected to lift.

Once supply personnel move throughout the trench line, the system will function as planned. The most important aspect of the operation is that the combat trains stay abreast of the needs of the fighting forces. Just as in a mobile operation, preplanned packages of ammunition and other quickly expendable items must be ready for transport even before a request is received. This will speed the process significantly and make the system more responsive.

Plans must be made for the cross-leveling of items identified early in the fight as becoming critically low. In this regard, instructions may be issued to units to use certain weapon systems sparingly, but others may make up the difference.

Command and Control

Throughout the operation, the commander must place himself where he is best able to assess the battle. The strongpoint defense is a thinking defense. A strongpoint has the smallest margin of error and the greatest price to pay should it be lost. The battle is fought with this in mind. The commander must be aware of threat activities from all sides, and should place his S3 opposite himself. The commander must remain calm and resolute, and assist the company commanders if need be by shifting forces or fires in support of their battle. He must anticipate the moves of the threat, strike first, then follow up with offensive actions. Above all, the commander must force himself to be at the critical place and time throughout each phase of the battle, remaining somewhat detached, yet close enough to gain a clear picture of the situation. From this first-hand posture, the commander can make the necessary decisions.

SECTION III. COMPANY TEAM DEFENSIVE OPERATIONS

Threat Offensive Doctrine

Conduct of a Motorized Rifle Battalion Attack

Formations

The three basic formations used by the ground forces are the march prebattle, and battle formations. The march is organized to ensure rapid unit deployment into the prebattle and battle formations. This formation is used when contact with an intact threat force is not imminent. When contact with the threat is imminent, units deploy from the march to the prebattle formation. These formations are dispersed laterally, in depth, and with means of reinforcement. They may be in line, echelon (right or left), wedge, or inverted wedge formation. When it is possible to penetrate, disrupt, or overly extend defenses in the prebattle formation, units will deploy into battle formation to overcome stronger defenses. The battle formation is formed when columns deploy into linear formations echeloned in depth. These formations include first- and second-echelons, reserve (combined arms, tank, engineer, chemical) and artillery groupings. Should the attack be successful, units would redeploy into prebattle formation for more rapid movement.

The March

If possible, the march is conducted at night or under conditions of limited visibility (see Figure 4-81). The speed at which the march is conducted depends on METT-T. Speeds for a BMP-equipped battalion by day are 30 to 40 kmph, and by night and during other conditions of limited visibility, they are 25 to 30 kmph. If tanks and artillery are attached, the average speed for day marches is 20 to 30 kmph and 15 to 20 kmph at night.

The interval between vehicles is up to 50 meters during road movement and 50 to 100 meters during tactical cross-country movement. Control measures along the route of advance include initial start points and easily recognizable control (PLs) lines. Communication during the march is accomplished by messengers, flags, and radio (when PLs are crossed).

In a motorized march, halts of up to 30 minutes occur every 2 to 3 hours. During the second half of a motorized march, a long halt of 2 to 4 hours is held. During short halts, distances between vehicles in column formation are not changed—men and vehicles maintain the march intervals. During long halts, vehicles are dispersed and camouflaged.

The Soviets-style armies divide the march into two distinct elements: the movement organization and march security. Movement organization is designed to ensure high speed, rapid combat deployment, and effective control. Tanks and artillery are usually toward the front, and antiaircraft weapons are distributed throughout the column(s). AN-around security is provided during the march to ensure uninterrupted movement, to prevent surprise attack, to keep threat reconnaissance units from observing the main body, and to create the most favorable conditions for deployment of the main body in a meeting engagement (see Figure 4-82). Advance, flank, and rear guard units ensure all-around security during the march. In addition, stationary flank outposts occupy critical terrain until the main body has passed.

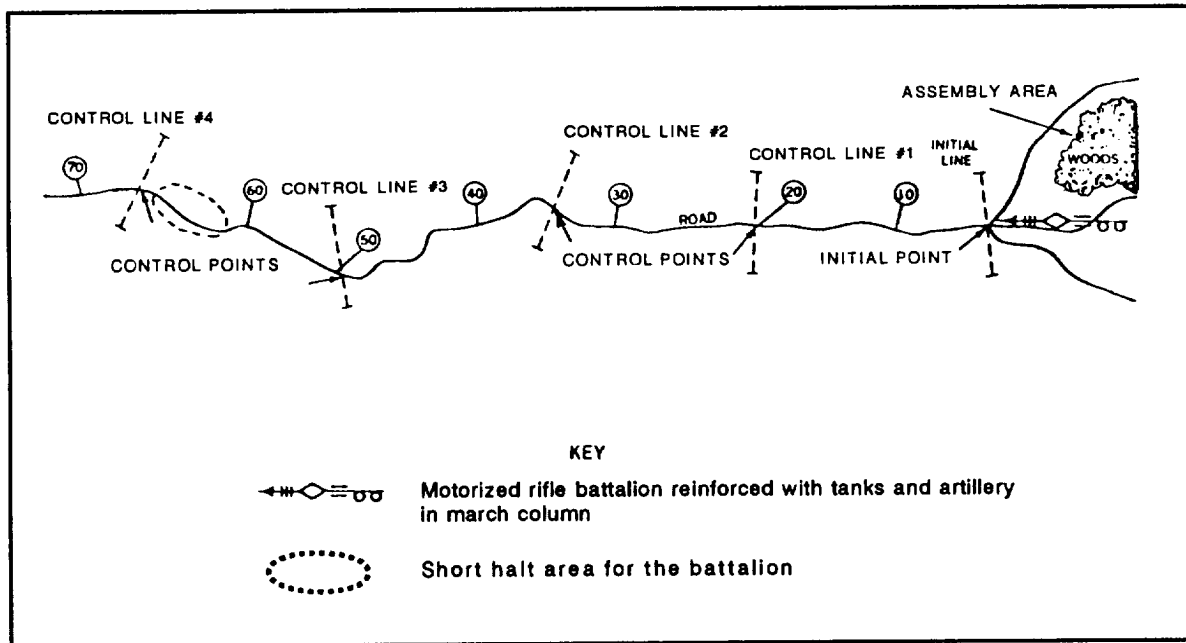


Figure 4-81. Control measures during the march.

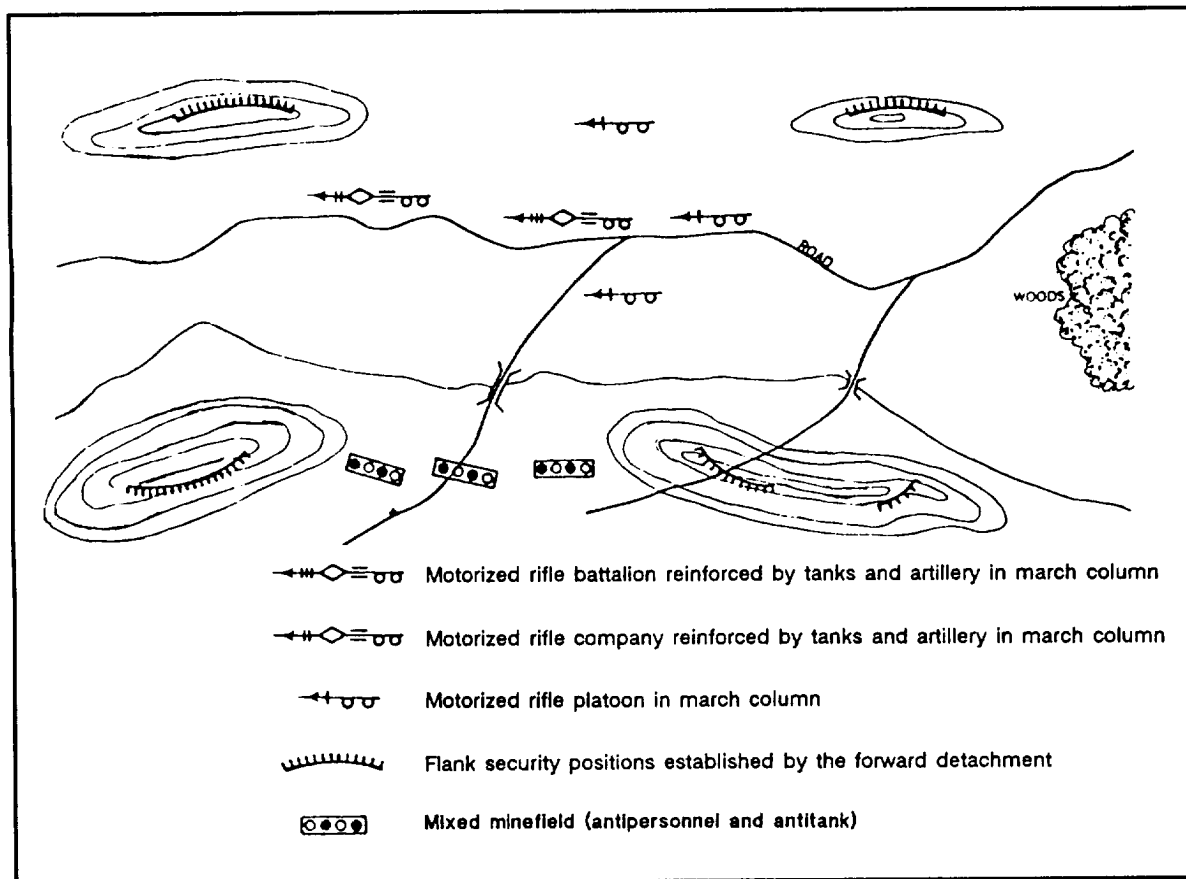


Figure 4-82. Security during the march.

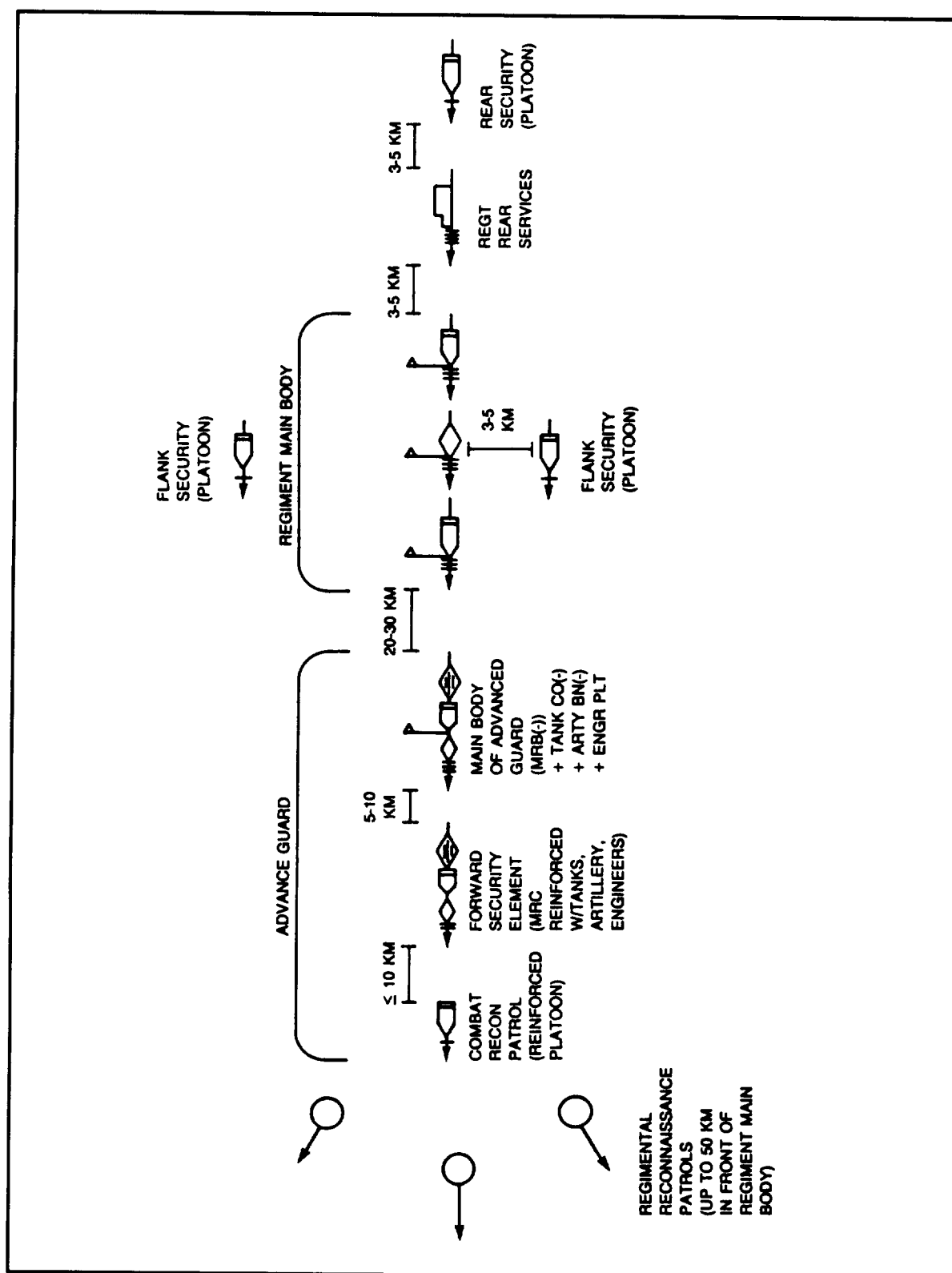


Figure 4-83. Tactical march order.

Organization for Combat

The regimental commander allocates tank, artillery, air defense, AT, engineer, and chemical units to his battalions. Battalion commanders organize their units for the march. When feasible, attachments are made prior to the march. The battalion commanders normally place attached tank, artillery, and AT forces near or at the head of their march formation.

Movement to Contact

Missions. For the march, the MRB may be given the mission of advance guard, forward or rear detachment, or be designated part of the main body of the regiment (see Figure 4-83).

As the regiment's advance guard, the MRB has the mission of ensuring the uninterrupted movement and security of the main body. It must also prevent threat reconnaissance elements from reaching the main body.

When acting as a forward detachment, the MRB has the mission of conducting reconnaissance or seizing and holding key terrain until the arrival of the main body of the division.

Planning the march. The battalion commander studies the mission, briefs his chief of staff and technical deputies, calculates movement tables, and issues a WO to his subordinate elements. The MRB commander meets his attached artillery commander and coordinates his movement plan with the artillery fire plan.

The battalion commander's WO to his unit describes the conditions under which the march will be made, its length, actions to prepare personnel and equipment, designation of security elements, information regarding attachments, and the time and location for receiving the march order.

The regimental commander's march order to his battalion commander includes—

- Information on threat and friendly forces.
- Topographical and meteorological data.
- The mission.
- Execution of the mission (start time and location, coded reference control points, security information and coordination).
- Administrative and logistics data.
- Command and signal information.

After reading the regimental commander's march order, the battalion commander completes his command estimate and determines—

- Column formation and composition of security elements.
- Actions to be conducted by security elements and the main body where contact with the threat is possible.
- Use of attachments.
- NBC, air defense, and cover and concealment measures.

The battalion commander and his staff draw up the march order. The battalion commander makes a detailed map analysis of the terrain. Prior to issuing the combat order to his unit, the battalion commander has his march order approved by the regimental commander.

Along with the regimental order, the MRB's march order forms the basis for the battalion commander's combat order to his subordinate elements. The march order states the battalion's mission, control measures, command and signal instructions, and detailed instructions to each subordinate unit on actions to be taken in the event of threat action along the march route. This approach often becomes mechanical in nature and is indicative of the battalion commander's efforts to control the actions of his company commanders. He not only tells them what to do, but when and how to do it. When the "threat" does the unexpected, company commanders often fail to react.

The battalion march order gives the regimental commander a clear indication as to whether or not his order was understood. Once the regimental commander has Confined the MRB commander's march order, the MRB commander issues verbal combat orders to his subordinate elements.

The verbal combat order from the MRB commander to his unit commanders is a combination of data derived from the regimental order and the battalion commander's march plan. It includes—

- Threat and friendly forces.
- The mission.
- Detailed instruction for each of the battalion's subordinate elements, coordinating instructions, action on threat contact, antiaircraft, and NBC defense.
- Command and signal.
- Logistics details.

The battalion commander organizes the march under more difficult circumstances. His actions are abbreviated. He is aided in rapid dissemination of orders by his communications net, which includes every vehicle in the battalion. Data concerning the threat and mission passed to the battalion commander on his frequency would not have to be relayed individually to platoon and company commanders.

Command and control. The battalion commander and the attached artillery commander are normally located well forward, either with the advance guard or at the head of the battalion's main body. His position within the advance guard enables him to best observe threat action, formulate his plans, and deploy his unit.

To control his unit during the march, the battalion commander relies on messengers, flags, traffic controllers, and radios to a lesser degree. Although the battalion commander generally stays on radio-listening watch, the passing of PLs and other checkpoints are reported by radio. NBC and air warnings are transmitted by radio.

Conduct of the march. The march is controlled tightly with the starting times, passing of control points, speed, and spacing of vehicles supervised rigidly. If a vehicle falls out due to technical difficulty, the commander or driver gives the designated signal to prevent following vehicles from slowing down. If the vehicle can be repaired by the crew and/or the battalion maintenance section, it rejoins the column; otherwise, it is evacuated by the regiment.

Gorges, bridges, built-up areas, river-crossing points, and other hazardous areas for the column are crossed without halting and at maximum speed. Effort is made to bypass built-up areas. Engineers, part of the combat reconnaissance patrol when the battalion is the advance guard of the regiment, supervises the removal of obstacles.

During short halts, the column halts in order and at intervals established in the battalion commander's order. Crews of air defense weapons and designated air sentries remain on alert.

During long halts, companies disperse to assigned areas, but are prepared to move out on short notice. These areas are selected to take advantage of natural terrain features for protection. Hot food is prepared while the men check their equipment.

Higher headquarters or an element within the MRB inform the battalion commander of the approaching threat aircraft. The battalion's reaction depends on the terrain it is in. If cover is sufficient along the route of march, the battalion halts and attempts to conceal itself from aerial observation; otherwise, vehicles increase their speed, lengthen the interval between vehicles and engage aircraft. ATGMs mounted on the BMP may be used against attacking helicopters. At night, vehicular night-vision devices are used, and personnel fire at threat aircraft only on order of their company or battalion commander.

Termination of the march. By properly organizing and conducting the march, the battalion commander sets the stage for the meeting battle, the first phase of destroying the threat's forces

The Meeting Battle

Characteristics. The rapidly changing situation, the presence of gaps and open flanks, and freedom of maneuver allow the more able and aggressive commander to defeat forces of equal and even superior strength. The meeting battle may occur—

- In a surprise attack when the threat is attempting to occupy forward defensive positions.
- During a breakthrough when approaching threat reserves are encountered.
- In the defensive when a counterattack is ordered to destroy an threat penetration.

To achieve success in the meeting battle, the Soviets-style armies stress—

- Continuous reconnaissance.
- Immediate reactions of battalion commanders.
- Beating the threat to the punch with fire and maneuver.
- Well-organized CS.

Objective. From the point of contact, the depth of the objective could be up to 8 kilometers, which is the length of a threat battalion column in march formation. If it is unable to achieve this objective, the advance guard of the regiment is tasked with delaying the largest possible threat force and giving the rest of the regiment the time and intelligence data to enable it to enter the battle effectively.

Command and control. The battalion, acting as advance guard, operates 5 to 10 kilometers ahead of the regimental main body. The battalion commander cannot be as tightly supervised as usual. Moreover, the fluid, dynamic nature of the meeting battle imposes additional strain on the battalion commander in his efforts to control the actions of his subordinates. The increasing mobility of his forces and those of the threat, continually reduce the limited amount of time a commander has to organize a meeting battle.

Once contact has been made, radio is the primary means of control. Instructions by the battalion commander are brief. Tactics are based on well-rehearsed battle drill.

Conduct of the meeting battle.

Initial stage. The meeting battle commences when the advance guard's advance detachment clashes with the threat security forces. The advance detachment attempts to destroy the threat and continue its mission, or if forced on the defensive by a superior threat, to hold its position and support the attack by the main body.

Deployment. The commander moves forward quickly to make an estimate of the situation, and issues orders to his attached artillery. The artillery deploys from the march, supports the advance detachment by fire, and prepares to support the deployment and attack of the main body. Having formulated his plan, the MRB commander gives changes regarding attachments and orders the deployment of his unit. He attacks in one echelon, retaining one or two platoons in reserve. The battalion rear service elements are moved will forward. The battalion commander's coordinating instructions include—

- Mission of the forward security element of the advance guard.
- Artillery (to include mortar) FS plan.
- Sequence of deployment for the tank and MR units.
- Combined arms coordination.
- Coordination signals (made originally prior to the march, they are given last minute refinement).

The regimental commander is notified of his advance guard commander's plans for the meeting battle, and supports him with artillery fires when within range.

The attack. In most meeting battles, the threat has not had time to prepare the terrain, create a fire plan, or deploy AT weapons. To take advantage of these factors, the battalion normally attacks mounted, with tanks

preceding the MR troops and supported by artillery and mortar fire. Should threat AT fire be heavy, the MRB attacks dismounted. When attacking dismounted, the infantry stays within 200 meters of the tanks to render mutual support. BMPs support the armor infantry attack by fire. If AT fire is strong, attached tanks stay back with the BMPs and support the attacking dismounted infantry by fire.

A concealed approach to the deployment line is used. Specific attack frontages depend on METT-T and weather. Two companies in the first echelon and one acting as second echelon or reserve is normal. The battalion frontage would be about 1 kilometer. When all three companies attack abreast, the frontages would increase to 500 meters per company front with 200 meters lateral interval between companies. Terrain restraints may not allow the battalion's subelements to attack on line; companies are echeloned (right, left) or attack in wedge formation. The attack is developed into the depths of the threat formation rapidly. There is no mopping up of small threat groups as this task is handled by the regimental main body.

Termination. The meeting battle at battalion level terminates when the threat has been destroyed, forced to retire, or when the MRB has to assume the defensive. In the first two situations, the MRB resumes the march or launches pursuit operations. If forced on the defensive, the battalion attempts to inflict maximum casualties and buy time for the regiment to deploy. In the latter case, the advance guard MRB supports the attack of the main body fire.

The Breakthrough

Characteristics. Breakthroughs are conducted against three types of defenses: hasty, positional, and fortified. The difference between positional and fortified defenses is one of degree, with the latter being better prepared more complex, in greater depth, and therefore more difficult to breach. Weapons employment affects attack frontages and formation in a breakthrough operation. Large amounts of conventional artillery are concentrated to support the breakthrough effort, which is usually directed at the weakest point in the threat's defenses. The breakthrough sector, regardless of the type of defense it is directed against, attempts to concentrate numerical superiority in men and equipment on a narrow sector, while pressure is maintained along breakthrough sectors as well.

Objective

The objective of the breakthrough is threefold: to split and disperse the threat's defense, to conduct the pursuit, and to complete the destruction of threat forces. The MRB is assigned an immediate objective of 1,000 to 1,500 meters; that is, a distance just beyond the depth of the threat's forward defending companies but short of his reserve positions. The MRB's subsequent objective encompasses threat reserves to a depth of up to 4 kilometers from the FEBA.

Organization for Combat

The Soviets-style armies achieve desired superiority in men and equipment for the breakthrough by concentrating (for a relatively short period of time) on a narrow frontage. The MRB is heavily reinforced with up to two tank companies, one or more artillery battalions, a platoon of combat engineers (equipped with flamethrowers and obstacle-clearing equipment), and a chemical detachment. When attacking on a 1-kilometer frontage, the MRB commander could have 60 to 100 mortar and artillery tubes in support.

Attack Frontages and Formations

The MRB may attack as part of the regiment's first or second echelon. As part of the first echelon, it normally attacks with three heavily reinforced companies: two in the first echelon (or with all three companies in the first echelon against a hasty defense) attacking on a frontage of about 1,000 meters, and one in the second echelon (reserve). If the threat's defenses, particularly his AT defenses, have been sufficiently neutralized, the battalion would attack mounted—otherwise dismounted. METT-T determines the battalion formation, although for control purposes, an attack on line is preferred over echelon (right, left) formations.

Command and Control

The battalion commander is supposed to be within 500 meters of his first echelon. The battalion chief of staff is located with the battalion commander. When an artillery unit is attached to the MRB, the artillery commander will normally accompany the MRB commander; the mortar battery commander will also be closeby, while FOs (from attached artillery) will accompany the first-echelon companies. When the MRB

leaves the AA, the battalion commander, with the attached artillery and mortar battery commanders, is located where he can best control his unit. Company and platoon leaders are at the head of their respective elements. Guides are also employed to ensure speed and aid in control of the battalion.

Though radio is the primary means of control in the attack, flags, flares, and messengers are also used. The CP is located from which the commander may best observe the attack. The CP is rarely moved during a counterattack, on commitment of the reserve, during a transitional phase (such as switching from the attack to the defense), or during heavy threat air attack.

Breakthrough From the March

Normally, when the MRB, acting as part of the regiment, attempts a breakthrough from the march, it will first occupy an AA to make final preparations for the assault. When properly chosen, the AA provides dispersion, offers security from threat observation and fire, and makes it more possible to achieve surprise.

Attempting a breakthrough from the march entails strict coordination of deployment times with FS, engineer support, and movement control. It may also be conducted through forces in contact, thus involving a passage of lines. This type of operation involves extensive coordination with the unit to be passed through.

In addition to METT-T, the determinant for the battalion's attack frontage is to create the required superiority in men and equipment from the threat FEBA all the way to the battalion's subsequent objective. The depth of the battalion's immediate and subsequent objectives also varies according to METT-T.

MRB formation also depends on METT-T. Line formation is usually used in open terrain and when the threat FEBA is comparatively straight. The line formation allows maximum firepower to the front and facilitates C2. The wedge is commonly used in the depth of the threat's defenses, after breakthrough has been achieved. The battalion attacks from the march mounted in BMPs, although threat fire may force a dismounted or mixed attack. In the latter case, part of the MRB fights from BMPs while the other part fights dismounted.

When the MRB leaves the AA, it moves as rapidly as possible to the threat FEBA, and deploys according to the regimental commander's order. Battalion's deploy into columns 8 to 12 kilometers from the FEBA, companies form columns 4 to 6 kilometers from the FEBA, and platoons 1.5 to 4 kilometers from the FEBA. Squads form assault lines as close as possible to the threat (usually within 300 to 1,000 meters of the FEBA).

A 30 to 45 minute artillery preparation is planned to inflict maximum damage on the defender up until the time that the assault line is reached; artillery and mortar fires are then shifted into the depths of the threat's defenses. Breaches are made through minefields by a combination of artillery fire, tanks, and sappers. Tanks (equipped with KMT-4 mineplows and the KMT-5 mineroller assemblies) of the leading battalion in the main attack, with supporting infantry and sappers, clear one path per attacking platoon (three per company). MTK-Zs, hurling explosive line charges, clear paths several meters wide and a few hundred meters long, and are supplemented by sappers armed with the UZ-series bangalore torpedoes, each of which can clear a lane 2 to 3 meters wide.

MR troops follow tanks through breaches made in minefields and then deploy in line behind the tanks and assault the threat's forward positions. The actions of the battalion change most dramatically after the forward defenses have been breached. Tank-supported first-echelon companies attempt to exploit success and widen the gaps in the defenses as rapidly as possible. Efforts are made to prevent the threat from reestablishing his defenses, or withdrawing in an orderly fashion. Strongpoints established in the depth of the defenses are bypassed whenever possible.

The reinforced second-echelon (reserve) company would be committed to aid a faltering first-echelon unit, to exploit the success of the first echelon by continuing the attack into the depths, or to deal with a counterattack.

Breakthrough From a Position in Close Contact

Factors increasing the complexities of this type of attack are—

- The constant threat of nuclear and conventional fire, necessitating the dispersal of personnel. Assault positions must, therefore, be only briefly occupied.

Ž The difficulty of concealing attack preparations; elaborate ruses must be devised to achieve surprise.

- The threat of sudden threat counterattack during the passage of lines.
- Elaborate engineer preparation of the assault line.

In addition to the problems he dealt with when organizing an attack from the march, the battalion commander also determines the following:

- The assault position his battalion will occupy, and the routes they will use to occupy it.
- BMP locations and procedures for using them in support of the dismounted attack.

Ideally, the MRB occupies the assault position during darkness or other periods of reduced visibility. BMPs are initially left in the rear (moving up to revetments when given a signal) while dismounted infantry move to their assault positions by way of concealed routes and communications trenches. To achieve surprise, the MRB's first-echelon assault companies will occupy the second trench of the defending forces (see Figure 4-84). During preparatory fires, the first-echelon assault companies occupy the first trench and the second-echelon company (reserve) occupies the second trench; attached tanks occupy a designated AA and are given a start line, normally located 1 to 2 kilometers from the FEBA; attached engineers are located in communications trenches close to the companies they will support; the battalion mortar battery and attached and supporting artillery occupy positions prior to the time the MRB occupies its assault positions; the battalion medical point is located just behind the second-echelon (reserve) company; the remaining battalion rear service elements are further back, but generally within 4 kilometers of the FEBA.

Forces relieved by the MRB during the passage of lines will do one of three things: retire to the rear, support the attack by fire, and/or join in the attack. In the first case, they may be formed as a reserve or sent further to the rear for rest; in the second, their organic and attached weapons would participate in the preparatory fires in support of the attack; in the third case, they would support the initial assault by fire and participate in one of the regiment's attacking echelons.

When given the attack signal, first echelon assault companies, following closely behind their attached tanks and supported by BMP fires, penetrate the threat's forward defenses and attack his reserves. The battalion commander and his staff follow closely behind the first echelon and, in turn, are followed by the battalion's second echelon (reserve). Mortars, attached artillery, and air defense forces move on order to support the attack into the depth of the defenses (see Figure 4-85).

The Pursuit

Objective. The objective of the pursuit is to prevent an organized withdrawal and complete the destruction of threat forces as rapidly as possible. The MRB attempts to achieve these objectives by the mobility and firepower of the battalion and its attachments. The MRB normally conducts the pursuit (as part of the regiment) frontally, on parallel routes, or by a combination thereof.

Conduct of the pursuit. Aware that the threat is withdrawing, the MRB commander reorganizes his forces as necessary, maintains close contact with the threat, and informs the regiment of his actions.

The regimental commander radios his orders to the MRB commander to conduct a pursuit. A battalion is usually assigned a pursuit axis, told what threat forces to destroy and the objectives to be seized. The battalion commander radios missions to his organic and attached units while on the move. The depth of the objectives depends on the situation.

The battalion, attacking initially in its former formation—a first and second echelon (reserve)—first attempts to destroy the withdrawing threat's covering force. Having done so, the MRB either deploys into a single column in march formation or conducts the pursuit on parallel axes. In the former case, a company reinforced with tanks, engineers and chemical troops forms the forward patrol of the advance guard, and a series of meeting engagements take place. In a pursuit on parallel axes, the battalion sends out stronger security elements to the threatened flanks.

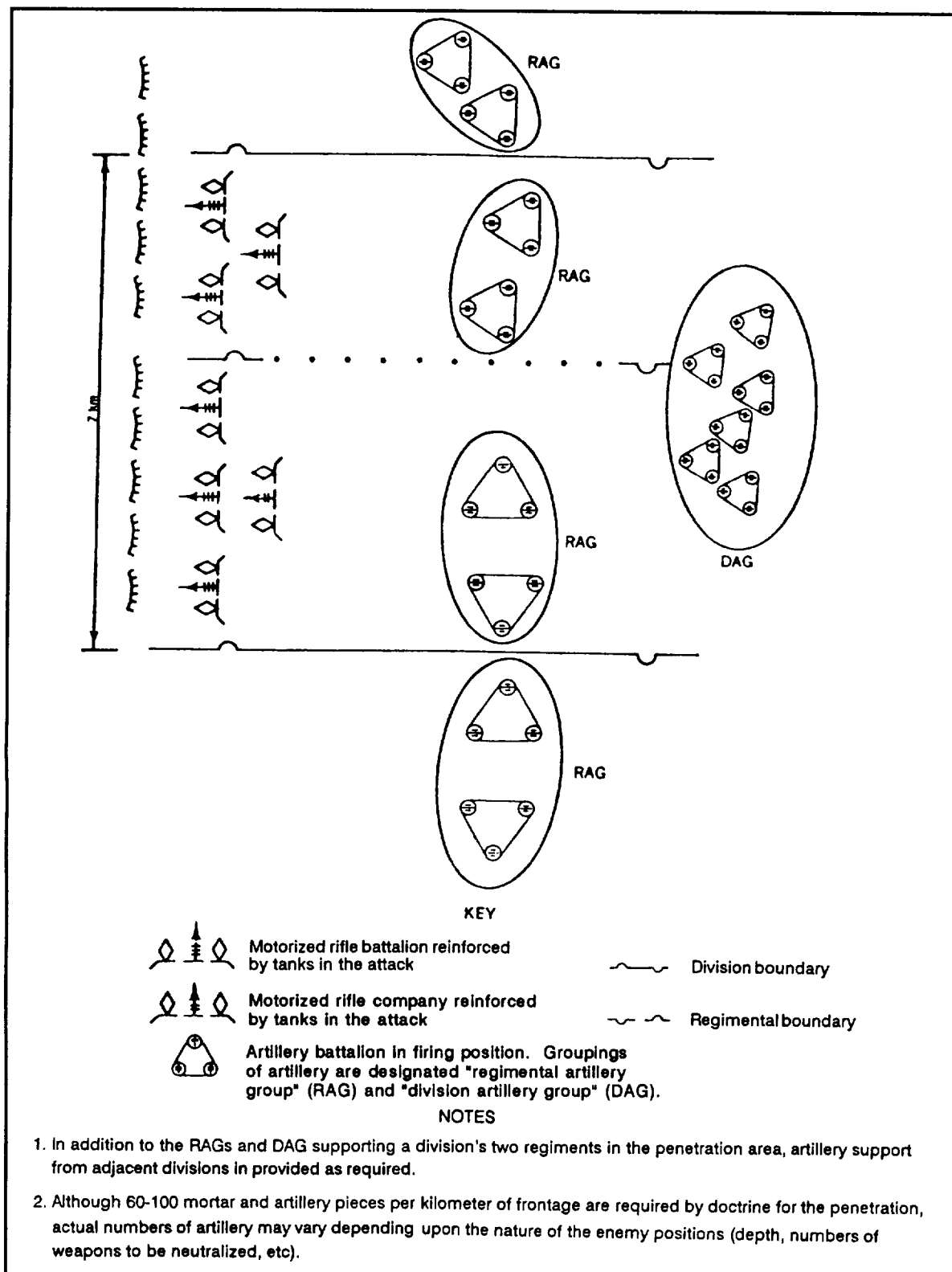


Figure 4-84. Artillery support for first-echelon battalions in the breakthrough.

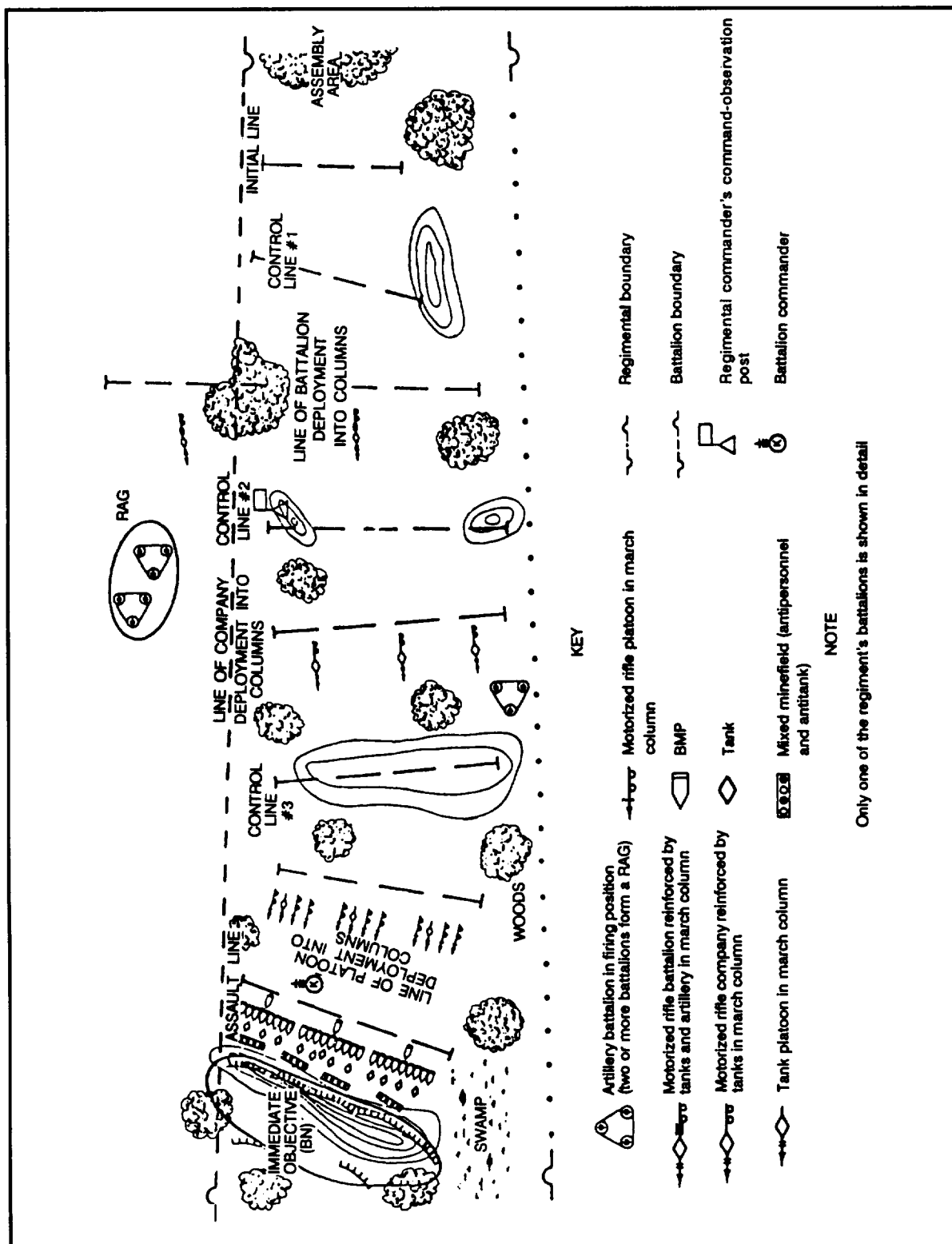


Figure 4-85. A reinforced motorized rifle battalion deploying from the march to participate in a division breakthrough operation.

Attached engineer and artillery units play a key role in pursuit operations. Engineers remove obstacles, prepare detours around damaged parts of the route, and lay mines on the threat's withdrawal routes and probable counterattack axes. Artillery fires up to maximum range deploying from columns in less than ideal firing positions. Artillery must be able to come out of action quickly and rejoin the march formation. Prompt receipt of target data determines the success of the artillery during the pursuit. The new self-propelled artillery units are especially well suited for pursuit operations. Heliborne and/or airborne forces seize key terrain in the threat rear, thereby disrupting threat withdrawal.

Rear service personnel of the battalion follow behind the combat formations, and keep the regiment informed regarding the medical, supply and maintenance status of the MRB and its attachments.

Conduct of the Tank Battalion Attack

Tank Battalion Support

A tank battalion is supported by the fire of artillery and aircraft and has the following attachments from other arms in the offensive:

- One MRC.
- An engineer platoon.
- Ž A NBC reconnaissance platoon.
- Ž Armored recovery vehicles, supply vehicles, and ambulances.

Echelons

A battalion usually attacks in two echelons. The second echelon, which may be one tank company, follows the first echelon at a distance of 3 kilometers. If the first echelon fails to reach its objective, the mission is taken over as a priority task of the second echelon. When the first echelon takes its objective, the second echelon is used to exploit success. The second echelon is frequently (but inaccurately) referred to in military writing as a "reserve". The true reserve (usually one tank platoon) is formed by the battalion commander. The reserve is not given a mission at the outset of an operation. It is used to contend with unforeseen contingencies and to make a shift in the thrust of the operation.

Attack Frontages and Depths

Terrain, the degree to which the threat force has been neutralized, and whether there is to be use of nuclear weapons, dictate the frontage of a battalion during an attack. The distances shown in Figure 4-86 may be taken as typical.

A battalion attack in two echelons is normally carried out to a depth of 3 to 4 kilometers. After preparation fires, the first echelon carries out an attack to overcome the threat forward positions. When the first echelon has consolidated its position and the second echelon has consolidated its position, the second echelon attack is delivered against the threat's positions in depth.

UNIT	NUCLEAR CONDITIONS	NONNUCLEAR CONDITIONS
Battalion (Wedge Formation)	2 kilometers	1.5 kilometers
Company	800 meters	500 meters
Platoon	200 meters	150 meters
Tank Intervals	100 meters	75 meters

Figure 4-86. Chart of attack frontages and depths.

Relative Strengths

The Soviet-style armies judge that the usual preponderance of attackers to defense should be between 3 and 5 to 1 in tanks. But a threat force that is two or three times as strong as the attacking force may be

engaged if preparation fires have effectively neutralized the threat defensive position. This inversion of usual attack defense ratios shows the effectiveness the Soviet-style armies expect from the destructive force of nuclear weapons and heavy artillery fire.

Fire Support

FS for the tank battalion is normally arranged by the regimental commander. Artillery is allocated from division resources. FS may be augmented by direct or indirect fire of tank units not taking part in the attack. Preparatory fire is usually on a timed basis and can be up to 40 minutes in length. Artillery attached to an attacking tank battalion covers the movement of the battalion's first echelon. During the final assault, artillery engages threat reserve positions. Soviet-style tanks close to 150 to 200 meters of artillery fire during the advance. Artillery targets in support of second echelon mission are selected by the tank battalion commander after consolidation of the first echelon objectives.

Smoke

Smoke may be used before or after the start of an offensive. Before the offensive starts, the control of smoke is likely to be retained at regimental level or higher. When the battalion penetrates the threat defenses, the battalion commander may call for smoke either to conceal a flank or to confuse the threat as to the direction of the attack. The Soviets-style armies recognize the value of smoke in obscuring the field of vision of ATGM operators. Since the tank unit commanders regard ATGMs as the threat's most dangerous AT weapon, we believe that smoke will frequently be used.

Attack On a Prepared Position

Deployment. A tank battalion requires an initial deployment area of 8 to 10 square kilometers to prepare for an attack on a prepared position (see Figure 4-87). The area should be out of threat observation, allow for camouflage, and have good access roads. In this area tanks are resupplied with ammunition and POL and are prepared for combat. Preliminary orders are given and units from MR and other attached units join the tank companies. A point at the front of the deployment area is designated the departure point from which subsequent movement is timed. Once the battalion starts its advance no stops are made, although movement control points may be established approximately every 1 to 1-1/2 hours march along the route. Routes are sometimes posted with colored markers. An area is selected some 4 to 6 kilometers from the threat position for companies to deploy into column. Companies move into a column of platoon 1 to 3 kilometers from the position depending on the terrain, and into an assault line 1,000 to 500 meters in front of the threat position. Second-echelon companies remain approximately 3 kilometers behind the first echelon in the advance movement.

Reconnaissance. When a battalion attacks from a position which is behind the FEBA, the battalion commander makes reconnaissance on the ground with the commanders of his tank companies and attached units. The battalion commander and the reconnaissance group follow the planned route of advance, and familiarize themselves with the departure and control points and those deployment areas behind their own FEBA. Detailed reconnaissance is made of fords and other critical points. Areas to be used as second echelon deployment areas and by the battalion medical aid station and the battalion support group are confined. Radio communications are established with units which are to support the tank battalion with fire. In the assault, the battalion commander maintains personal surveillance over the battlefield from his CP. The battalion commander is able both to transmit to the regimental commander updated tactical intelligence and to personally influence the battle.

Estimate. An estimate is made of the amount of neutralization possible. Special attention is given to identifying the threat tank and ATGM threat. The location of the battalion CP, the fire positions of attached AP carriers, and dismounting areas for motorized infantry are planned.

Attack coordination. The tank battalion commander is responsible for coordinating passage of lines, and supporting fires of attached units and those along the FEBA which are within range. This coordination is worked out within the fire plan laid down by the regimental commander. Movement timings are planned so that the battalion attacks as soon as possible after air or artillery strikes.

Obstacle crossing. A tank battalion crosses minefield after clearance of platoon lanes by engineer units or by battalion tanks equipped with mineplows. Each tank company holds three sets of mineplows which may be fitted when required. Such clearing operations may be covered by use of smoke. Engineer units create

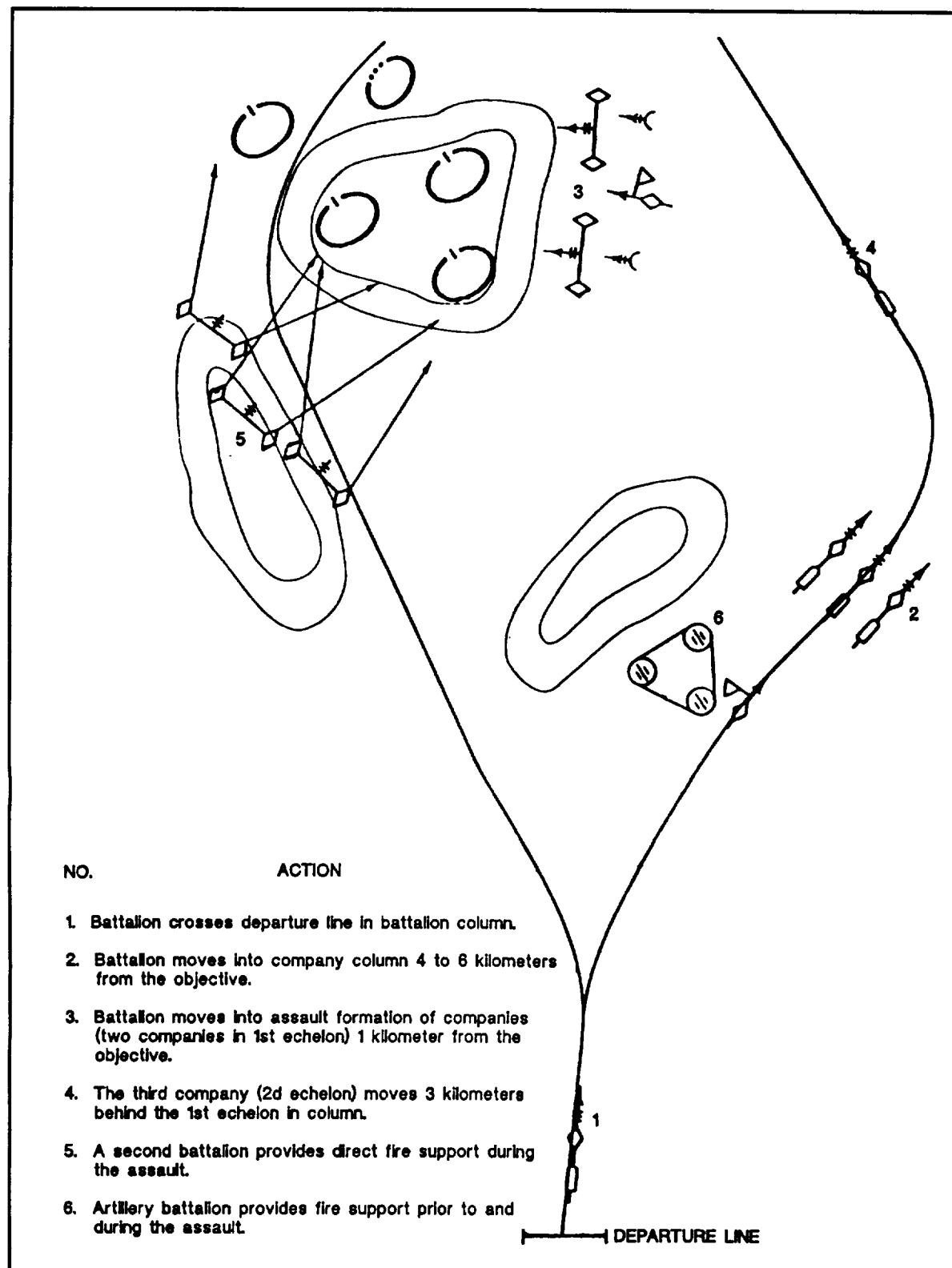


Figure 4-87. Tank battalion deployment during an assault on a prepared position.

passages in obstacles (including minefields) by demolition, usually during the preparatory artillery barrage. Once made, these passages are marked and guarded by engineer units. Narrow defiles, canals, or streams which could impede the attack are bridged by engineer units.

Assault action. Following preparatory fires, the first echelon of the battalion assaults in company line formation. An assault speed of 14 to 22 kmph is usual. Tanks engage targets according to the priority set by company commanders. This strict fire control ensures the concentration of fire. Dismounted infantry follow the tanks as closely as possible to gain cover from fire. Infantry in APCs follow 150 to 200 meters behind the tanks. Second echelons assault through gaps in the first echelon. The battalion consolidates on the objective once it is taken and threat counterattacks are neutralized by artillery fire. The battalion commander then calls the battalion support group forward to replenish POL and ammunition or continues the advance as ordered by the regimental commander. Damaged tanks are repaired in the battalion position if and when possible. Each deputy company commander for technical affairs is responsible for the vehicles of his own unit. Technical assistance is provided where necessary by regiment. A separate technical radio net is established and supplemented by audio and visual signals as needed. Human casualties are evacuated once the tank is moved into a covered position.

Second Echelon Tank Battalion in a Regimental Attack of a Prepared Position

Concept. The tank battalion in the second echelon of a regiment's attack on a prepared position can have one or more of the following missions:

- Completion of the mission of first echelon units.
- Destruction of threat deep or reserve positions.
- Neutralization of threat counterattacks.
- Pursuit of a withdrawing threat.
- Attack of threat hasty or mobile defensive positions.
- Destruction of threat nuclear delivery means.

Since achieving such objectives can result in many changes in the routine described for a first echelon unit, each stage of planning is abbreviated. Success usually depends on the initiative of the regimental commander and his close monitoring of the status of the first-echelon units.

Second-echelon planning. The battalion commander in the second echelon must be thoroughly familiar with the missions of the first-echelon units. This includes a knowledge of fire planning and FS. He also receives the following information from the regimental commander:

- Details of attached and detached units.
- Intelligence information on known threat positions in depth and reserves.
- Deployment areas and routes of advance.
- The priority of likely missions and objectives.

Once his mission is defined, and after making his estimate of the situation, the second echelon tank battalion commander issues his orders by radio.

Attack on an Threat Hasty Defense

Concept. The Soviet-style armies consider that an threat will move into a hastily prepared defensive position-

- At the outset of operations.
- When making contact with an advance guard.

Ž During mobile defensive operations.

- When the Soviet-style armies have the initiative during withdrawal or pursuit operation.

Deployment. The breakthrough of an threat hastily prepared defensive position is attempted from the line of march usually after a successful attack on a prepared position (see Figure 4-88). The tank battalions which

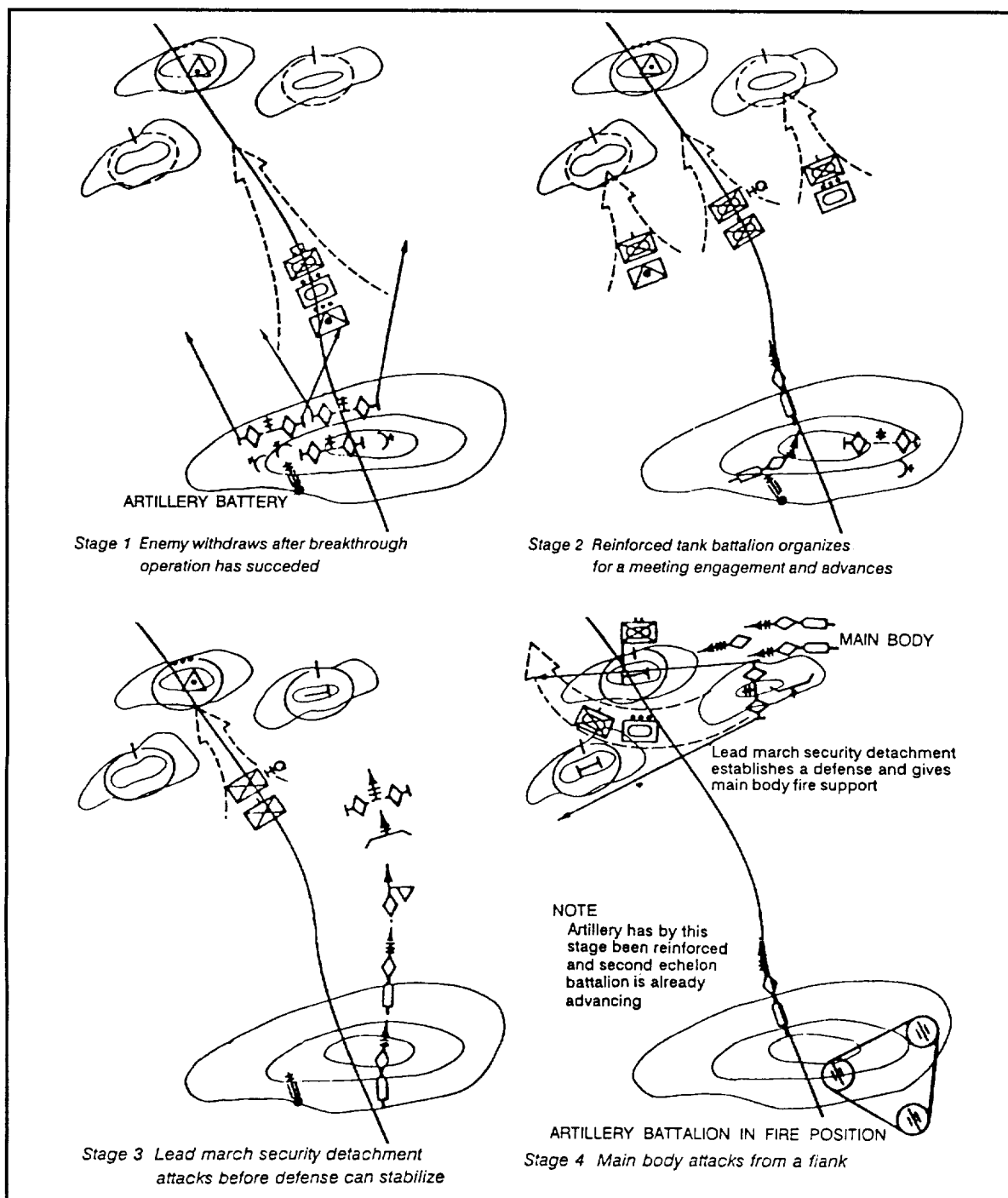


Figure 4-88. The stages of an attack on a threat hasty defense.

carry out the operations are task organized and supported in the same way as for the meeting engagement. Advance guard units assault threat strongpoints and attempt to disrupt the defense before it can stabilize. The operation is dynamic and FS is utilized as it becomes available. The main body deploys into combat formation directly from the march and assaults to the flanks and rear of the threat position to prevent threat reinforcement. Initial success is exploited to force the threat to withdraw. Should the initial breakthrough of such a hasty defense fail, a further attempt is made from a different flank or axis. In this case the battalion which made the initial assault consolidates on the most advantageous terrain and gives direct FS to the attack of a second-echelon battalion.

Pursuit

Concept. Once a breakthrough of either a prepared or hasty defensive position has been accomplished, a tank battalion will reform into columns and attempt to disrupt the threat's withdrawal. Such an operation may be carried out by pursuing the threat directly, on a parallel route, or both (see Figure 4-89).

Deployment. During the pursuit, a tank battalion uses the tactical formation appropriate to the situation. The battalion remains in combat formation until the threat is forced to retreat but will form into march columns as soon as practicable, to make a rapid advance. If the battalion penetrates the rear deployment area of a routed threat, it can be expected to form into tactical columns headed by a reconnaissance element and an advance guard. The battalion commander is charged with making every effort to keep in contact with the retreating threat by means of reconnaissance patrols and flank security detachments.

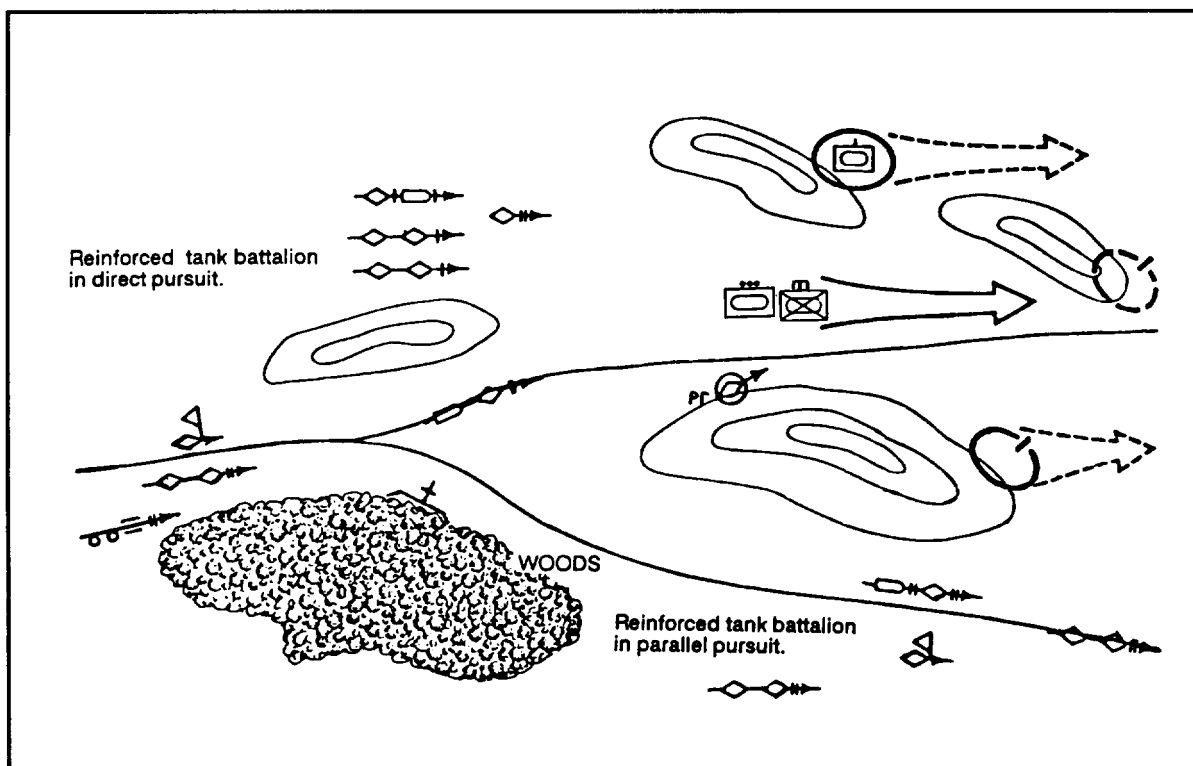


Figure 4-89. Direct and parallel pursuit operations of a tank regiment.

Defend in Sector

A company team is assigned a defend in sector mission to prevent forces from passing the rear boundary of the sector, retain flank contact and security, and ensure unity of effort with the battalion task force scheme of maneuver.

Planning

Intelligence

A company team is given a defend in sector mission due to terrain compartmentalization and unsuitability for interlocking fires. The same may not hold true for the company, with respect to its platoons. The commander prepares for his defend in sector mission by conducting a terrain analysis throughout the depth of the assigned sector. He will identify mobility corridors down to the individual vehicle and dismounted level. Often, company sectors appear to the flanks of the battalion sector. It is important that the commander analyzes the threat flank AAs in the same detail as primary AAs.

Next, the commander will identify where the threat is most vulnerable. This is identification of choke points or natural obstacles perpendicular to the threat's direction of travel. He determines where the threat will change formation, dismount, or move to bypass. The commander notes these locations, using them later in the sighting of weapons systems and obstacle and indirect fire. He will also identify possible future locations for LP/OPs or other reconnaissance assets.

Maneuver

The company commander begins his preparation by selecting where to kill the threat and possible weapon positions throughout the defensive sector. To accomplish this, a technique is to place a weapon template on the proposed engagement site (see Figure 4-90). The cross hairs are positioned on the point of engagement and each weapon's are examined. This will give the commander the maximum standoff location for each weapon. The commander may then identify possible positions for each weapon, forward of the arc. Remember the template only identifies range. It is up to the commander to also examine the line of sight from the proposed weapons positions to the target area. Another consideration involves time of flight versus target exposure time. Weapons may have the range and line of sight, but those weapons which must be "flown" to the target also requires target exposure time for the gunner to acquire, track, and kill the target.

Once the commander has identified possible weapons positions, he will designate those positions as primary, alternate, and supplementary. Also, he will tentatively identify hide-and-defilade positions. In selecting these positions he should take the following points into consideration:

- Weapon systems should be dispersed generally at a distance of approximately 100 to 150 meters apart (METT-T dependent).
- They should be selected based on their ability to engage the threat located in the corresponding EA, from the flank.
- Mutual support and interlocking fires with other weapon systems in each EA should be achieved, with platoons positioned in depth.
- Target acquisition and tracking must be possible from the position.
- Routes from primary to alternate and supplementary positions must be available/possible.

The commander identifies specific weapons locations for each EA. He establishes direct fire control measures to describe the orientation of the weapons as they relate to the EA. The far side of the EA should not extend beyond 2,000 meters from the furthest forward tank or IFV. The near side of the EA should not be closer than 800 meters from the weapons positions. These planning distances allow maximum threat destruction and avoid decisive engagement. METT-T considerations allow the commander to modify these limitations. He now combines weapon systems to form platoon locations. At this point, it becomes quite clear how to best organize the defense, whether to fight it from BPs, sectors, or both. There will be some positions which do not lend themselves to a platoon BP. These positions may prove useful as OPs or sniper positions. The commander completes the tentative plan by selecting locations for himself, the XO, the company combat trains, and adding the detail for control of direct fires.

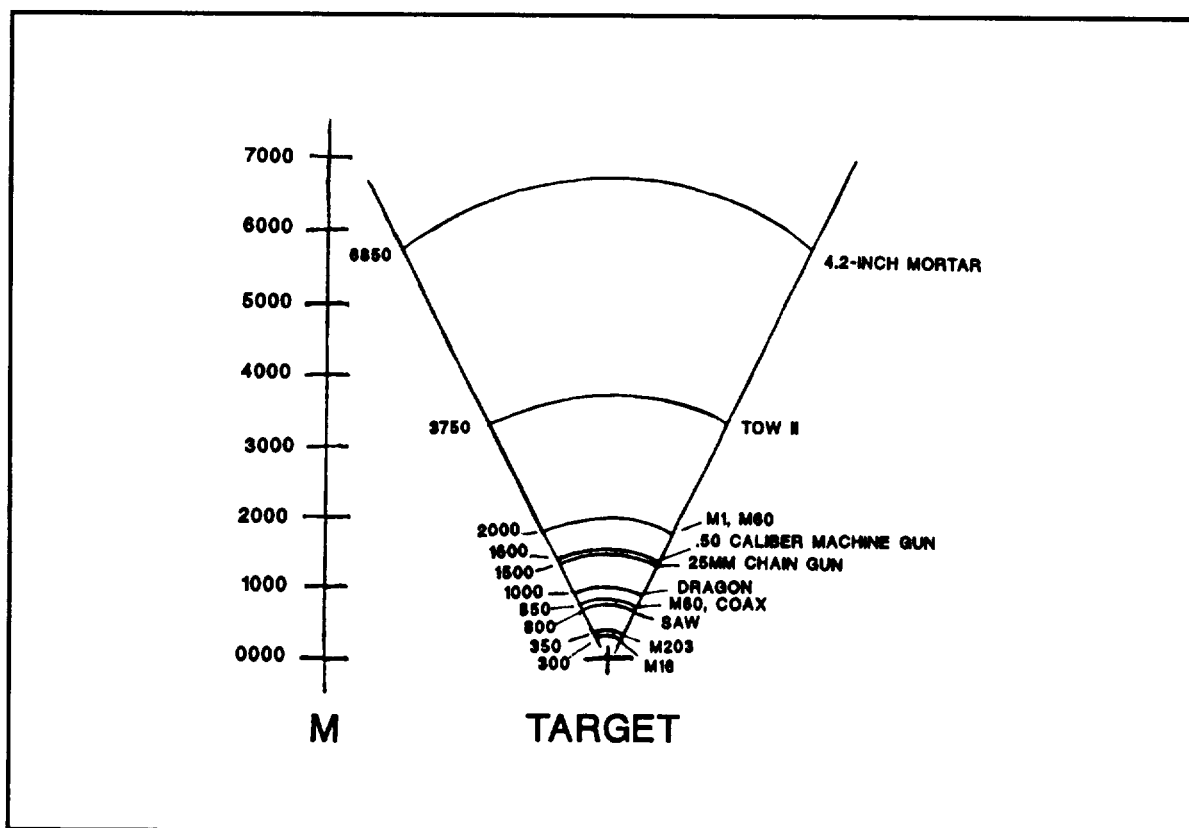


Figure 4-90. Weapon template.

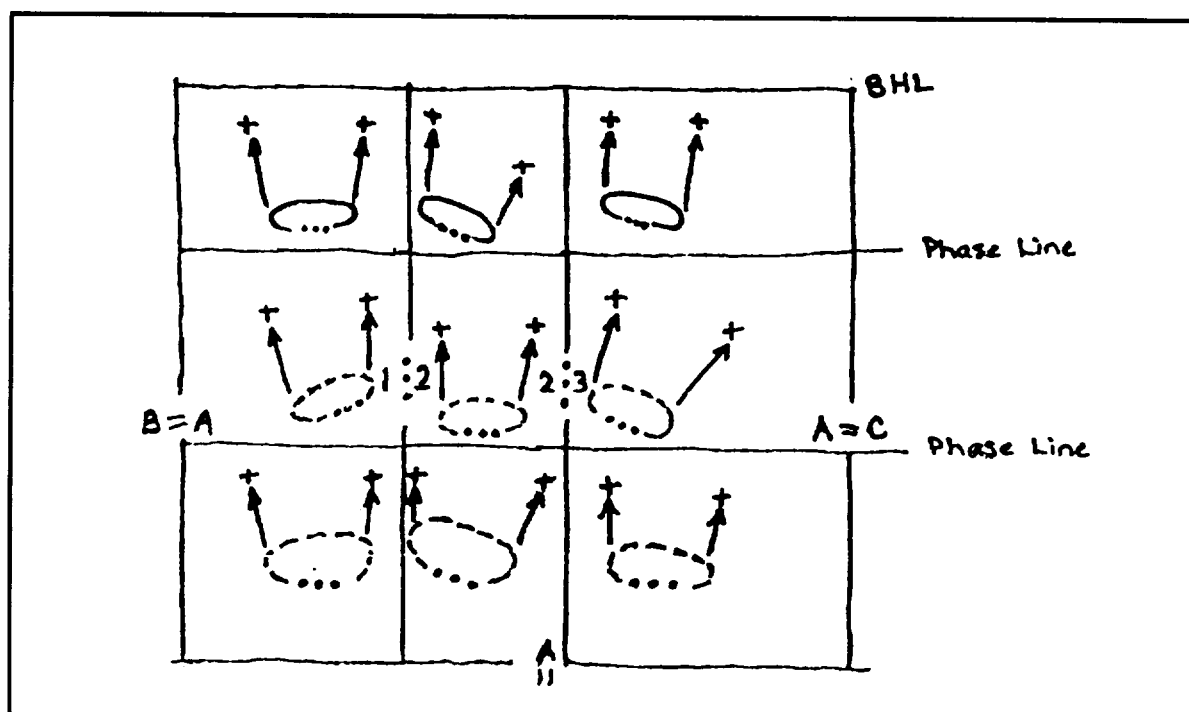


Figure 4-91. Company team defending in platoon sectors.

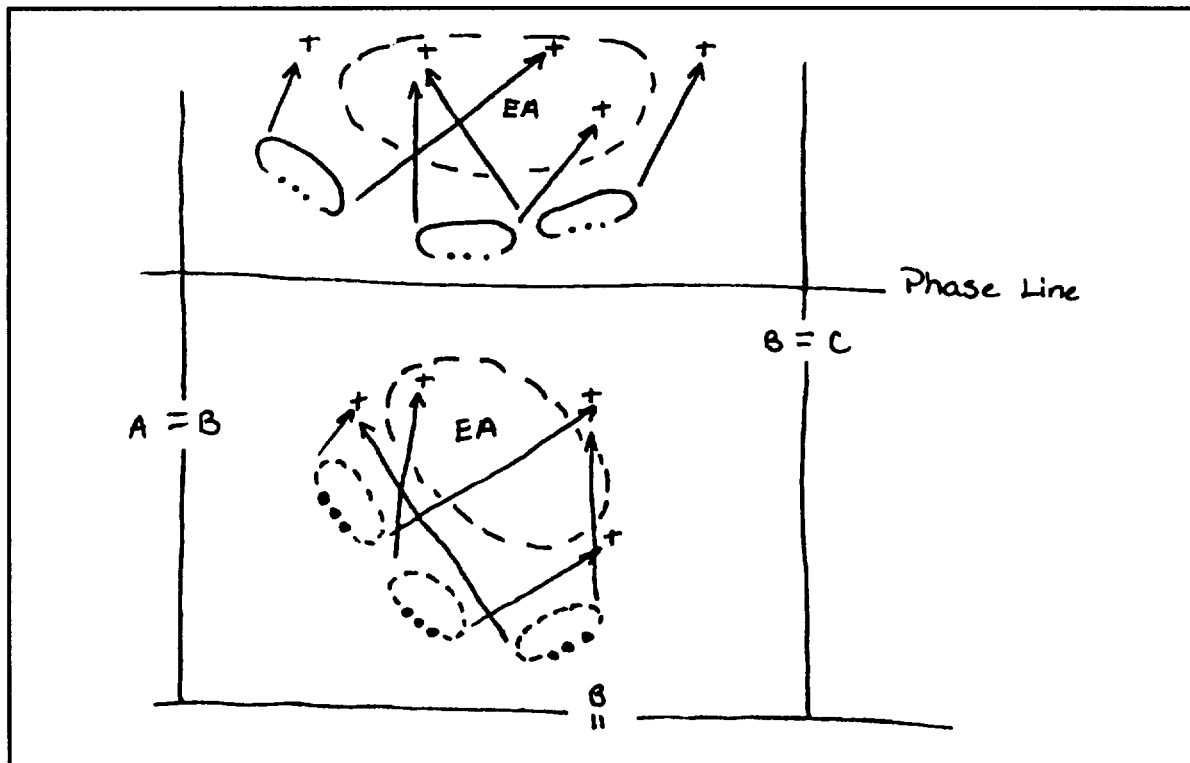


Figure 4-92. Company team defending from platoon battle positions.

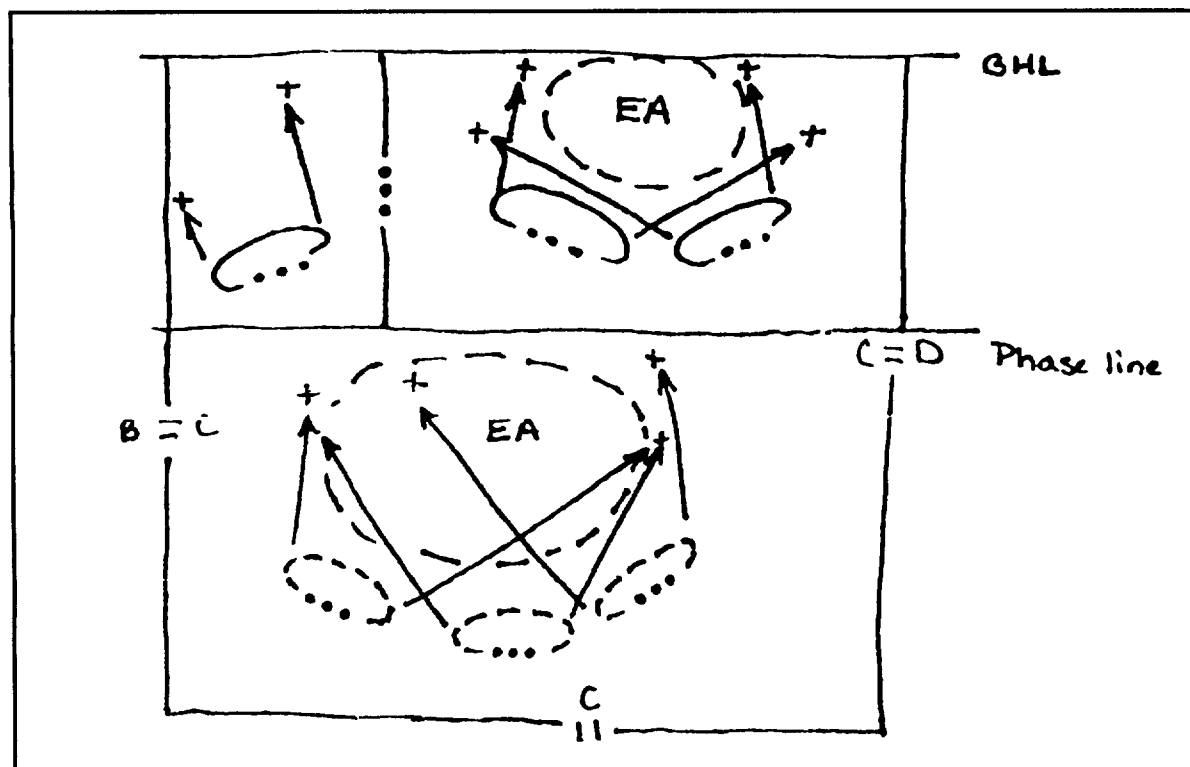


Figure 4-93. Company team defending in sectors and battle positions.

As the commander prepares his tentative plan, he must choose his course of action for the defense. He must begin by choosing from which BPs/sectors to defend and the number of phases required to execute his plan. Usually a defense oriented on an EA constitutes one phase of the operation. An operation involving a sector defense using three company EAs in succession will be fought in three phases (see Figures 4-91 through 4-93). The commander determines how to engage the threat in each EA. His goal is to maximize interlocking supporting fires in depth. This is accomplished by designating: TRPs for orientation; a maximum engagement line so that forces do not attempt to shoot at targets out of range; a trigger line to initiate shooting; and a break line to avoid decisive engagement.

As part of the defensive planning, the commander should consider the use of a counterattack (see Figure 4-94). Unlike the battalion which has four maneuver elements, the company has only three. Therefore, the counterattack force is usually one of the platoons.

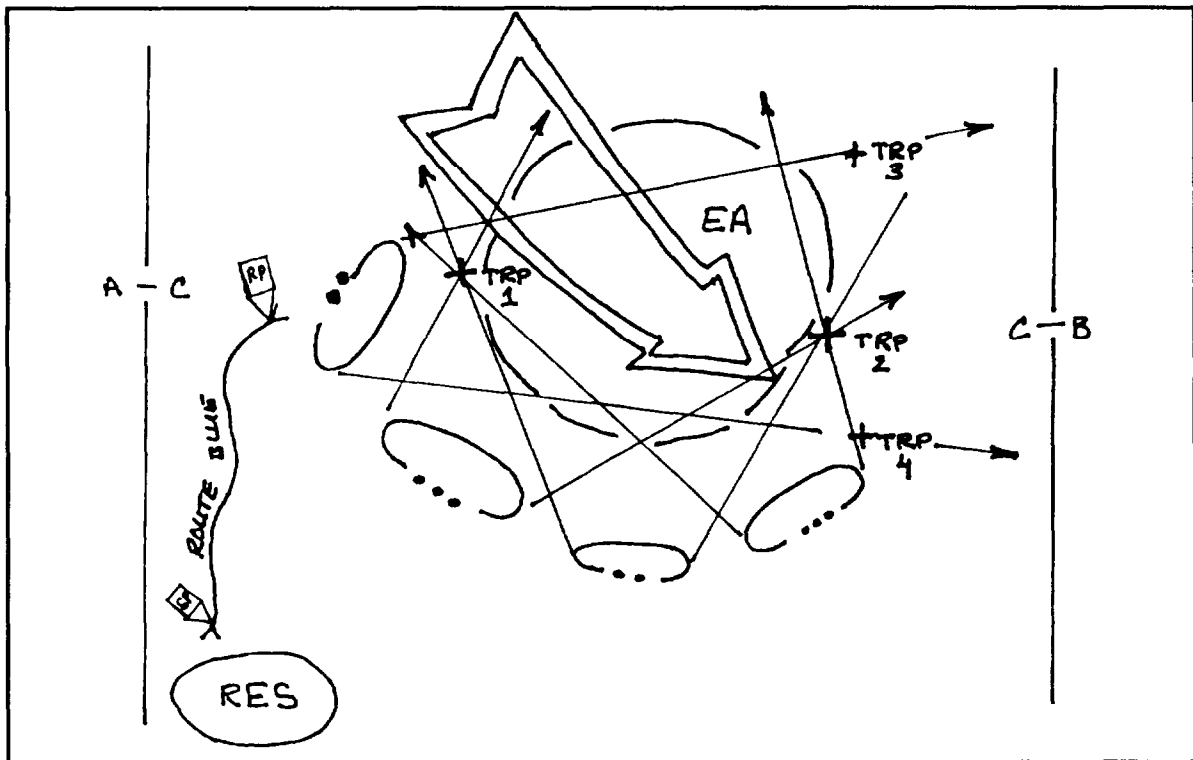


Figure 4-94. Company team counterattack by fire.

Counterattack by Fire

A counterattack by fire is executed to destroy exposed threat elements and free decisively engaged elements. When not supported by other battalion task force elements, the company team executes a counterattack by fire with one element moving on a concealed route to firing positions from which it can engage the threat in the flank and/or rear, while another element (the base-of-fire element) continues to engage. If this maneuver influences another unit's mission, the company team commander is responsible for coordination with that unit.

The maneuver element must move rapidly to its firing position to complete the counterattack before threat follow-on forces can be brought forward. Security is provided internally within the platoons using sectors of observation, assisted by the base-of-fire/overwatch element, OPs, and available battalion task force information-gathering sources. Smoke may be used to deceive the threat.

Deception is achieved by placing smoke on the maneuver element's previous positions to simulate disengagement, on the flank opposite the counterattack to deceive the threat as to location of the counterattack, or along the counterattack route.

Once the counterattack by fire is complete, the company team continues the defense against follow-on forces from the team's initial or current positions. The base of fire element may move forward to assist the maneuver element, or the maneuver element may rejoin the base of fire element on the BP from which the counterattack was launched.

The commander remains with the support by fire element to synchronize direct and indirect fires with arrival of the counterattack. The XO maneuvers with the counterattack force, assisting the platoon or section leader as necessary and providing reports to the company team commander as the counterattack occurs.

Counterattack by Fire and Movement

A company conducts a counterattack by fire and movement to destroy the threat, to relieve pressure on a friendly unit, or to regain key terrain (see Figure 4-95). The counterattack force attacks the threat from the flank and uses fire and movement to destroy the threat. The company team conducts the counterattack by fire and movement in a manner similar to a hasty attack.

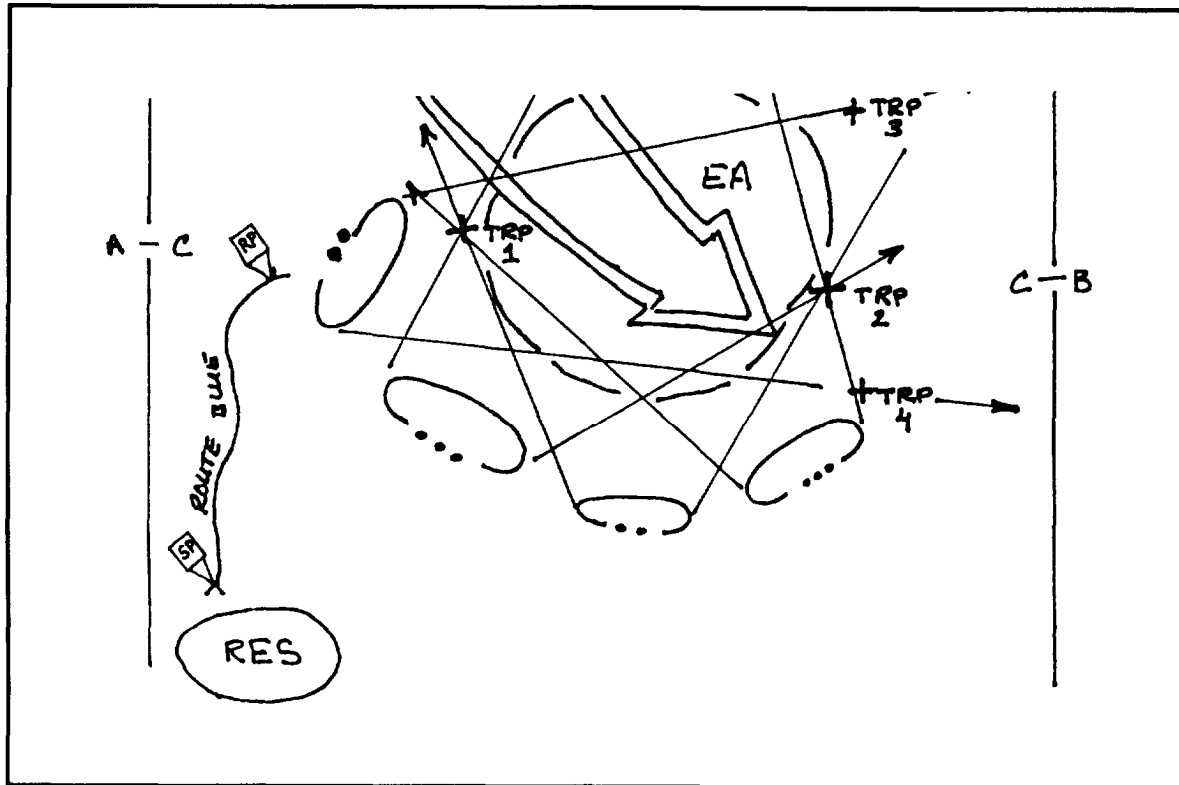


Figure 4-95. Company team counterattack by fire and movement.

The company team commander must designate the route/axis, give the formation and movement technique to be used, and give each platoon its mission, to include positions and orientation, control measures (including TIRs, checkpoints, and TRPs), and clear instructions (see Figure 4-96).

NOTE: This plan will serve as the model for subsequent discussion.

Fire Support

The commander with his FSO will prepare the FS plan concurrently with the maneuver and obstacle plans (see Figure 4-97). They begin with the battalion FS plan and identify all battalion targets within their section, as well as any priority targets issued by the battalion commander. The battalion FS plan will serve as the point of departure for the development of the company FS plan. Next, the commander will target the threat AAs.

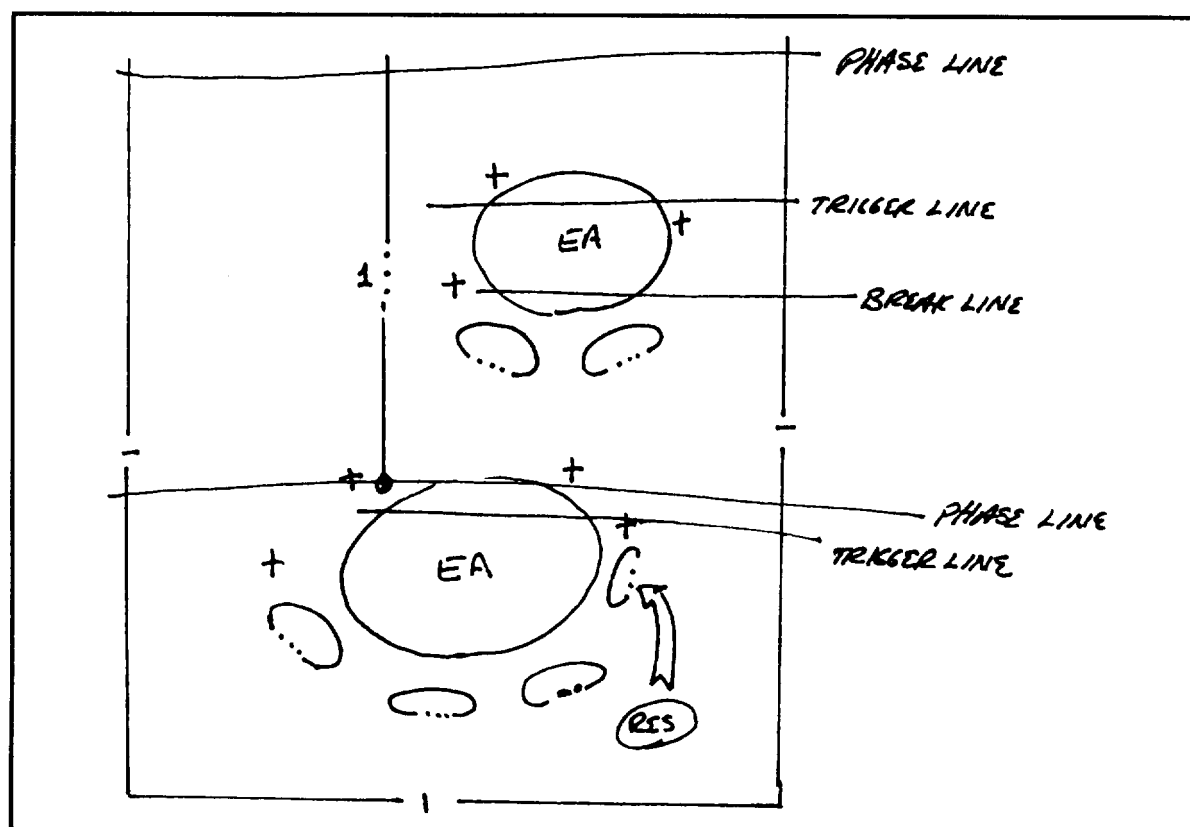


Figure 4-96. Company team tentative maneuver plan.

The primary threat AA is the most important with respect to the FS plan. The commander identifies obstacles along the avenue. Artillery targets are planned on those areas where the threat is likely to become congested. Areas within the EAs where the threat can seek cover are also targeted.

FPFs are planned for BPs, which stand to be overrun should the threat penetrate. The BPs are targeted, so if the threat occupies the BP, artillery may be fired with effect.

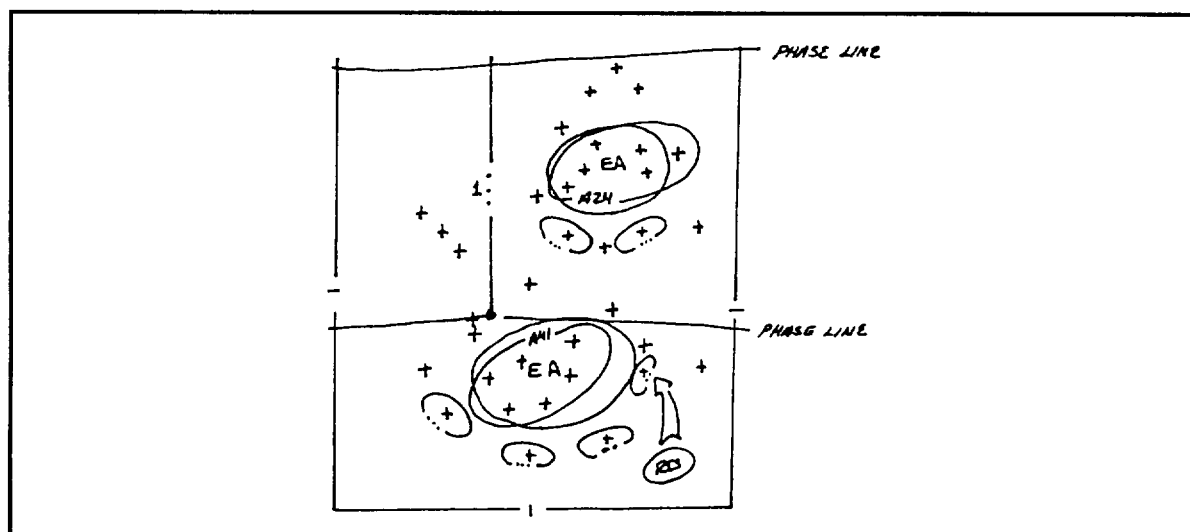


Figure 4-97. Company team sector defense fire support plan.

Mobility, Countermobility, and Survivability

The commander identifies a site for each obstacle within the sector, so that it is covered by observation, and direct and indirect fire. It is important to remember that the battalion obstacle plan will determine the purpose and physical characteristics of the obstacles. To ensure proper obstacle emplacement, the engineer, together with the platoon leader, will ensure that the obstacle is positioned to where it can best take advantage of terrain while maximizing the effect of direct fire. A good example of this is to site the obstacle on the reverse slope of an AA. The threat will not discover the obstacle until he is exposed to the overmatching direct fire. Breaching the obstacle becomes difficult as engineer equipment must also become exposed to the direct fire. Indirect fire will be called against the threat on the other side of the slope. Figure 4-98 depicts this concept.

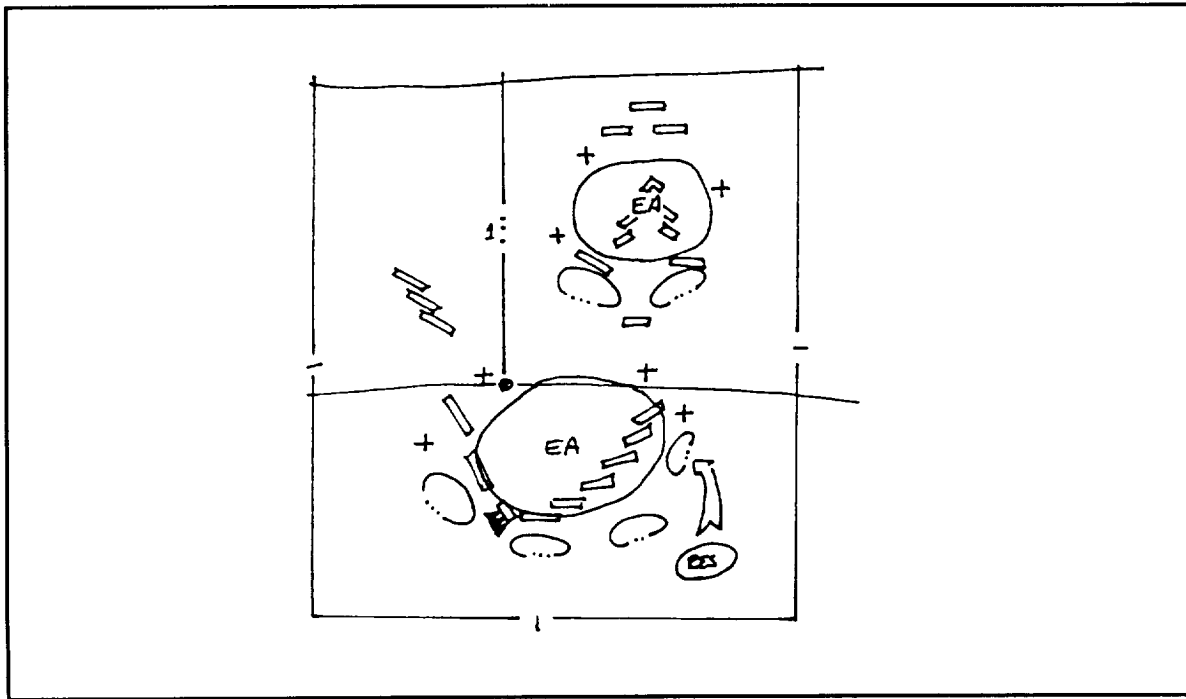


Figure 4-98. Company team obstacle plan.

Before actually emplacing the minefields or other countermobility obstacles, the engineers should physically stake the outline. The maneuver commander and the engineer commander can assess the complete obstacle layout. It is important that the obstacles are covered by direct fire and sited as a complete system intended to shape the threat's movement. Once the obstacles are planned by the battalion, the company commander ensures that obstacles are placed to deny use of dead space within the EA.

Air Defense

The air defense plan for the sector defense will be based on the likely threat air AAs, which may or may not correspond to the ground maneuver plan. The Stinger teams are positioned close enough to the ground fight to protect the maneuver elements, yet distant enough from the fight to execute their mission unencumbered. Company combat trains locations may be reconciled with the ADA defense plan, thus allowing both elements to operate effectively.

Combat Service Support

It is essential that the ISG know the exact location of each BP. If possible, prestocks of ammunition and other expendable supplies may be positioned on the subsequent platoon BPs. Routes from each BP to the company supply route should be reconnoitered to ensure trafficability. The ambulance drivers must have the operational/support graphics. Each combat vehicle must know the location of the company combat trains. The

company combat trains should be approximately one terrain feature behind the maneuver elements. In open terrain where this rule may not apply, about 3,000 meters is appropriate standoff from potential threat direct-fire weapons. Remember that the recovery and evacuation assets must be able to respond as quickly as possible to the maneuver platoons.

Command and Control

The sector defense poses a special set of challenges to the company commander, particularly if he selects a defense of three platoons in sector. Should one platoon withdraw to its subsequent positions prematurely, a gap will be created. The same holds true for the company in relation to its flank. To control this movement, PLs should delineate each phase of the operation. Units report crossing each PL as they move to their next positions. Routes from position to position must be planned and coordinated with the obstacle plan so that the commander will know how long it will take a platoon to move.

The commander's fire control must dovetail with the battalion commander's intent. The point to remember about fire planning at the company level is that the company commander will plan his platoon positions to maximize their effectiveness within the parameters established by the battalion commander. The company commander ensures his platoons fire at the designated trigger line, but their positioning will maximize the destructive effect by achieving fires in depth, and repositioning to take advantage of exploitable threat weaknesses.

The company commander must plan to be located where he can see the battlefield. His location must allow him to assess the situation and seize every opportunity to achieve "offensive" actions in the sector defense. Without clearly visualizing the battle, he will be unable to enter the threat's decision cycle to optimize destruction.

Preparation

Intelligence

The company commander verifies his IPB by driving or walking the AAs likely to be taken by the threat. He should put himself in the place of the threat commander and approach the defensive sector looking for places likely to be occupied by a defender. He will check the width of corridors, look to see where it is advantageous to change formation, identify terrain which seems to be dead space from likely defended areas and which terrain is likely to be considered important to the attack. Conversely, obvious aspects of the defense should be altered as appropriate. Camouflage, deception elements (such as dummy positions or minefields), and physical markers for direct and indirect fire control (stakes, versus 17 panels) should all serve their function without being obvious to the threat.

Maneuver

The commander must personally verify the positioning of every major weapon and its line of sight. One method is by viewing the EA through every sight and pointing out the TRPs to the gunner. An alternate method is placing a target in the EA and asking each gunner if he can identify it. After completing this task, the commander drives the threat's route for the direct fire rehearsal. Each weapon system should track the "target" as it negotiates the EA. An important aspect of the sector defense which must be rehearsed is the occupation of subsequent BPs, should the entire sector be used for the defense. Therefore, engagement and disengagement criteria must be fully understood by all elements within the company. The plan to cover the move by shifting orientation, one platoon covering the other, or platoons providing their own internal cover must be rehearsed. The order of march from the position, and the routes taken to the next position are further aspects of the rehearsal. While the commander observes these activities from the perspective of the threat, the XO can observe the maneuver from the defender's point of view.

During the rehearsal, the times to conduct each move will be recorded by the XO and then given to the commander. Should the threat arrive in the subsequent EA before the defenders are prepared, the commander may alter the disengagement criteria to allow for the discrepancy. This information will be important to the commander during the execution of the operation.

The counterattack may be initiated on order, or it may be event driven depending on the commander's concept. Even an on-order counterattack should have an event initiator, however as a fail-safe measure. The commander should check that the counterattack is not observable to the threat and that the "fire position" is unexpected and from a vulnerable flank. As with all movement, it should be timed and the event initiator checked against the arrival in position versus the location of the threat within the EA. The objective is to catch the bulk of the threat in an exposed position and deny him an avenue of escape.

Fire Support

The FS plan will be rehearsed simultaneously with the maneuver plan. The company FSO practices calling for fires which are synchronized with the direct-fire plan. The time of flight versus the speed of the threat must be established and areas should be marked so that as the threat passes the mark, fires will be initiated. The matrix in Figure 4-99 will assist the FSO in solving the problem.

MOVEMENT RATES										
(TIME IN MINUTES)										
DISTANCE	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
RATE OF MARCH										
60KM/HR	1	2	3	4	5	6	7	8	9	10
50KM/HR	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12
40KM/HR	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
30KM/HR	2	4	6	8	10	12	14	16	18	20
25KM/HR	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6	24
20KM/HR	3	6	9	12	15	18	21	24	27	30
15KM/HR	4	8	12	16	20	24	28	32	36	40
10KM/HR	6	12	18	24	30	36	42	48	54	60
5KM/HR	12	24	36	48	60	72	84	96	108	120

MOVEMENT RATES REDUCED TO MINUTES	
60KM/HR	1,000 METERS PER MINUTE
50KM/HR	830 METERS PER MINUTE
40KM/HR	666 METERS PER MINUTE
30KM/HR	500 METERS PER MINUTE
25KM/HR	416 METERS PER MINUTE
20KM/HR	333 METERS PER MINUTE
15KM/HR	250 METERS PER MINUTE
10KM/HR	164 METERS PER MINUTE
5KM/HR	83 METERS PER MINUTE
1KM/HR	16 METERS PER MINUTE

Figure 4-99. Matrix depicting movement rates.

Calling for FPFs by the platoons should be practiced as well as fire on previously evacuated positions. Target groups in EAs should be rehearsed with direct-fire engagement as well as fires to enhance the effectiveness of obstacles. The FSO should report to the commander when artillery is landing as he drives the threat's course through the sector. This will help the commander to visualize the situation presented to the threat.

As the counterattack is initiated, the FSO must ensure that the RFL is in place and that fires in support of the counterattack are fired (such as smoke).

Mobility, Countermobility, and Survivability

The commander will examine the location and effect of the obstacles as he maneuvers through the sector. In particular, he should look to see that there is no noticeable difference between dummy minefield and the actual minefield. The positioning of major belts should make breaching difficult and maximize the exposure time within the EAs. Turning obstacles should be subtle enough that they do not appear to pose an immediate threat until the threat is unable to extract himself from the EA and he finds his flanks exposed to BPs.

Fighting positions, whether occupied or prepared, should not be visible from the threat's perspective. Dummy positions, on the other hand, should appear realistic-not obvious. A technique to draw the threat's attention toward the dummy position is to place "Hoffman" charges on the position and fire them remotely, and erect a multispectral close combat decoy in the position. The signature combined with the dummy position should make the position seem quite real.

Air Defense

The air defense plan should be exercised along with the rehearsal. If, for example, the Stinger team is placed under armor with the 1SG in the maintenance MI13, a radio must be on the ADA warning net. At each position, the Stinger teams should practice moving to their prepared positions and observe the threat air AAs.

Combat Service Support

A rehearsal of the CSS plan encompasses driving all the routes to each BP, with recovery and evacuation assets. This way the drivers will know every road in the sector and should not get lost during execution. Prestocks should be checked to make sure they are properly camouflaged and secured yet accessible. The company combat trains positions should be checked to ensure they are not visible from the air.

Command and Control

As the commander drives along the threat AA, he should be mindful of the synchronization of his fires. Specifically, if each leader radios when he engages, to include the FSO, the commander will have a good idea as to the degree of direct and indirect fire integration.

The commander should ensure the counterattack force is able to accomplish its role. It is also his means of gaining the initiative. Therefore, it is extremely important that the counterattack be absolutely prepared for its mission. The signal to initiate the counterattack must be redundant; barring that, there should be an event initiator to commence the counterattack. For example, once an threat platoon is able to cross PL BLUE-counterattack. That way should the commander be unable to issue the order, the action will still occur with effect.

Execution

Intelligence

The commander begins the sector defense battle by monitoring the command net. He will be listening to the spot-reports of the scout platoon and other intelligence gathering elements as they provide information concerning enemy strength, disposition, and possible intentions. These reports may be summarized and issued to the platoons as updates, so that they may watch a particular area more closely, or perhaps get a feel for the arrival time of the enemy force.

Once the scout platoon withdraws from the screen mission, OPs established by the commander may be used to bridge the information gap regarding enemy actions. It is important that the positioning of these OPs are linked in with the last locations of the scouts. That way the defender will not lose contact with the enemy.

The OPs will be able to direct indirect fires on to the advancing enemy forces, hopefully deceiving them as to our true defensive location. Once this begins and perhaps even earlier, we can expect heavy enemy artillery suppression on all areas suspected of containing defending forces. As this occurs, it is even more important that OPs not under suppression report the enemy's actions to the company commander.

Maneuver

The commander will monitor the reports of the scout platoon and his forward positioned OPs. At the opportune moment, he will signal his platoons to move from their hide positions to their primary BPs. The movement should be made prior to the arrival of the enemy to the line of sight observation range. Undue movement may prevent the platoon from adding the weight of his fires to the engagement. Once each platoon is in position, the weapon system commanders will observe their designated sectors of fire.

The enemy's indirect fire preparation should begin to land with effect on all locations deemed suitable for defense. For this reason, the actual fighting positions should be inconspicuous, both visually and in location. The platoons must be prepared to engage during the enemy's suppression, otherwise the enemy could draw close to decisive engagement without having taken significant losses. The trigger line and engagement criteria should be executed as per the direct-fire plan. The enemy should be hit hard with a sustained rate of fire, which may preclude moving back and forth from primary to alternate positions unless taken under effective direct fire. It is important to destroy as many targets as possible. Elements which may observe an exploitable enemy weakness should seize the initiative and move to a position of advantage.

This may or may not be to a prepared fighting position. The commander should be cautioned that the movement of any platoon in the middle of any engagement will remove the weight of that platoon's fires. Regardless, the commander should be informed of the move and the platoons must have the flexibility to respond to the rapidly changing situation presented before them.

Should the enemy press the attack or should the first echelon be soundly defeated, the commander may give the signal to move to the next set of BPs. For the platoon on the left flank that was given a sector to defend initially, it is now his responsibility to join the other platoons in the main company EA. As each platoon withdraws, its move is covered by the other, or in the case of the platoon in sector, it will be done internally.

At this point should the time allow, the platoons may resupply with ammunition prestocked on the subsequent positions. A reserve consisting of the XO and a tank section will move to a position out of contact. In this scenario the reserve has two designated missions: reinforce the main defense, or move to a counterattack by fire position to the enemy's rear. The reason the reserve should be out of contact is that if it becomes involved in the main defensive battle, it may not be able to properly extract itself in time to make the counterattack effective or that it may sustain losses before it is called on to execute.

As the enemy approaches the next set of BPs, the OPs will continue to adjust fire on the advancing formation. The obstacle system should break the formation and turn it toward the blocking obstacle. This effect should piecemeal the enemy, while offering flank shots to the left and right platoons. The commander will closely monitor this stage of the battle as this is his last position for the the sector defense. Therefore, the commitment of the reserve must be weighed carefully. Should the enemy appear to make headway but not severely threaten the company defensive positions, the commander will commit the reserve to counterattack by fire. The reserve will then move into position and engage the enemy from the flank or rear. If separation between echelons is significant and the enemy destruction great, the reserve may even move to sweep the EA, destroying the remnants of the enemy force as required. On the other hand, should the enemy attack be especially strong, the reserve may be called on to reinforce the defensive positions to block enemy penetration of the sector.

Fire Support

The FS plan will be initiated the moment the scout screen is withdrawn and OPs are able to observe the enemy entering the company sector. Harassing fires should affect the C2 of the enemy plus limit their visibility of the sector. As the enemy draws near to the obstacle belt, fires will be shot to reinforce the obstacles and prevent breaching. If a COLT is attached to the company, it may be used to destroy enemy breaching equipment. Artillery groups are fired on the congested enemy masses on the far side of the obstacle belt as it attempts to find a bypass. Should the enemy succeed in continuing the attack and the commander issues the order to withdraw to the next set of BPs, an FPF will be shot in front of the BPs to assist the withdrawal. If the enemy is able to press the attack, fires may also be called on the recently evacuated BPs as the enemy arrives on the location.

As the force withdraws, artillery will be called on the enemy force in an effort to slow, attrit and confuse the enemy as to our intentions. Once in position on the subsequent positions, the fire plan will be executed in a similar manner as in the first phase of the battle. However, when the commander issues the order to launch the counterattack, an RFL will be emplaced to protect the force from fratricide. Additionally, smoke may be called to mask the occupation of the counterattack by fire position from enemy observation. At this point in the battle, the artillery must be at its most lethal—the complete destruction of the enemy is necessary for success. Therefore, fires must be maximized until the enemy has lost its ability to continue the fight.

Mobility, Countermobility, and Survivability

The execution of the obstacle plan is dependent on its proper installation and integration with both direct and indirect fires. As mentioned earlier, indirect fires will reinforce the effectiveness of the obstacle system, but direct fires initially destroy the enemy's ability to breach. then shift to destroy the bulk of the force.

Should the enemy create a breach in the obstacle system, it may be closed by FASCAM however, this takes time and ties up many artillery tubes in the process. If the artillery is available, then the FASCAM mission must clearly be planned in advance, to include the breaking down of ammunition. The point to remember is that FASCAM is not a munition which can be administered with the timeliness of HE.

During the actual execution of the sector defense, there is little the engineers can do in terms of survivability forward in the sector. However, blades may be used to continue to improve fighting positions in depth and to a limited extent conduct some countermobility operations. Similarly, if the resources are available, minefield may be emplaced in depth as can dummy minefield and booby traps along dismounted AAs. The primary concern is that the engineers do not become overrun by the battle; therefore, it is extremely important that their supervisor monitor the actions of the defending company team.

Should the situation warrant, the engineers may also be given fighting positions along enemy dismounted AAs to further reinforce the final set of BPs. As with any fighting position, this must be planned in advance and included in the rehearsal for the sector defense execution.

Air Defense

The Stinger teams will execute their air defense mission from their locations under armor. Warnings of the impending enemy air attack issued on the ADA warning net will be relayed over the company command net. In an effort to keep the carrier as uncrowded as possible, extra missiles may be prestocked in prepared subsequent Stinger firing positions.

Combat Service Support

The 1SG will monitor the battle and keep abreast of the company team's combat power. As required recovery and evacuation assets will move forward in support of elements damaged by fire or requiring other mechanical assistance. Those vehicles which cannot be dragged from their initial positions may be destroyed so as not to fall into enemy hands. Others will be moved to the future combat trains location in anticipation of phase two of the operation. Ambulances should run alternately, ensuring that a vehicle remains with the company team at all times. Some evacuation may be done by combat vehicles; however, this should be limited, as it will take a weapon systems out of the fight. Under conditions of heavy combat where a force is required to fire a large number of rounds and emergency resupply is required, the 1SG will contact the

combat trains CP and bring the emergency LOGPAC forward to the company. From a location close to the BPs, service station resupply by individual vehicles will take place.

Command and Control

The company team commander must be aware at all times of the position of each of his elements. This is especially true of sectors which require all three platoons to fight in sector. However, in this example, the commander has a special control situation. In phase 1, he must monitor the location of the platoon in sector, while also fighting the battle with the remaining platoons. In an effort to manage these concurrent operations, the XO should be assigned the mission to overwatch the platoon in sector. The XO should assist in assessing the situation and relay the information to the company commander. In the meantime, the platoon leader is free to conduct his defense in sector. Simultaneously, the commander will observe the battle being fought by his remaining two platoons. It is important that all platoons stay reasonably abreast so as to avoid creating an assailable flank. Within the main EA, the commander will ensure that the direct and indirect fires are synchronized and that units position to take advantage of noted enemy weaknesses. As appropriate, the commander will issue the order to move to subsequent BPs. In this case he must ensure that the platoon in sector acknowledges and is able to comply. It is important that all forces make a clean break with the enemy therefore, indirect fires may be called (HE and Smoke) to separate the forces both physically and visually.

Once on the subsequent positions, the commander should ensure that all elements are tied in at the flanks and that the reserve is in position and prepared to execute. Some attrition may have occurred from the first defensive phase therefore, the commander must be prepared to shift forces as need be. As the enemy approaches, he will again attempt to optimize the combat power at his disposal. The most critical aspect of his defense at this point, however, is the commitment of the reserve. Knowing the time it will take the reserve to arrive in position, the commander must anticipate the enemy's movements and rate of success. Once the enemy inches the company commander's decision point, he may choose to commit the reserve. The commander should give instructions to the platoons in BPs to increase the rate of fire so that the enemy will be fixed on the BPs. Likewise, artillery suppression should be especially heavy. With the enemy's attention drawn to the defensive line and receiving enough artillery to degrade his C2, the counterattack should strike. Direct fire should be rapid and sustained attempting to inflict the maximum number of casualties in the least amount of time. Once the enemy's destruction is complete, the commander may choose to recall the reserve to its hide position or have it sweep the EA to complete the enemy destruction. These choices will be based on the arrival of the next enemy echelon.

Defend a Battle Position

The company team defends a BP to concentrate its fires limit its maneuver, or place it in an advantageous position to counterattack. Forces may be positioned on the best terrain in and around the BP; however, any element location outside the position must be coordinated with higher headquarters.

Planning

Intelligence

The company is given its BP by the battalion commander, who determines that a particular piece of terrain was important to the success of the battalion defense. Once the commander receives his mission to defend from a specific location, he immediately conducts a time analysis to determine the amount of time available to conduct a map reconnaissance, mute and BP reconnaissance, and occupy/prepare the position for the fight.

The commander determines the composition of the quartering and reconnaissance parties and the security force required to safeguard their activities. The reconnaissance party consists of the company commander, XO, the FSO, the platoon leaders, and any other attached element's leaders. The quartering party is made up of representatives from each platoon, the NBC NCO, and the 1SG. They will carry position-marking and radiological-survey equipment.

Before departure to the BP, the commander conducts a map reconnaissance. He will analyze the terrain, identifying enemy mounted and dismounted AAs. If possible, the commander should get a copy of the battalion S2's terrain analysis and decision support template. These tools will make the process easier. Once the commander has identified enemy areas of vulnerability and selected possible vantage points of these areas, he develops a reconnaissance plan (see Figure 4-100).

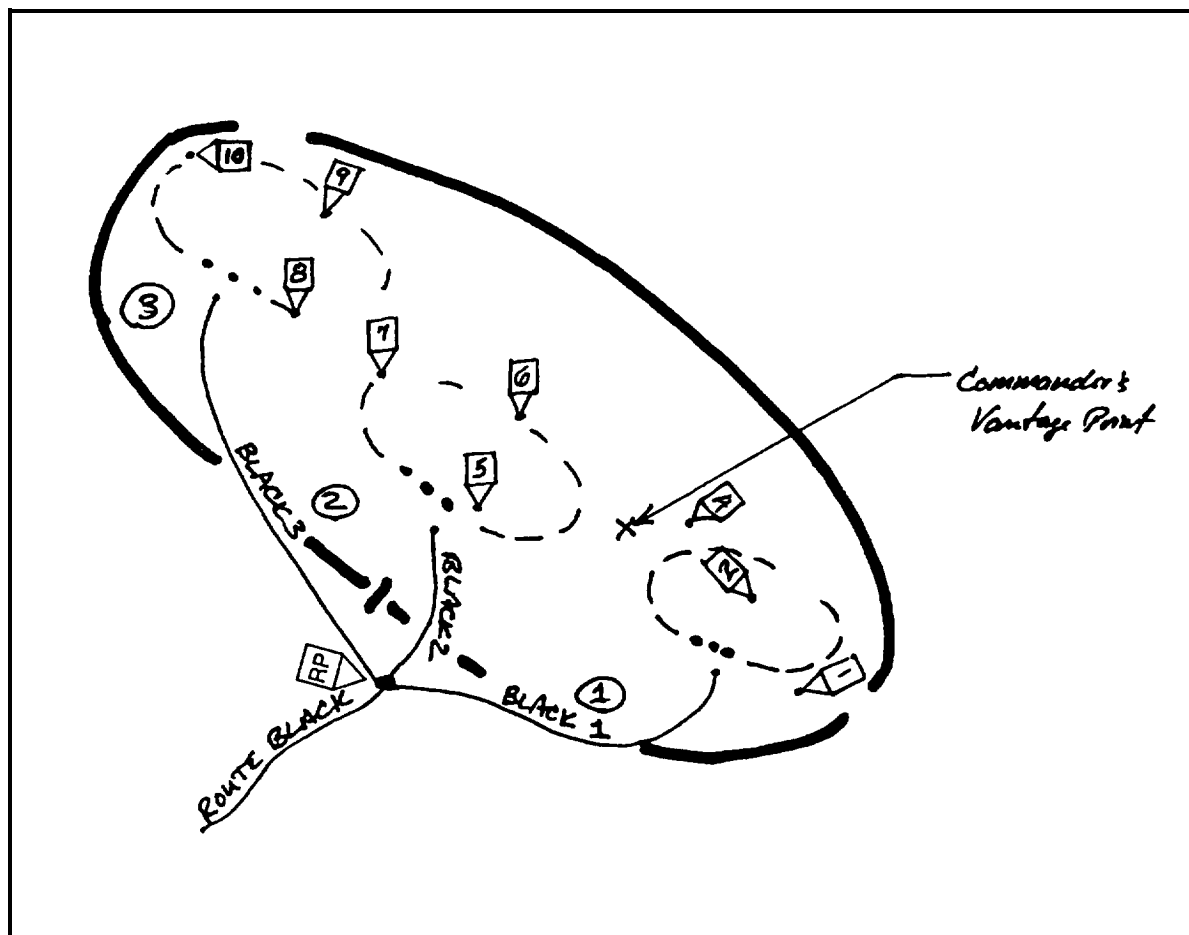


Figure 4-100. Company battle position reconnaissance plan.

The reconnaissance plan will assign each leader an area to reconnoiter and the amount of time he should spend. Time is at a premium, so the company leadership should cover as much area as possible in the given amount of time. As each leader reconnoiters his assigned position, he must answer a series of questions given by the commander and make notes about each position. Information sought for in a leader's reconnaissance includes: the number of fighting positions an area will hold, trafficability to the positions, quality of line of sight visibility, areas of dead space, existing or natural obstacles, possible hide positions, possible OP locations, and ability to tie in at the flanks.

Once the leaders reconnoiter their areas they meet with the commander at a vantage point which allows observation of the BP area. Each leader briefs the commander about his area. The commander will compile this information, augmenting his tentative plan.

The commander conducts his own reconnaissance, examining the position in its entirety. He will identify the limits of the BP as described by the operational graphics and determine any areas in which he would like

to position forces outside of the position. Next, he will confirm the enemy mounted and dismounted AAs to the BP and determine the location of his EA.

As with the defense in sector, once the commander has identified where he would like to kill the enemy, he will tentatively plan the locations of his weapon systems. When the platoon leaders return from their reconnaissance, the commander will verify the tentative locations based on the input from his subordinates, and then combine weapon systems locations into platoon BPs. At this point platoon sectors of fire are established.

In turn, the platoon leaders will actually site each weapon systems using the following criteria as a guide:

Ž Dispersion.

- Depth.
- Cover and concealment.
- Ability to achieve flank shots.

Ž Allows for primary and alternate fighting positions.

Ž Mutually supporting, interlocking fires.

The platoon leaders will have the quartering party mark each position and note required engineer preparation. The quartering party will also mark the routes into the BP and may begin laying wire to save time during occupation. The platoon leaders will prepare sector sketches of their sector and bring them to the final debrief by the company commander. With all of the weapons sited and the sector sketches combined into a basic company direct-fire plan, the commander adds the final detail to the plan. He will determine how the enemy will be engaged using the following direct-fire control measures:

- Maximum engagement lines.

Ž Trigger lines.

Ž EAs.

- TRPs describing sectors of fire.
- Engagement priorities.

Ž Break points.

Ž Checkpoints.

- PLs.

NOTE: A complete discussion of direct-fire planning is found in the company sector defense section.

The development of the obstacle and FS plan would be developed concurrently with the direct-fire plan. Together these products would complete the company team BP defensive plan (see Figure 4-101). For clarity however, each plan is addressed separately.

The commander will complete the plan by incorporating deception measures-dummy positions and false obstacles. A security and surveillance plan will ensure that the position is not compromised during development and will provide early warning in preparation for the battle. Therefore, LP/OP locations should cover the enemy AAs into the defensive position area. If infantry are attached to the company, patrols and ambushes should be planned forward of the position. Likewise, antiarmor ambushes may be equally effective along mounted AAs expected to be used by enemy reconnaissance. The point to remember is that all these other operations must be weighed against the preparation of the BP. The fewer resources available, the longer it will take to prepare the position. Conversely, if security is sacrificed, the entire BP defense could be compromised by enemy reconnaissance elements.

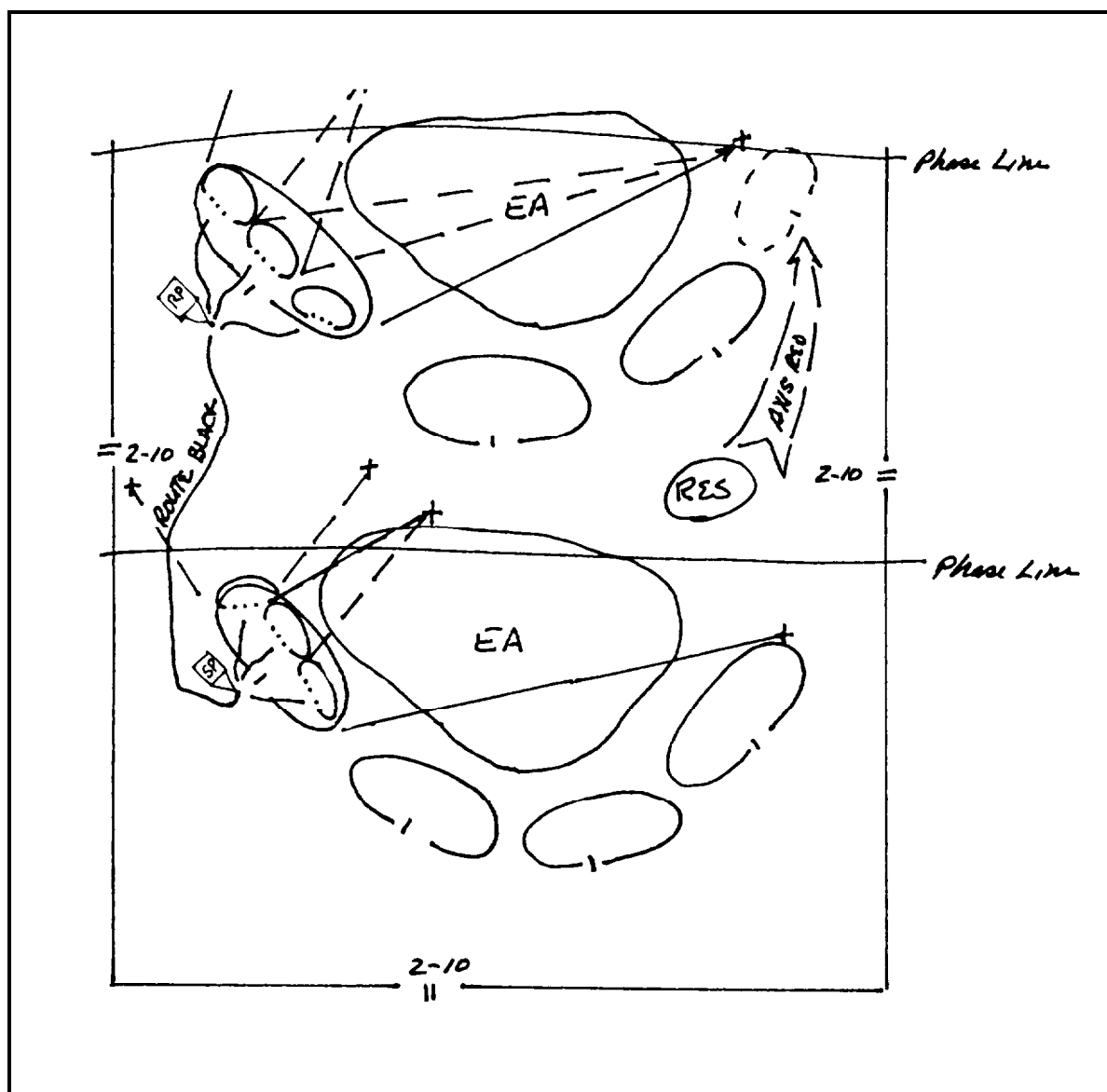


Figure 4-101. Company team battle position defensive plan.

Fire Support

The FS plan will be prepared concurrently with the maneuver plan. As with the defense in sector, the FS plan must be able to engage the enemy as he enters the AO. The battalion FS plan will serve as the basis of the company plan; however, BP specific targets will probably need to be included in the plan. Generally when the battalion commander assigns a BP it is part of the battalion EA, where direct and indirect fires destroy enemy forces impaled on an obstacle system. As a result, many of the indirect fires will be appropriate to the company BP defense.

In addition to the battalion fires, the company FSO must ensure that all enemy AAs to the BP are targeted for indirect fire. FPFs for designated platoons, OP locations, and specific terrain which dominates the BP should be targeted as well. The point to remember with company FS planning is to check to see how well the battalion plan fits the needs of the company, then determine what additional fires are needed. Figure 4-102 illustrates how a company fire plan was superimposed on the battalion fire plan.

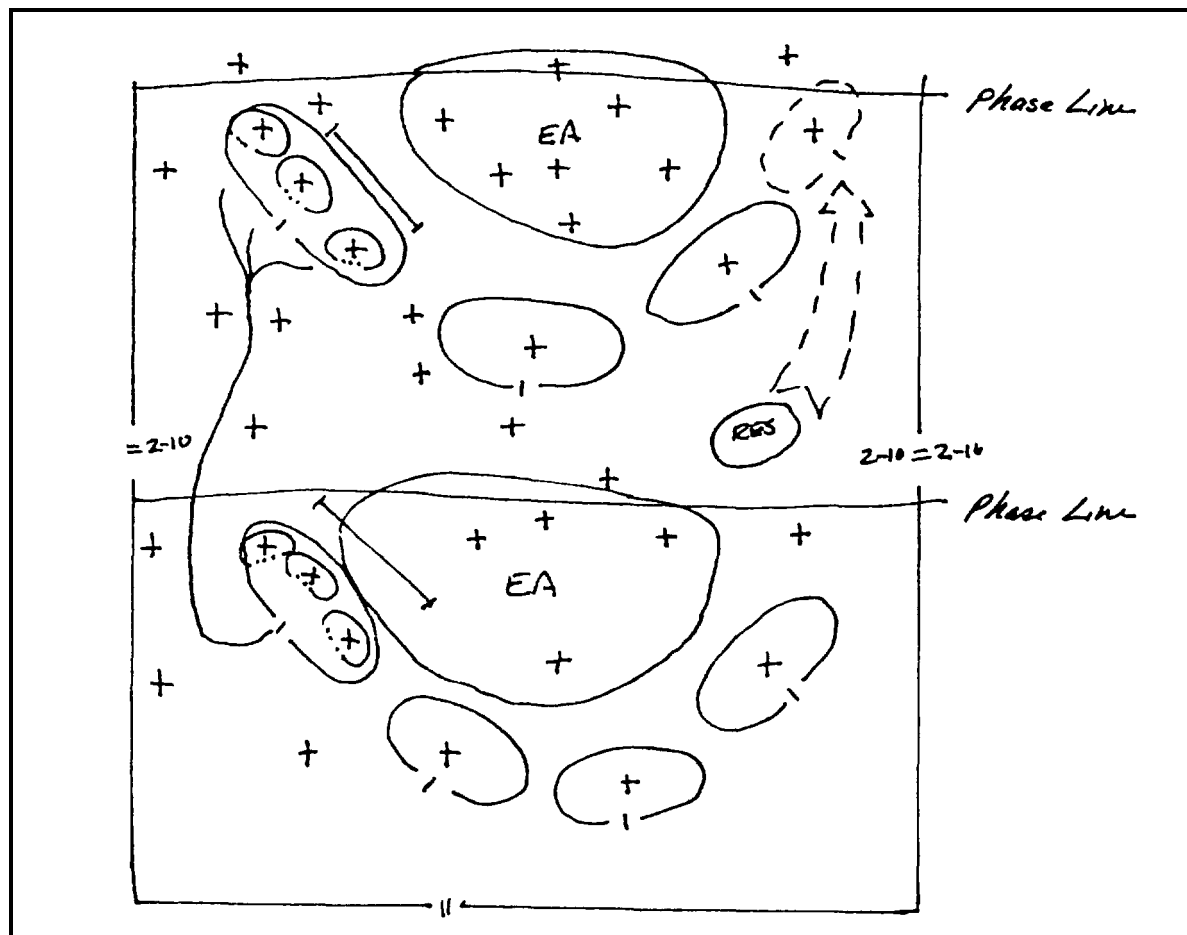


Figure 4-102. Company team battle position fire support plan.

Mobility, Survivability, and Countermobility

As with the FS plan, the obstacle plan will be developed concurrently with the direct-fire plan (see Figure 4-103). The company commander has the responsibility of actually siting the obstacles; therefore, he will ensure that his weapon systems and FS plan maximize the obstacle effect. Because the BP is essentially a static defense, the obstacle system is crucial in forcing the enemy force into a posture of vulnerability, while also protecting the BP from enemy assault. The company commander must meet with the engineers and agree on the obstacle placement, ensuring that it is covered by fire and that it is commensurate with the defensive plan. Close-in protective obstacles, which are not necessarily part of the battalion barrier plan may be added to the defense if the assets are available.

In addition to the countermobility role of the engineers, the commander will also issue level of preparation guidance for the fighting positions-occupy, prepare, and reconnoiter. Together with the engineer, the commander will determine which positions should be prepared first and the order for subsequent position construction. From this coordination the engineer will develop his work plan. Ultimately, when addressing blade time, the commander must decide how to portion his assets between survivability and countermobility operations.

Minelaying assets will be initially used as per the battalion obstacle plan; however, once that is complete there are other areas which may require land mines. Dead space within EAs, or terrain which allows the enemy the ability to overwatch maneuver should be denied to him through mining. Accordingly, dummy minefield should be emplaced to confuse the enemy as to the actual degree of fortification. The intent is to

force the enemy to breach all minefield out of a belief that they are all genuine. Dummy minefield, just like actual ones, should be covered by direct and indirect fire.

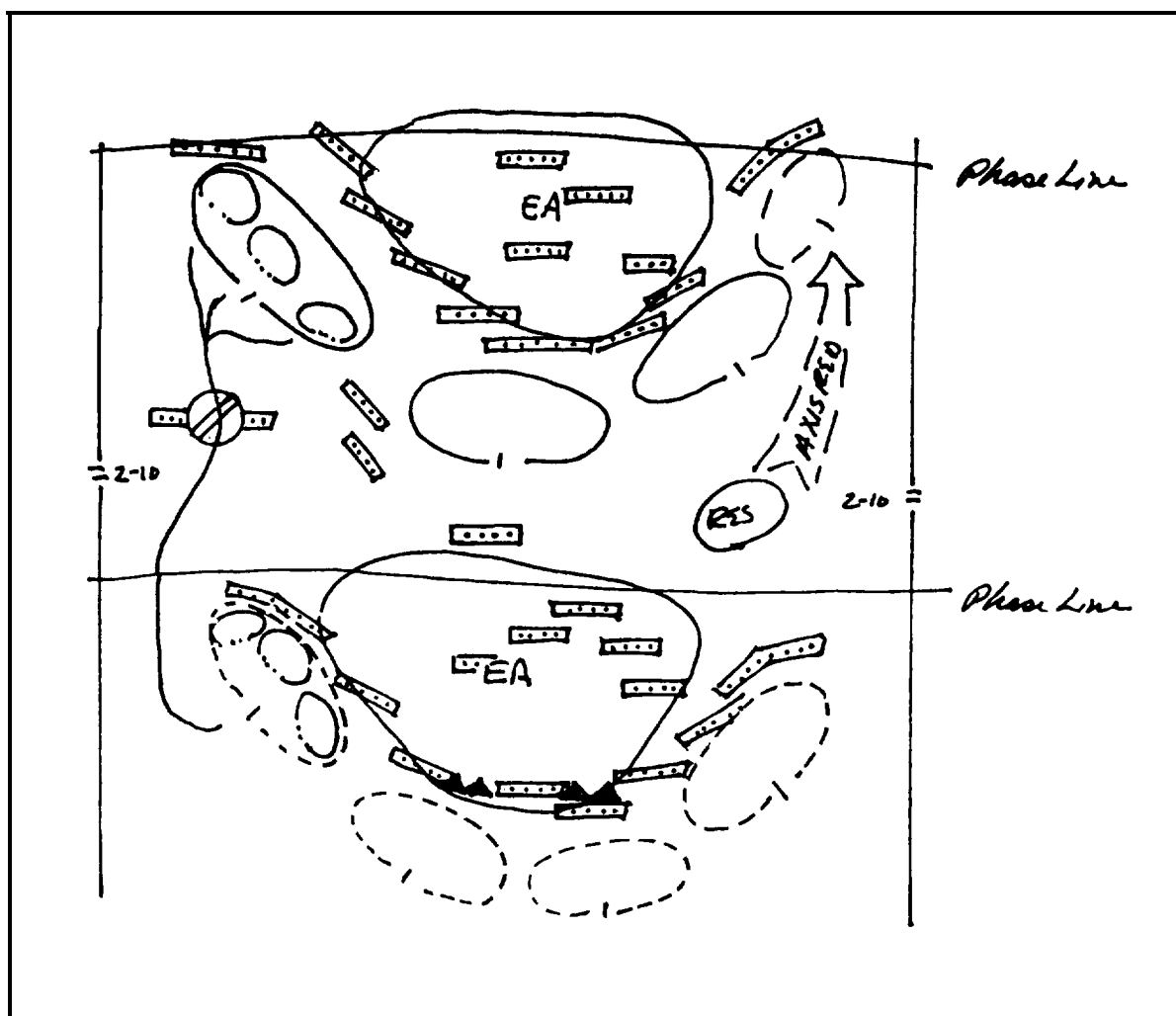


Figure 4-103. Company team battle position obstacle plan.

Air Defense

The company air defense plan relies on the ability of the Stinger teams to detect and engage threat aircraft. SAFAD will not be effective during direct-fire engagement. If the company defensive plan involves fighting from subsequent BPs in depth, the Stinger teams may remain under armor and dismount only to engage hostile aircraft.

Combat Service Support

Prestocks of critical supplies are essential to sustaining the fight, and are limited to 10 percent of the basic load and placed to the rear of the fighting position where vehicles can resupply out of the line of fire. They should be guarded if possible to avoid enemy sabotage, and placed in a suitable fortified position so that they will survive the enemy's artillery preparation of the position. Demolitions should be included with the prestock so that they may be destroyed. Class IV repair supplies should be prestocked close to obstacles. Medical supplies can also be prestocked, but no medical supplies will be destroyed because destruction of medical supplies is a violation of the Geneva Convention.

Command and Control

The commander plans for the BP defense by dividing his time between the fire plan and the survivability of the BP. He will ensure that he has a good plan for synchronizing his fires as the enemy enters the EA. Through the use of engagement criteria, bigger lines and event-initiated indirect fires, the commander will be able to bring fires to bear where they will be most effective.

To control the battle, the commander must plan his position so that it is not conspicuous yet allows him to observe the majority of the EA. The XO may be positioned to observe the remainder of the EA; however, both positions must be prepared as fighting positions should their fires be required. All vehicles should be wired into a company hot loop, which if time allows, should be buried. This should be the primary means of communication until it is destroyed.

After the commander has completed his plan, he will issue the OPORD to his platoon leaders, XO, 1SG, and slice representatives. If possible, this will be done from a vantage point overmatching the BP and EA. Each leader should then backbrief the commander regarding his mission and his relationship to the other elements of the company team.

Preparation

Intelligence

The commander will confirm his IPB during the maneuver and fires rehearsal. Specifically, he should drive the route which will be most likely used by the attacking enemy. As he does so, he should put himself in the shoes of the enemy commander. He should try to identify obvious defensive positions and search for positions or weapons which are not properly camouflaged. Also, the commander should verify where the enemy would change formation and how they would drive the terrain to keep out of direct fire. He should see if the obstacle and indirect-fire plans force the enemy into the open and that the direct fire plan will in fact exploit enemy vulnerability. Based on any new information from this technique, the commander will modify his decision support template accordingly.

Maneuver

At a designated time, the company team will move forward using an appropriate movement technique to occupy positions. Platoon guides meet their respective platoons at a prearranged linkup point, moving them into hide positions without stopping.

As time permits, each platoon leader dismounts his tank/IFV commanders and security element. The security element is positioned by each platoon leader where it can protect the platoon orders/reconnaissance group. The platoon leaders issue the OPORDs, pointing out individual weapons positions, sectors of fire, TRPs, EAs, FPLs, FPFs, and routes. They should point out key terrain and other landmarks that are certain to be in an enemy artillery preparation. Multiple alternate and supplemental positions should also be identified.

After the platoon leaders issue their orders, the platoons begin their priority of work as per company/platoon SOP. A recommended sequence of action is—

- Establish security. OPs directed by the company commander are occupied. Other platoon OPs and chemical alarms are positioned and/or shifted, based on the platoon leader's instructions. Chemical monitoring is done continuously, with chemical alarms placed downwind. OPs assume air guard responsibilities.
- Occupy positions. Tanks and BFVs occupy primary positions from the rear. Dismounted infantry moves into primary fighting positions, emplacing Dragons, M60/SAWs, and other small arms weapons. Prepare-to-fire checks should also be completed.
- Prepare positions.
 - Weapons crews confirm fields of fire to TRPs and EAs and record sketch/range card data for each fighting position.

- Fields of fire cleared aiming stakes emplaced.
 - Fighting positions camouflaged.
 - Infantry fighting positions dug in, with overhead cover, time permitting.
 - Tank/IFV fighting positions prepared, engineer resources permitting.
 - Hasty obstacles emplaced.
 - Alternate/supplementary positions prepared as above.
 - Establish communications. Wire and radio communications to individual vehicles/squad, OPs, and the company CP are established and confirmed.
 - Confirm fields of fire. Platoon leaders and TCs/squad leaders view friendly positions from an enemy vantage point and the flanks.
- Ž Continue battlefield preparation. Subsequent positions are prepared.
- Obstacles in depth constructed.
 - Obstacle guards and firing parties positioned.
 - Infantry fighting positions improved (bunkers and communications trenches are constructed).
- Ž Coordination. Coordinate with adjacent, supporting, collocated and higher units. The company commander, XO, and platoon leaders coordinate positions and fires with adjacent units, repositioning forces and revising graphic control measures as needed. Contact points are manned as required.
- Conduct personnel and equipment sustainment. The company should perform maintenance, refuel, rearm, eat and sleep as time permits.

Once the platoons have prepared their positions and themselves for the BP defense, they will conduct a rehearsal under the direction of the company commander and assisted by their platoon leaders.

As the commander begins to drive down the enemy avenue of approach, the company elements will be positioned in their hide positions. OPs should report the “enemy” movement, and the XO will give the signal to occupy turret-down positions. Once the commander reaches the designated point forward of the trigger line, the tanks will move into their hull-down positions. They will report to the commander when they begin to engage so that he can confirm the effectiveness of the direct-fire control measure. The path of the target vehicle will confirm to the gunner probable target present time and better identify dead space or low terrain.

If the maneuver plan includes moving to a subsequent BP, the break criteria will be rehearsed as the commander approaches the breakpoint. Vehicles will practice exiting the BP and moving along their designated routes to the next position. Overwatch, whether by platoon or internally will also be rehearsed. Once in position, the platoons will report that they are set so that the commander can be sure that the enemy will not be able to close with the company during the attack.

Fire Support

The FS plan will be incorporated into the maneuver/direct fire rehearsal. As the commander role plays the enemy, the FSO will practice calling and adjusting indirect fires. Specifically, he will check the timing of his indirect fires to make sure that his event initiators are appropriate to the position of the enemy force at the time of the artillery landing. If not, adjustments will be made to better synchronize the indirect fires with the direct-fire plan.

The FSO should also report when he is calling for fires which augment the obstacle system or cover dead space in the EA. This is especially important to the commander in his determination of the effectiveness of the plan and identifying the probable enemy actions as a result of the suppression, direct fire, and obstacles.

Platoons should also practice calling for fire, particularly along flank avenues of approach. As the commander nears their positions, the platoon leaders should also call for the FPF to keep the forces separate

and/or to allow the platoons to withdraw to subsequent positions out of contact. Once they are off the BPs, they should request indirect fire on the position to destroy any enemy which may have been able to press the attack.

Mobility, Countermobility, and Survivability

The commander will confirm the effectiveness of the obstacle system as he maneuvers along the avenue of approach. He will examine the placement of the obstacles to determine how well they achieve surprise. As mentioned earlier, he will also evaluate the integration of the obstacle system with the direct fire and FS plans.

Dummy minefield will be examined for their realism and placement. The commander must feel confident that they appear legitimate. He will also determine the effectiveness of minefield or other obstacles used to prevent the enemy from occupying dead space. Those areas which are found to be lacking will be noted and reinforced following the conduct of the rehearsal.

Air Defense

The air defense plan will be rehearsed by the Stinger teams issuing air attack warnings over the company command net. Each element should practice adopting the proper air defense posture and orienting in the appropriate direction. The Stinger teams will confirm the enemy air avenues of approach into the BP area, and make communications checks with the ADA early warning net.

Combat Service Support

The 1SG will prepare for the operation by briefing the PSG, medics, and mechanics concerning the following information:

- The location of company trains, the battalion aid station, and the UMCP.
- The location for conducting CSS operations at each BP.
- Routes to the BPs, the company collection point, and the location of the company combat trains.
- Ž The signals which will be used to request evacuation, either mechanical or medical.
- Ž Combat lifesaver actions and specific guidance for the operation.
- Ž Instructions for vehicle recovery preparation and execution.
- Unit NBC decontamination sites.

During the maneuver rehearsal, the medics and mechanics will confirm the location and route from each platoon location to the company collection point. They will also confirm the routes to the aid station and the UMCP. Prestocks of ammunition and supplies will be checked to ensure they are properly prepared, camouflaged, and equipped for demolition if necessary.

Command and Control

The commander will pay particular attention to the way the operation was executed during the rehearsal. His primary concern will most likely be the effectiveness of his fire control measures. If he does identify a problem, the changes he makes should be as minimal as possible to prevent undue confusion. The commander will also watch the conduct of the operation in terms of vehicle exposure. The old adage of “what can be seen, can be hit” is especially true for the BP defense because once the enemy has an idea of the defender’s location, he will direct his attention and fires to that area.

As a guide, the commander should consider Figure 4-104 which depicts the actions of the Soviet-style aggressor vis-a-vis our defense. Note in this figure where on the battlefield the commander is forced to make

a decision. The defending commander must take advantage of the DP, applying enough combat power to paralyze the attacker's C2. Once this occurs, the defenders will have entered the decision cycle and may take offensive advantage.

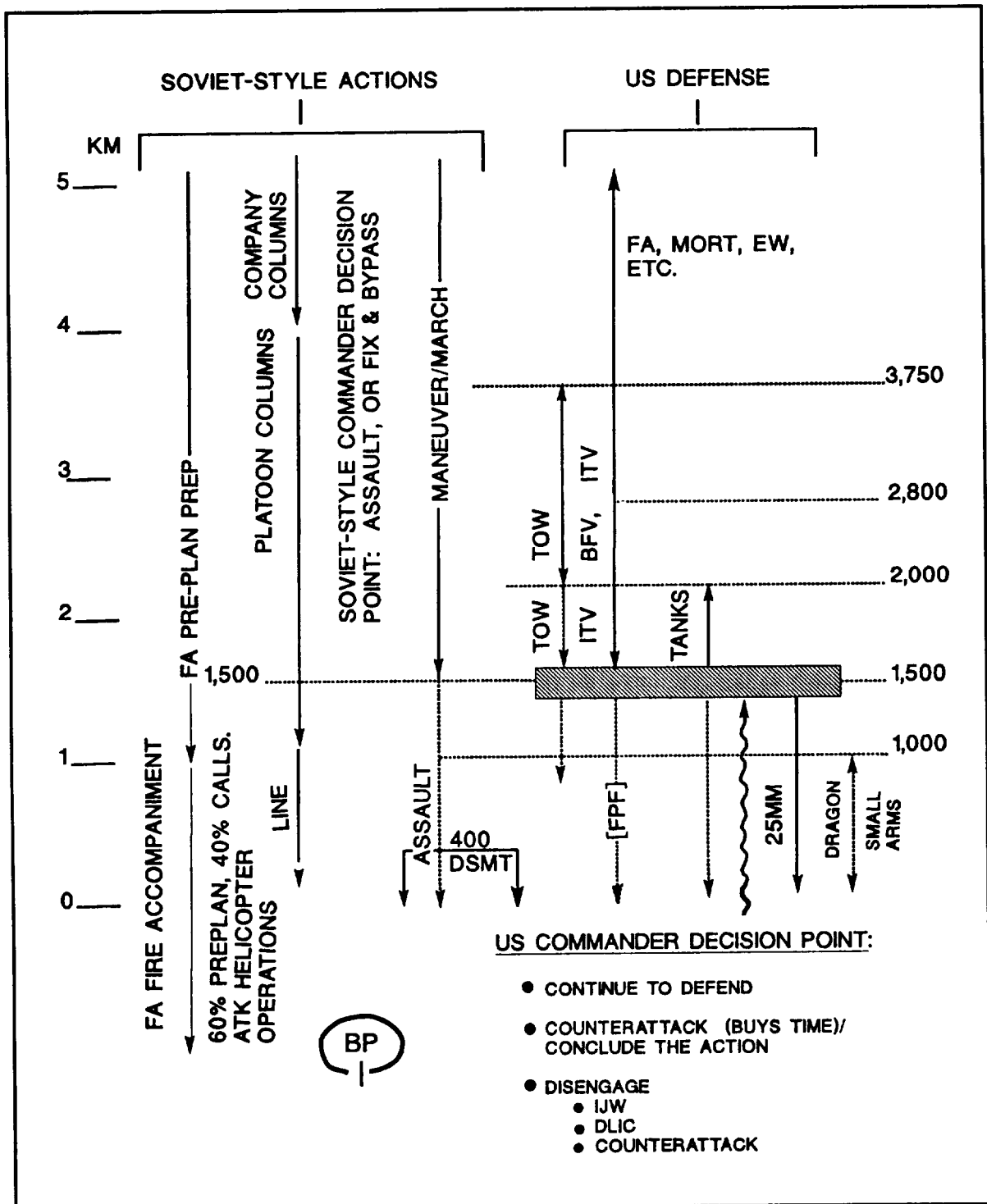


Figure 4-104. Soviet-style armies versus United States actions.

Execution

Intelligence

The company team commences engagement of the enemy in accordance with the battalion task force plan. It should use indirect-fire support to defeat the enemy reconnaissance elements before they can detect company team positions. When reconnaissance elements are deployed forward of the company team, the company team will initially use direct and indirect fires to support the movement of these elements back through the passage lanes. Once the screen has been withdrawn, OPs will continue to report the progress of the advancing enemy forces, continuing to adjust artillery on their formation. Spot reports must be complete and accurate so that the commander can develop a clear picture.

Maneuver

Direct fires will be initiated once the enemy force meets the engagement criteria. Each weapon system will orient on its respective target (tanks kill tanks, IFVs kill BMPs). The commander will ensure that his weapon systems engage available targets.

If the defense goes according to plan, the enemy formations will be broken and diverted from their intended course by the obstacle system. As this occurs weapon systems will reposition to take advantage of exposed flanks and rear shots. The volume of direct fire must remain constant. Individual tanks should fire as rapidly as possible in an effort to inflict the greatest damage in the shortest time. They should not reposition unless they have been taken under effective enemy fire. Once again, the positioning and camouflage of each fighting position will demonstrate its rest value.

As the enemy closes to 1,500 meters of the company team position, he will normally do one of two things:

- Assault the company team position, normally with tanks leading, followed by motorized infantry either mounted or dismounted.
- Fix the company team with suppressive smoke, direct and indirect fire, and attempt to bypass the BP in prebattle formation.

Accordingly, the company team commander has three basic options of his own, which can be used to counter the enemy's actions. The action the company team commander selects is normally limited by the battalion commander's intent.

Options. The three options available to the company commander, consistent with the battalion commander's intent include—

- Disengage using internal overwatch to subsequent BPs. This disengagement may also be supported by one or more adjacent company teams.
- Counterattack by fire, moving laterally and forward to engage the enemy assault with concentrated short-range flanking fire. This action requires the maximum use of deception and mutual support. It should be rehearsed and be coordinated with the battalion headquarters.
- Continue to defend the BP using available weapon systems. As the enemy assault commences, tanks and IFVs continue to engage the enemy. Dragon fires are brought to bear from dismounted fighting positions. These AT fires are used to cause the enemy infantry to dismount forward of protective obstacles. Dismounted infantry is engaged by machine guns, rifles, and hand grenades. Indirect fire is used to disrupt the enemy assault. Artillery, mortar, FPFs, and automatic weapon/machine gun FPLs are fired as the enemy is caught on tactical wire. Enemy attempting to bypass the BP are engaged from supplemental positions; assaulting elements which have penetrated the position must be destroyed and lost fighting positions regained by local counterattack. Once the enemy assault has been broken and contact ceases, the company team will reorganize and consolidate its positions.

Defense of subsequent battle positions. The company team commander will execute his maneuver to subsequent BPs in accordance with the battalion plan. He may find it desirable or necessary to use platoons

overmatching each other's movement to subsequent positions, to slow the enemy's rate of advance, to continue to maintain surveillance on the enemy, or to assist in disengagement. The company team commander considers the following factors in moving his company team to defend subsequent positions:

- When possible, the most engaged platoon should be disengaged last so that overmatching platoons can move to favorable positions to support its disengagement by fire.
- If the company team does not have another company team overmatching its movement, one or more platoons must overwatch the disengaging platoons.
- If the company team is supported by another company team in overwatch, the company team commander may also establish internal overwatch within the company team. The company team maneuvers in depth to subsequent positions, fighting the battle in accordance with the task force plan. It engages the enemy in the same manner as at the initial BP, using surprise, flanking fires, and mutual support in conjunction with indirect fires and obstacles to complete the enemy's destruction. Target engagement priorities and maneuver sequencing may change as the situation arises, requiring FRAGOs to be issued.

Disengaging the company team. A disengagement is breaking contact with the enemy and moving where the enemy can neither see nor engage the unit. The company team will disengage when directed by higher headquarters to move to a subsequent BP, or to accomplish another mission elsewhere (withdrawal, retrograde, or counterattack).

When disengaging, the company team coordinates its moves with units to its flanks and rear. Disengagement is difficult and must be rehearsed. The disengagement plan should be simple. The commander will choose one technique or a combination of techniques to accomplish disengagement:

- Ž Disengage using internal overwatch (see Figure 4-105). Platoons disengage with least engaged platoons first to overwatch positions to support disengagement of platoons remaining in contact. Platoons in contact disengage and move until contact with the enemy is broken.
- Disengage by leaving one platoon or element in contact to cover the disengagement while the other platoons break contact. The designated detachment left in contact DLIC disengages next, using internal overwatch to cover its move back until contact is broken. This technique is not normally used when under heavy enemy pressure.
- Disengage by counterattacking with one or more elements. This will normally be a counterattack by fire. The counterattack will allow remaining friendly elements to disengage. The counterattack element will then disengage using internal overwatch.

The commander may plan to conduct the disengagement during limited visibility to cover the disengaging force. He should plan to use smoke delivered by artillery, mortar, or on-board smoke to cover the disengaging force's movement. He should maximize the use of obstacles.

During the disengagement, the company team commander places himself where he can best control his company team. He will normally locate with the majority of his force and may place the XO with the element. When more than one platoon executes such a mission, the company team commander places himself with that element.

Fire Support

As the enemy enters the BP area artillery will be adjusted by reconnaissance elements and the OPs. If COLT are available, they may be used to effectively take out enemy reconnaissance elements or serve as indirect-fire snipers, destroying C2 vehicles, or other high-priority targets.

Once the reconnaissance screen has been withdrawn, indirect fire will be shot to reinforce the obstacle system; shaping the enemy's formation and forcing them into a vulnerable posture. Artillery groups will be fired upon the congested enemy forces which are unable to breach the obstacle system and must wait to find

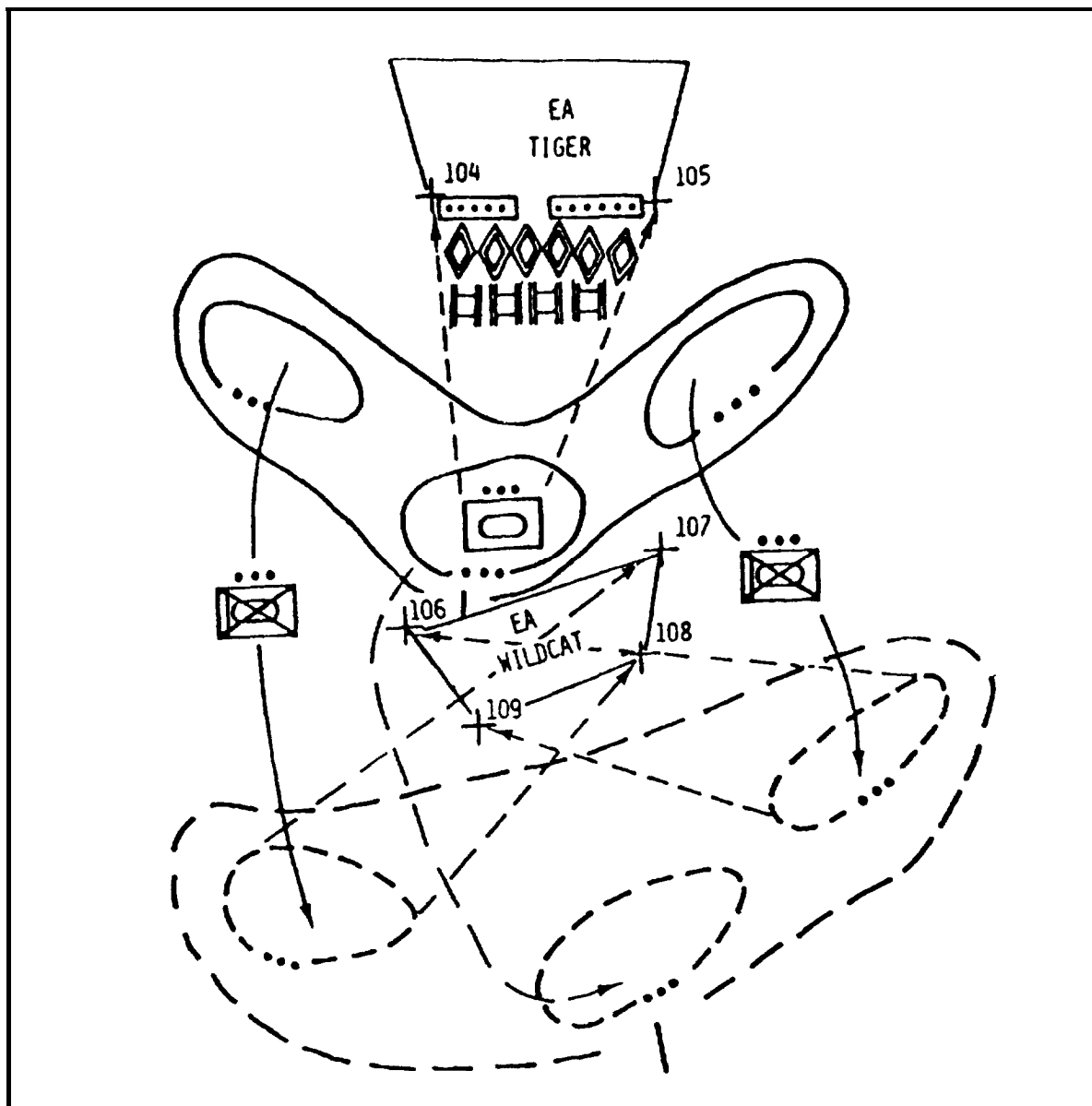


Figure 4-105. Disengagement to subsequent battle positions company team using internal overwatch.

a bypass. This stalled effect is one of the distinguishing characteristics of an effective obstacle system, and one which should be thoroughly exploited by the artillery.

If the enemy is able to press the attack through the obstacle system, the artillery must be prepared to fire rapidly in the final portion of the EA. If the maneuver plan includes withdrawing to a subsequent BP, and the enemy is able to advance to the point of meeting the break criteria, the company commander will call for a FPF. This, combined with the reoriented direct fires of the overmatching element, will allow the platoons to disengage from the enemy force. Artillery should also be called on the previously occupied defensive positions to complete the destruction of any enemy element which survived the close-in direct and indirect fires.

Mobility, Countermobility, and Survivability

The ability of the obstacle system to accomplish its mission will be determined by the enemy's actions on its discovery. Once the obstacle has been identified, the commander will determine whether or not a breach is

required. In the case of a turning obstacle, it will be effective if the commander decides to press on with the maneuver unaware that his force is being directed away from his desired path.

Should the enemy determine that a breach is required, it is at that point that indirect fires which cover the obstacle should be executed. Also, direct fire should seek to destroy obstacle breaching equipment. If an enemy penetration appears imminent, the commander may request FASCAM to seal the penetration. However, this technique must be planned and coordinated with the artillery battalion which will shoot the mission. In preparation for the mission, the ammunition must be broken down and prepared for delivery. The point to remember in this situation is that the commander wants the FASCAM minefield delivered as quickly as possible.

Air Defense

The Stinger teams will monitor the air defense warning net throughout the operation. When a warning for an enemy air attack is received, the Stinger team will relay that information to the company via the hot loop or company command net. As the enemy aircraft approaches, the Stinger teams will engage from their prepared firing positions.

Should the company team move to a subsequent BP, the Stinger team will mount its associated vehicle and move under armor protection. During the move, the Stinger teams should continue to monitor the ADA early warning net, as the company will be vulnerable while on the move to its next BP. Once in location, the Stinger teams will dismount and again occupy prepared fighting positions.

Combat Service Support

CSS execution will be driven by the needs or anticipated needs of the company team. Initially, the trains will be located to the rear or one terrain feature behind the BP, dug in to withstand the enemy's expected artillery preparation. As the direct-fire battle begins, vehicles which sustain damage will request evacuation or move to the platoon supply point to transfer wounded or assess the damage. Company team combat lifesavers will provide first aid treatment to the casualties. In turn, the company ambulance and/or M88 will move to join the element, whereupon the evacuation process will begin.

The 1SG will monitor the losses within the company and provide the commander with a status report as necessary. The commander must be informed each time his force drops to the next lower combat effectiveness level, as described by the battalion TSOP. This information will help him to determine his ability to sustain combat. Additionally, if the company appears to be expending ammunition at a rate which will deplete the prestock before the current battle is over, the 1SG will have to request emergency resupply from the battalion combat tins CP. However, this requisition must be anticipatory if the company is to receive the ammunition in time to sustain the fight.

Command and Control

Once the battle begins, C2 will be difficult to accomplish due to the indirect fire preparation of the position. Initially, communication may be possible via landline however, the longevity of the hot loop is dependent on the depth at which it was buried and the severity of the preparation. As a result, the ability of the company to execute the defense will be dependent on the event-oriented instructions issued in the planning and preparation for the BP defense. The commander simply may not be able to issue timely or effective instructions once the battle begins (if under heavy bombardment).

The commander will attempt to ensure the synchronization of his direct and indirect-fire assets. He must be positioned where he can personally observe the activities of the enemy. Based on his assessment, he will adjust his plan. He will direct his force so that they respond to the most severe area of the enemy threat.

Defend a Strongpoint

The company team is given a strongpoint mission when it must retain the position, until ordered to withdraw. Strongpoints sacrifice the mobility of the weapon system, demand extensive engineer materials and equipment, and usually take a long time to complete. A strongpoint mission is most likely given to a mechanized infantry heavy team or infantry company.

Planning

Intelligence

A company is given a strongpoint mission as the result of the IPB process. The strongpoint terrain has been identified as essential to the successful defense. From this strongpoint the commander will look one level lower, identifying vehicle and infantry mobility corridors. When conducting a map reconnaissance for a company strongpoint defense, the scale of the map does not lend itself to the degree of analysis required. The commander can only use the map to identify the general areas likely to be used by enemy formations. He must conduct a thorough reconnaissance of the strongpoint area.

The commander walks the ground and identifies the following:

Ž Covered and concealed routes.

- Dead space.

Ž Areas which allow line of sight to the strongpoint.

Ž Obstacles which impede movement.

Ž Areas where the enemy assumes an assault formation.

The commander must determine where the enemy is vulnerable along each of these mobility corridors.

After examining the exterior of the strongpoint area and the likely enemy routes leading to it the commander will examine the position itself. He looks for possible weapon systems locations, comparing weapon ranges and positions to the identified enemy vulnerability. Within the strongpoint, he examines the ground for internal defense. Usually a position will have a piece of “key terrain” which dominates the immediate area of the strongpoint. These locations are important to the internal construction of the strongpoint and are developed into fighting bunkers.

Maneuver

Company team. A strongpoint is a defensive position, fortified as time and materials allow. It is used to hold key terrain critical for the defense, to provide a pivot for the maneuver of friendly forces, and to canalize the enemy into friendly EAs. A strongpoint is held at the risk of high casualties. It cannot easily be overrun or bypassed, and must be tied in with existing obstacles, forcing the enemy to reduce it by dismounted assaults and massive artillery concentration. A company team required to defend a strongpoint will need a significant amount of time and engineer resources to construct the position.

The commander begins by comparing the number of weapon systems and soldiers he has to the size of the strongpoint. Although a strongpoint is usually tied into a battalion defense and will be flanked by other BPs, the strongpoint must be able to defend itself 360 degrees.

In Figure 4-106, a mechanized infantry team consisting of two infantry platoons, one tank platoon, and one ITV platoon has been given the strongpoint mission. A quick calculation of the number of dismounted

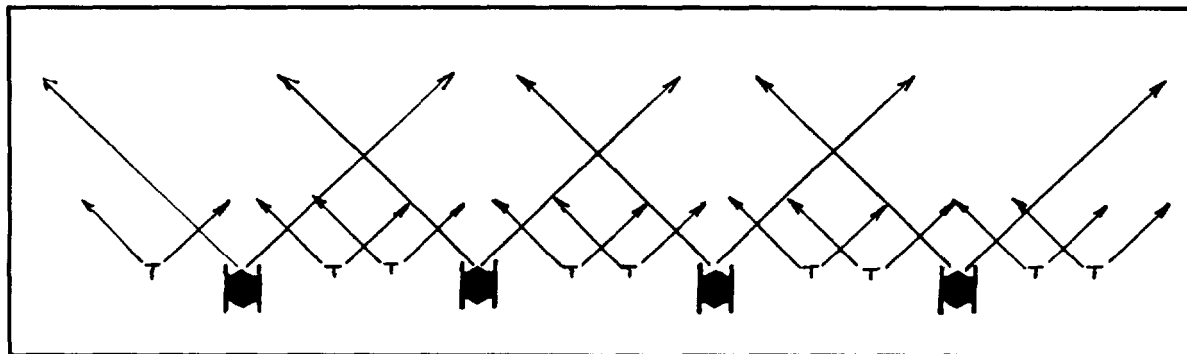


Figure 4-106. Company team strongpoint vehicles and fighting positions interspersed.

infantry yields 36, not counting the platoon leaders and RTOs. The number of two-man fighting positions cuts the number to 18 and with a dispersion of approximately 50 meters, a frontage of 1,000 meters. In this case, the frontage equals circumference. Of course this does not take into consideration the terrain and vehicles (tanks, IFVs, and ITVs). A mechanized team, to hold a strongpoint position, must not be expected to cover an area of much more than about 500 x 500 meters.

The commander must ensure that the final disposition of the strongpoint maximizes the capabilities of the weapons on hand without sacrificing the security of the position. In actual strongpoint siting, options range from placing all the vehicles outside the positions while the infantry remain dismounted inside, to placing everything inside the position. From the planning and terrain management standpoint plus the most dangerous enemy situation (encirclement), placing everything within the strongpoint is the most difficult operation.

The commander sites weapons which support the battalion defensive plan. Once those primary positions have been identified he will continue around the position, siting weapons on other possible enemy avenues of approach and EAs until he has the ability to orient effectively in any direction. The fighting positions facing the battalion EA could be positioned along one line of defense or staggered in depth along multiple lines of defense (assuming the terrain supports positioning in depth) (see Figure 4-107). Similarly, vehicle positions may be located with or behind the two-man fighting positions. By interspersing the positions a larger frontage may be achieved. Accordingly, placing the vehicles behind the infantry allows for greater depth in the defense.

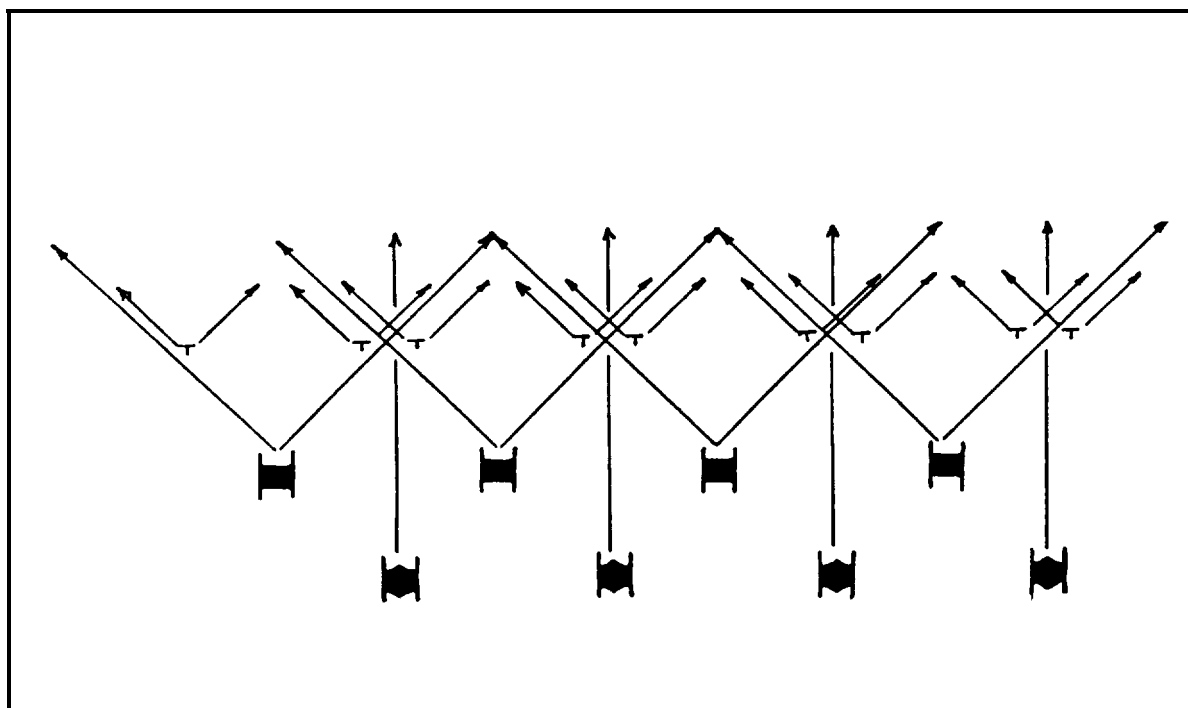


Figure 4-107. Vehicles positioned in depth.

As the commander identifies the locations for each weapon system, he will work with each platoon leader to ensure each emplacement supports the company strongpoint plan (Figure 4-108). In this type of operation, the commander must be involved in detail normally left to the platoon leaders. Before actual construction of the position, however, a good technique is to stake and mark each position, to include the layout of the connecting trench line. Marked locations for bunkers should include the orientation of its weapons. This way the commander, platoon leaders, and the men who will actually construct the fortification have a clear picture of its layout prior to actual preparation. It's much easier to move engineer tape at this stage of the process than it is to reposition a trench or fighting position once it has been constructed.

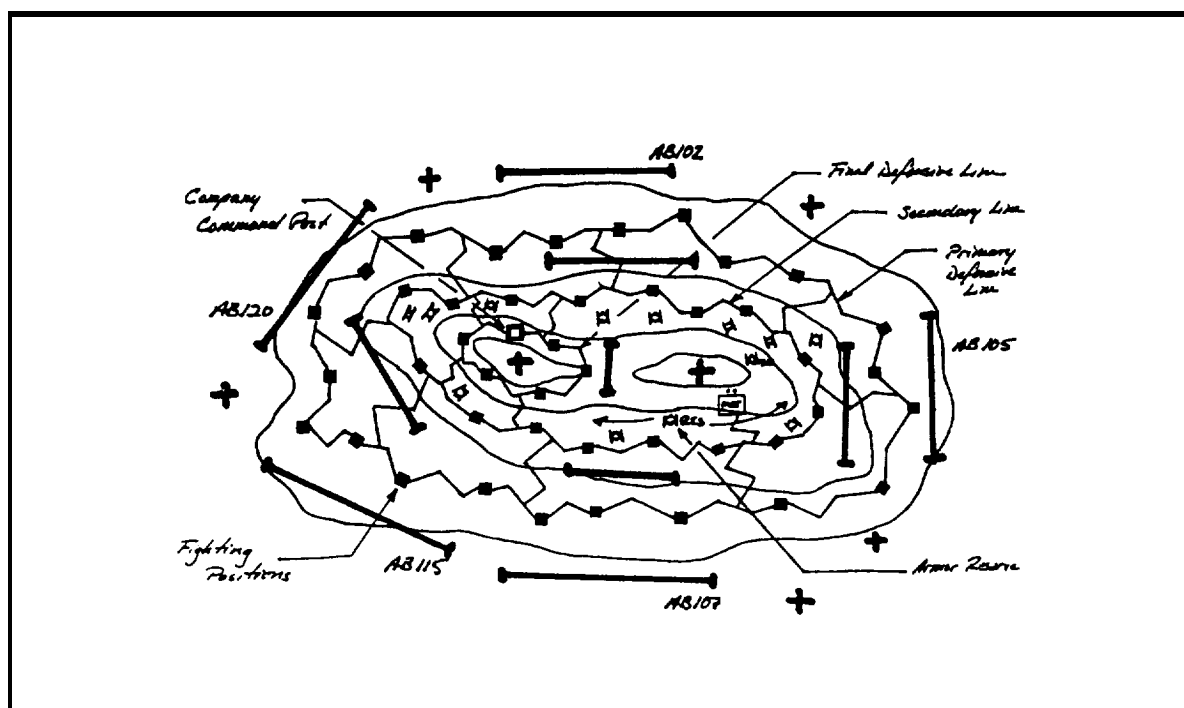


Figure 4-108. Company team strongpoint and fire plan.

The reserve. The reserve may be mounted, dismounted, or both. Regardless of the actual configuration of the reserve the company team commander must be able to influence the strongpoint battle with this type of offensive activity. The missions of the reserve include: reinforcing a portion of the defensive line, counterattack to defeat an enemy penetration and restore the line of defense, or move to augment the existing fires along a portion of the perimeter against an identified enemy main effort. Specifically, the commander should identify routes which allow the reserve to move to any area of the BP. He then should designate positions which the reserve can occupy once they arrive, as well as tentative weapons orientation. The routes and the positions should be under sufficient cover to allow the reserve to reach its destination without interdiction from the enemy outside the strongpoint.

Fire Support

The same type of planning for the strongpoint FS plan would occur as it would for a sector or BP defense. However, once that has been addressed, the commander will turn his attention to planning for the all-around defense of the strongpoint position. The commander will ensure that all the avenues of approach into the strongpoint area are targeted, particularly at locations where the enemy is likely to change formations or mass forces. Dead space areas are targeted, as should the areas on the enemy side of the obstacle system.

FPFs are planned around the position and on close-in protective minefields. Fires should also be planned on the fighting positions and trench lines in case of enemy penetration of the perimeter. Fires should be planned on the final defensive line/bunker should the defender be required to call fire on his own position.

Mobility, Countermobility, and Survivability

In planning for the strongpoint construction there are three priorities. First, make the position physically impassable to tanks second, plan indirect fires and scatterable mines to slow, disrupt, and canalize the advancing enemy; and third, enhance the killing power of AT weapons with obstacles.

Terrain reinforcement. Terrain reinforcement is the key to the success of an engineer unit in the strongpoint. The engineer must make a quick estimate of the amount of Class IV and V needed to accomplish the mission. Through terrain analysis, priority of work for heavy equipment is determined. Depending on the time and the situation, priority of work will vary; the first 12 hours are critical for emplacing countermobility

and survivability positions, and C2 bunkers. If the engineers have to make the terrain impassable, then the engineer effort doubled.

Countermobility. The battalion obstacle plan will be the foundation from which the company team strongpoint obstacle plan will be constructed. The battalion plan will be oriented on the identified primary avenue of approach, and will attempt to shape the enemy attack according to the commander's intent. At the company level, the strongpoint commander will carefully analyze the battalion obstacle plan to see if it requires any augmentation. He will examine the other enemy avenues of approach into the strongpoint position and develop an appropriate obstacle plan. He will look at the tying obstacles to natural obstacles, positioning them in locations where they are not easily detected by the enemy, and most importantly, linking them to the direct- and indirect-fire plans. Areas of dead space must be made inaccessible to enemy maneuver elements. For example, AT ditches should be mined minefield should be reinforced with concertina or other demolitions, and abatis should be mined and booby trapped. Close-in obstacles should be as thoroughly planned but more geared to enemy dismounted assault. The following are examples of the type of field expedients which can be emplaced to augment obstacles.

Demolitions.

Shaped charges. Because of the many variables, such as explosive density, configuration and density of the cavity liner, consistent results are impossible to obtain. Plastic explosive is best suited for this type of charge. Dynamite or molten TNT may be used as an expedient (see Figure 4-109).

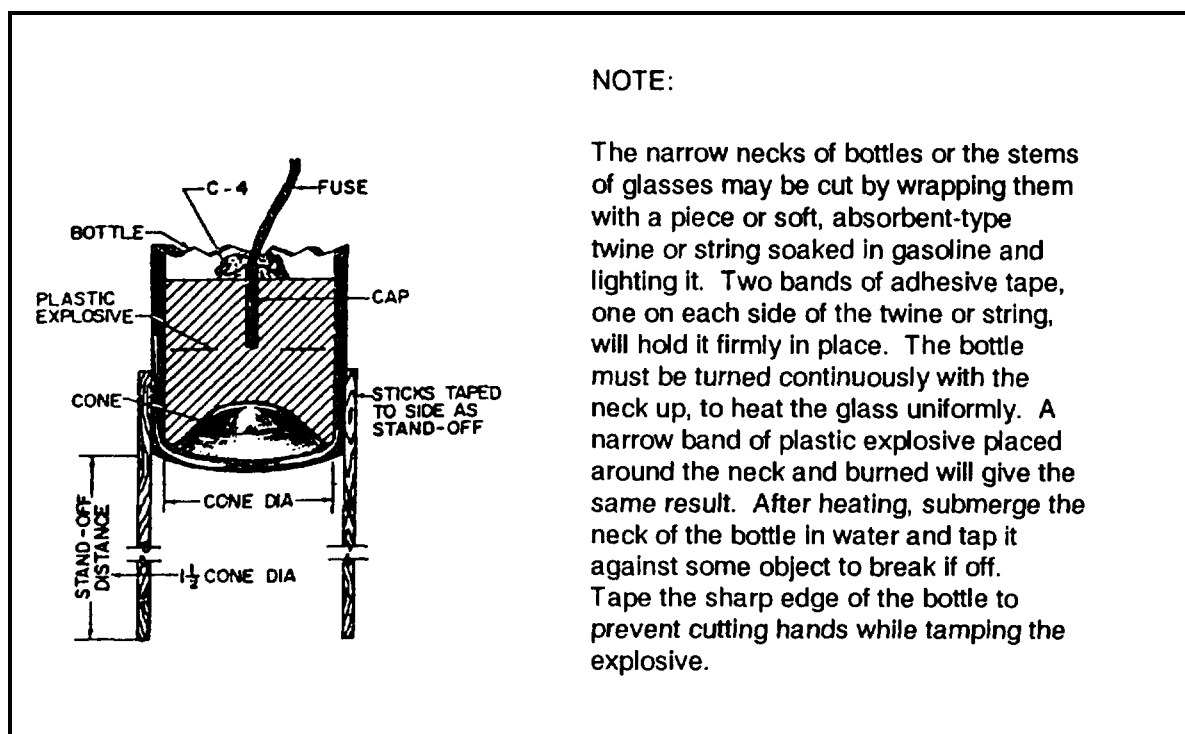


Figure 4-109. Improved shaped charge.

NOTE: The narrow necks of bottles or the stems of glasses may be cut by wrapping them with a piece of soft, absorbent-type twine or string soaked in gasoline and lighting it. Two bands of adhesive tape, one on each side of the twine or string, will hold it firmly in place. The bottle must be turned continuously with the neck up, to heat the glass uniformly. A narrow band of plastic explosive placed around the neck and burned will give the same result. After heating, submerge the neck of the bottle in water and tap it against some object to break it off. Tape the sharp edge of the bottle to prevent cutting hands while tamping the explosive.

Almost any kind of container is usable. Bowls, funnels, cone-shaped glasses, copper, tin, or zinc may be used as cavity liners; or wine bottles with a cone in the bottom are excellent. If none of these is available, a reduced effect is obtained by cutting a cavity into a plastic explosive block. Optimum shaped-charge characteristics are—

Ž Angle of cavity = between 30 degrees and 60 degrees.

Ž Standoff distance = $1 \frac{1}{2}$ x diameter of cone.

- Height of explosive in container = 2 x height of cone measured from the base of the cone to the top of the explosive.

Ž Point of detonation = exact top center of charge. Cover cap, if any part of it is exposed or extends above the charge, with a small quantity of C4 explosive.

Platter charge. This device utilizes the Miznay-Chardin effect. It turns a metal plate into a powerful blunt-nosed projectile. The platter should be steel (preferably round, but square is satisfactory) and should weigh from 2 to 6 pounds (see Figure 4-110).

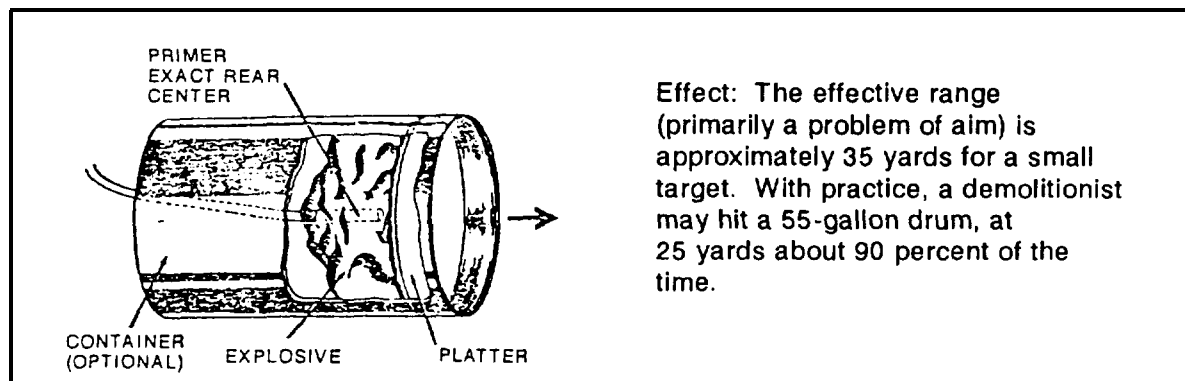


Figure 4-110. Platter charge,

NOTE: Calculation—Weight of explosive = approximate weight of platter.

- Place the explosive uniformly behind the platter. A container is not necessary if the explosive can be held firmly against the platter. Tape is acceptable.
- Prime the charge from the exact rear center. Cover the cap (if any part is exposed) with a small quantity of C4 explosive to ensure detonation.
- Aim the charge at the direct center of the target.

Grapeshot charge. This charge consists of a container, preferably a No. 10 can, projectiles (small pieces of steel), buffer material, an explosive charge, and a blasting cap (see Figure 4-111).

NOTE: For calculation purposes, use the following formula:

Ž Weight of explosive = approximately 0.25 x weight of projectiles.

Ž Assemble the projectiles, a few inches of buffer material (such as earth, leaves, wood, felt, cloth, or cardboard), and the explosive charge. This should be C4 packed firmly.

- Prime the charge from the exact rear center. Cover the cap, if any part is exposed, with a small quantity of C4 to ensure detonation.

Ž Aim the charge toward the center of the target.

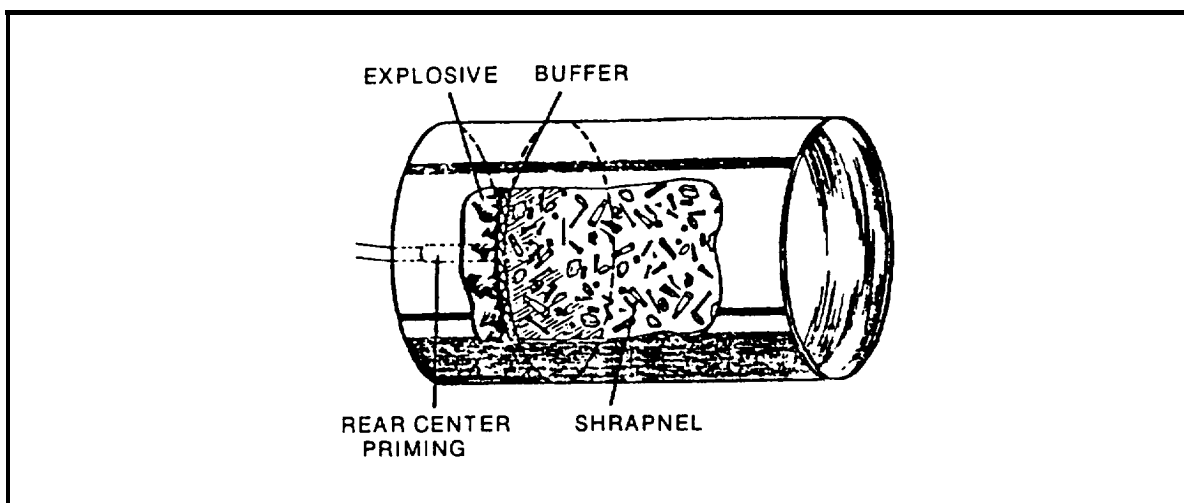


Figure 4-111. Grapeshot charge.

Dust initiator. This device consists of an explosive charge (powdered TNT or C3; C4 will not properly mix with the incendiary), an incendiary mix (2 parts of aluminum powder or magnesium powder to 3 parts of ferric oxide), and a suitable finely-divided organic material (dust) or a volatile fuel such as gasoline called a surround. The dust initiator is most effective in an enclosed space, like a boxcar or a warehouse or other relatively windowless structure. At detonation, the surround is distributed throughout the air within the target and ignited by the incendiary material.

NOTE: For calculation purposes, use the following formulas:

- Charge size = 1 pound (1/2 explosive, 1/2 incendiary mix).
- Cover size = 3 to 5 pounds for each 1,000 cu ft of target.

Ź The 1-pound charge will effectively detonate up to 40 pounds of cover.

Powdered TNT may be obtained by crushing it in a canvas bag. The incendiary mix must be thoroughly dispersed throughout the explosive. A great number of dust materials may be used as cover, among which are coal dust, cocoa, bulk powdered coffee, confectioner's sugar, tapioca, wheat flour, corn starch, hard rubber dust, aluminum powder, magnesium powder, and powdered soap. If gasoline is used, 3 gallons is the maximum, as more will not disperse evenly and gives poor results.

Improvised cratering charge. This charge is a mixture of ammonium nitrate fertilizer containing at least 33 1/3 percent nitrogen and diesel fuel, motor oil, or gasoline. From this mixture, improvised charges of almost any size or configuration can be made. Proceed as follows:

- Pour the liquid on the fertilizer.
- Allow the mixture to soak for an hour.
- Place about half the charge in the borehole. Then place the primer, a primed 1-pound block of TNT, and the remainder of the charge. (Never leave the charge in the boreholes for a long period, as accumulated moisture reduces its effectiveness.)
- Detonate the charge.

Ammonium nitrate satchel charge. Although the cratering charge is excellent, it is suitable only for cratering. A more manageable charge may be used by mixing ammonium nitrate fertilizer with melted wax instead of oil. The primer is set in place before the mixture hardens.

- Melt ordinary paraffin and stir in ammonium nitrate pellets, making sure that the paraffin is hot while mixing.

- Before the mixture hardens add a half-pound block of TNT to its equivalent as a primer.
- Pour the mixture into a container. Shrapnel material may be added to the mixture if desired or attached on the outside of the container to give a shrapnel effect. Because the wax and fertilizer may be molded into almost any size or shape, it may be applied to a great many demolition projects with satisfactory results.

Exploding flame devices. An exploding flame device consists of a container, an incendiary fuel (usually thickened gasoline), and a firing system to scatter and ignite the fuel. The size of the area it will cover depends on the size of the container and the firing system. It may be detonated by the M4 incendiary burster, or it may be detonated by some other available explosive used with the white phosphorous hand grenade, which serves as an igniter (see Figure 4-112). Experience has shown that Claymore mine explosive components, which are waterproof, are less subject to explosive component breakdown than are most other explosive components used in flame field expedients.

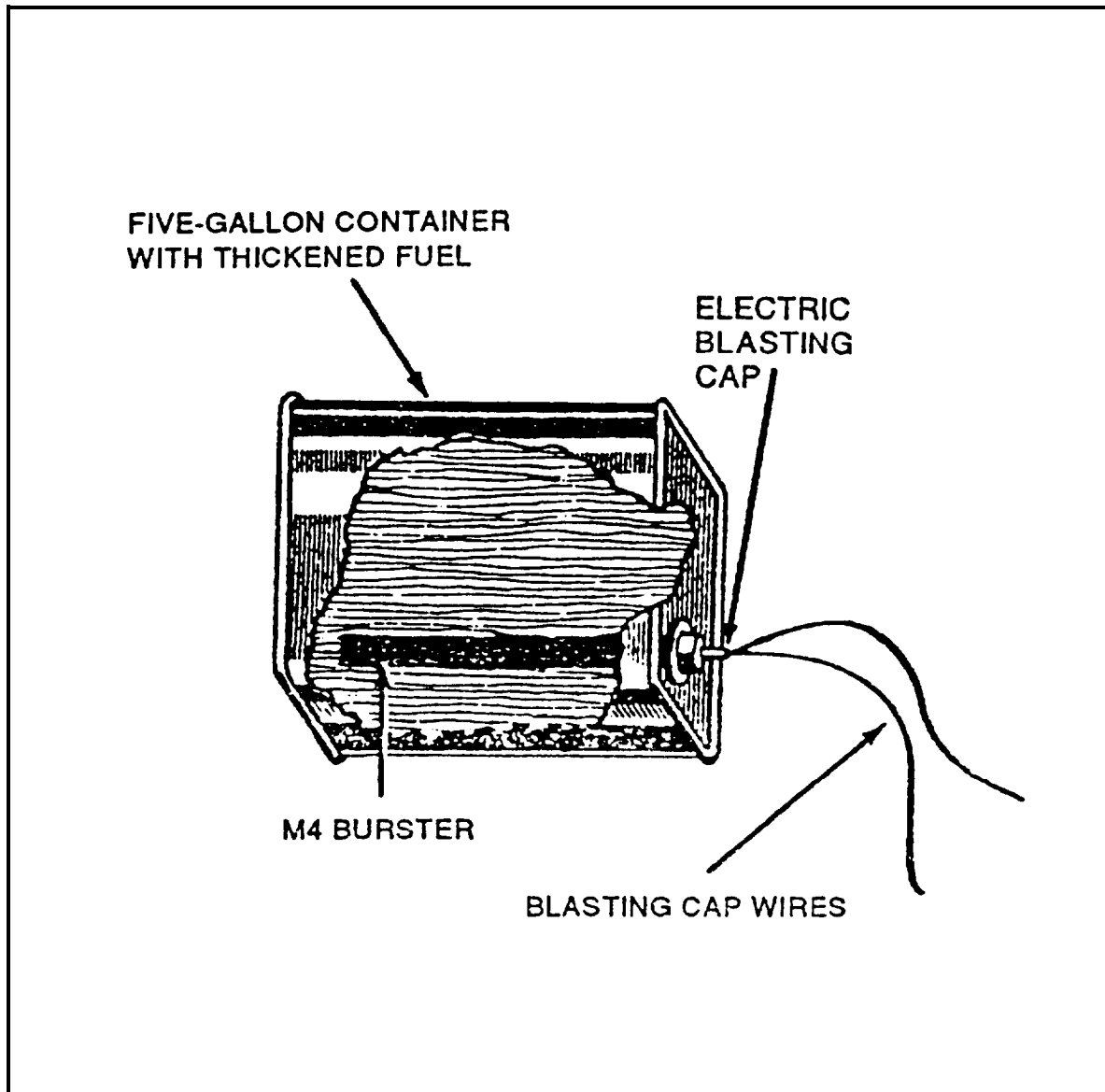


Figure 4-112. Exploding 5-gallon flame device with M4 burster.

Controlled type. A 5- to 20-gallon metal container exploding flame device can be emplaced on the surface or in a V-trench (see Figure 4-113). The 5-gallon device, because of its weight and limited area of effect may be rapidly emplaced by the individual or small unit as a close protective measure. A trench can be used to give some direction to the flame. A 5-gallon container will cover an area approximately 20 to 30 meters in diameter.

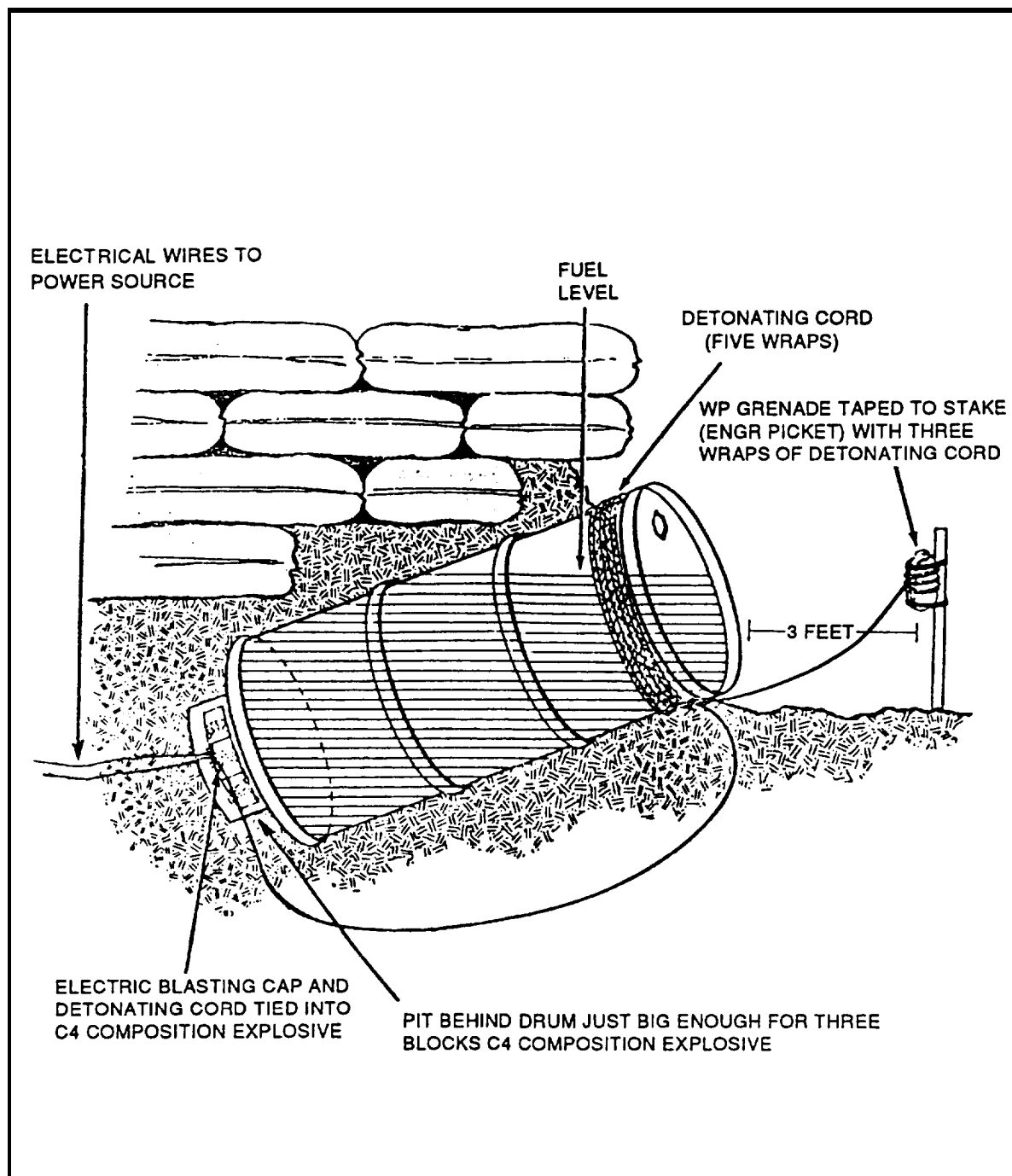


Figure 4-113. Flame fougasse.

Large metal containers (usually 55-gallon drums) filled with thickened fuel may also be used (see Figure 4-114). These weapons inflict casualties by the action of the burning fuel and flying pieces of the metal container. They have a great psychological effect. A 55-gallon container will cover an area of about 85 meters in diameter. For maximum fragmentation effect, they can be wound tightly with barbed wire and engineer pickets. Two 55-gallon drums welded together can provide an effective flame device.

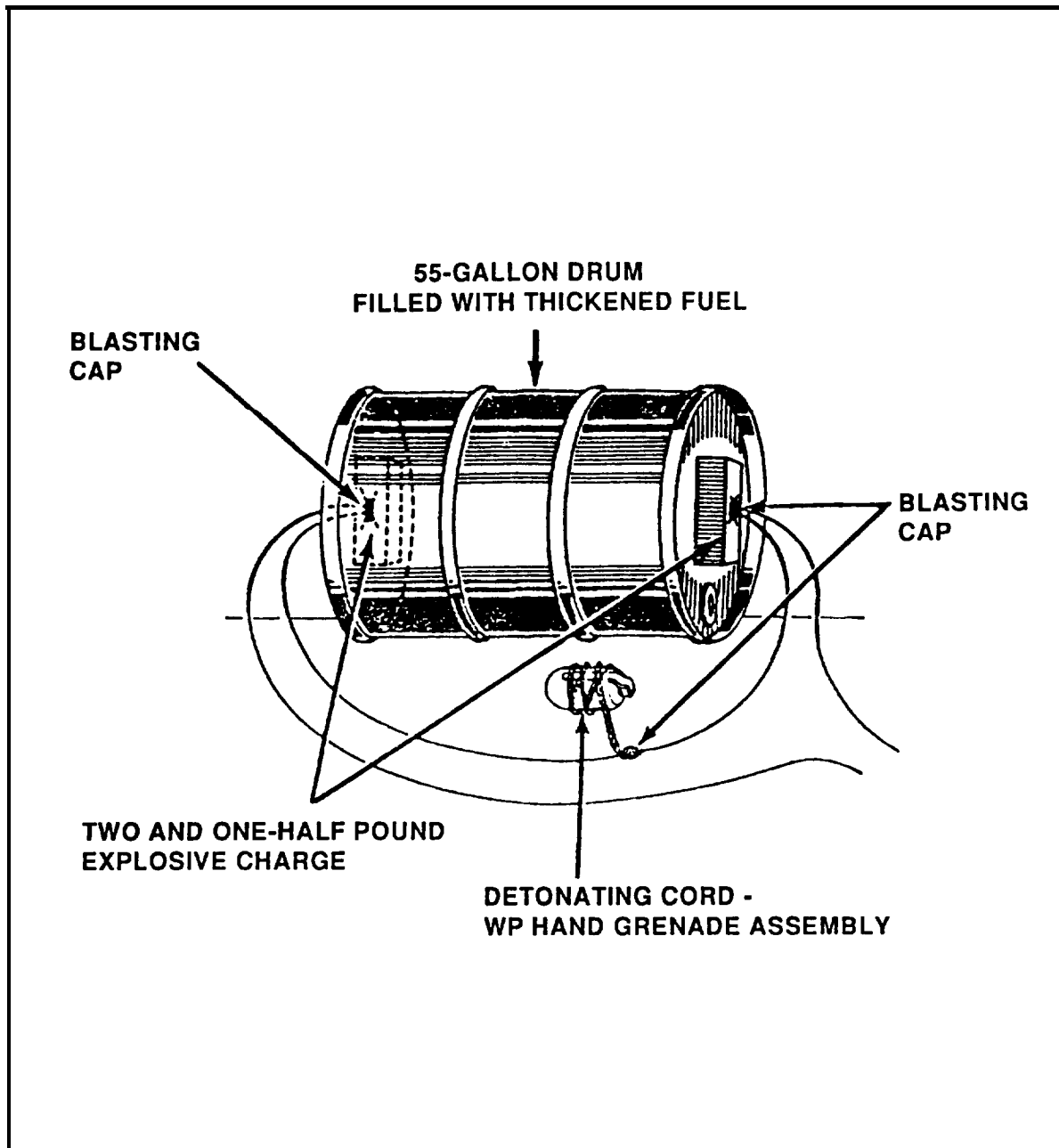


Figure 4-114. Exploding 55-gallon flame device.

The M4 incendiary burster can be used with any container. One burster is sufficient for a 5-gallon container. The 55-gallon drum requires two bursters. The incendiary burster is placed so as to throw the flame fuel up and out. Flame expedients will produce some illumination (see Figure 4-115).

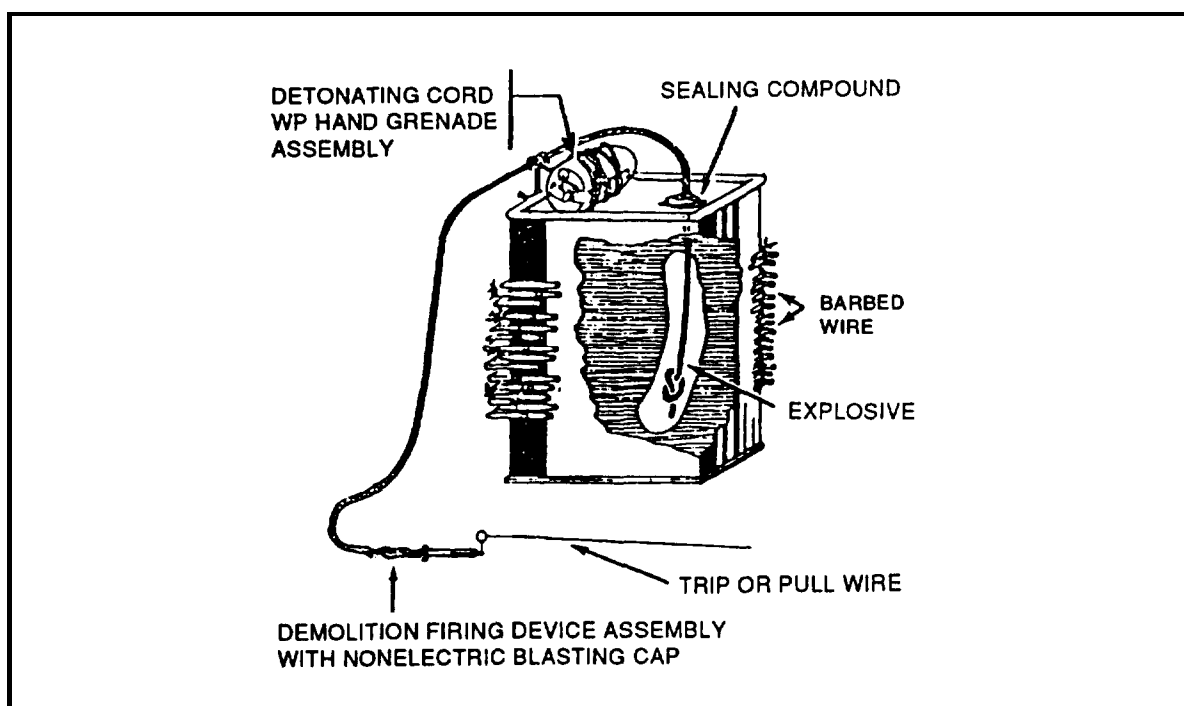


Figure 4-115. Fragmentation exploding flame device.

Contact type. This weapon is most effective when emplaced in the open where obstruction will not decrease the fragmentation effect against personnel. Best results are obtained when it is emplaced in camouflaged positions approximately 2 meters above the ground in branches of trees, bushes, or hedges (see Figure 4-116).

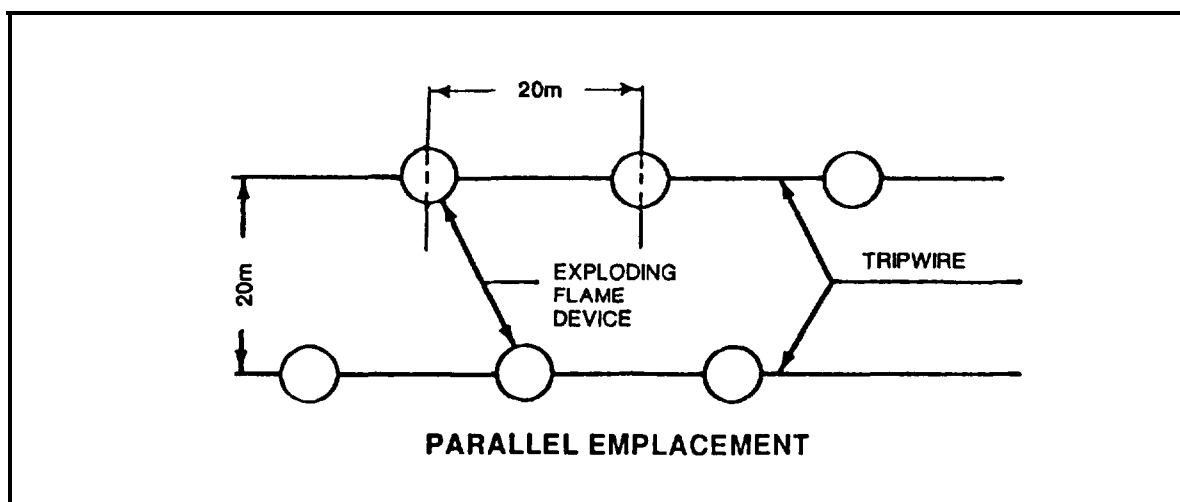


Figure 4-116. Useful nonstandard emplacement patterns for improvised 5-gallon flame field expedients.

Hasty emplacement. For hasty or overnight defensive operations (and in the absence of metal containers), holes may be dug in the ground and filled with previously thickened fuel, and fixed with an exploding device. If available, plastic containers or any suitable material may be used to line the inside and cover hasty flame field expedient emplacements (see Figure 4-117). The area covered will vary, depending on the size of the hole and on amount of thickened fuel and explosive charge used.

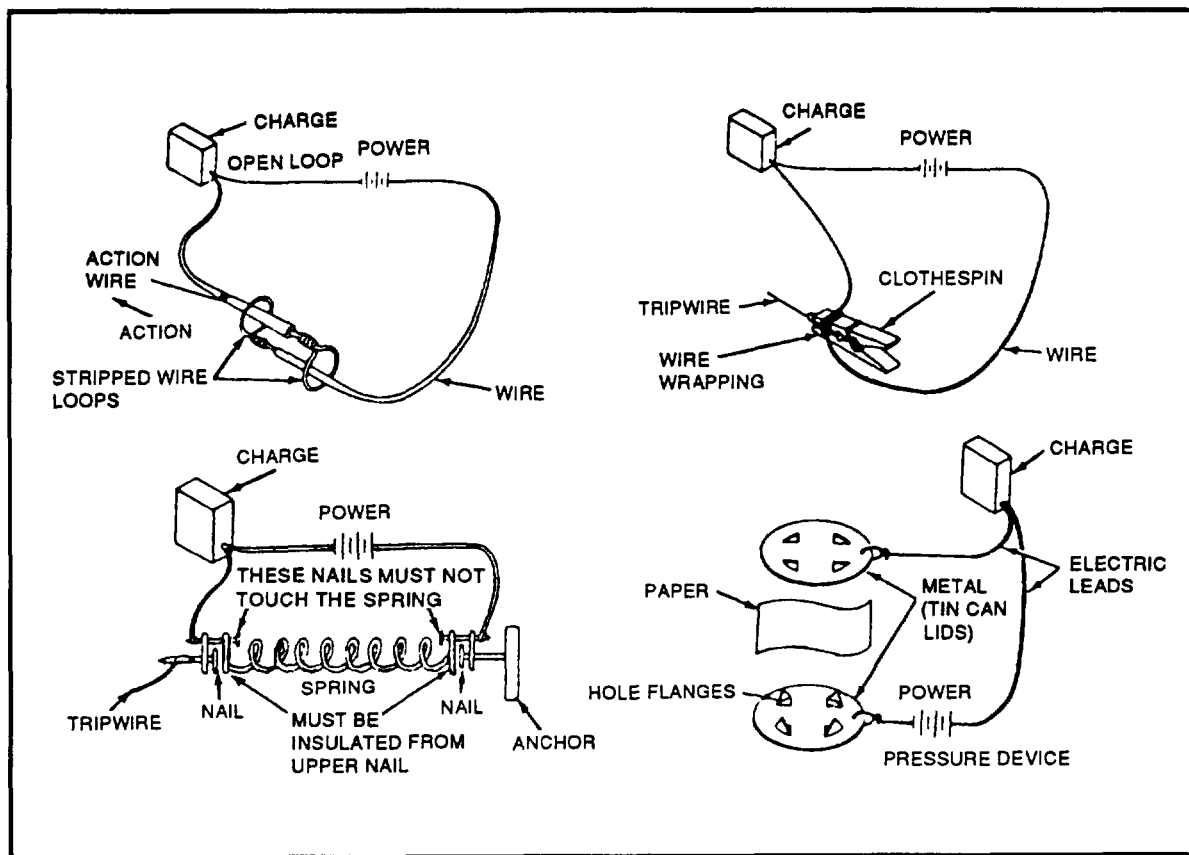


Figure 4-117. Expedient firing devices.

Wire. Most wire obstacles will not stop an armored vehicle unless it is reinforced with AT mines. Some wire obstacles, when emplaced correctly, will significantly hinder wheeled vehicles (BTRs) which may attempt to penetrate the wire barrier.

Survivability. Once the enemy has identified the position, it will bring all the fires it can spare against the position. It is important that each fighting position has overhead cover, and that connecting trench lines are constructed so that each position can be reached without exposure to fire.

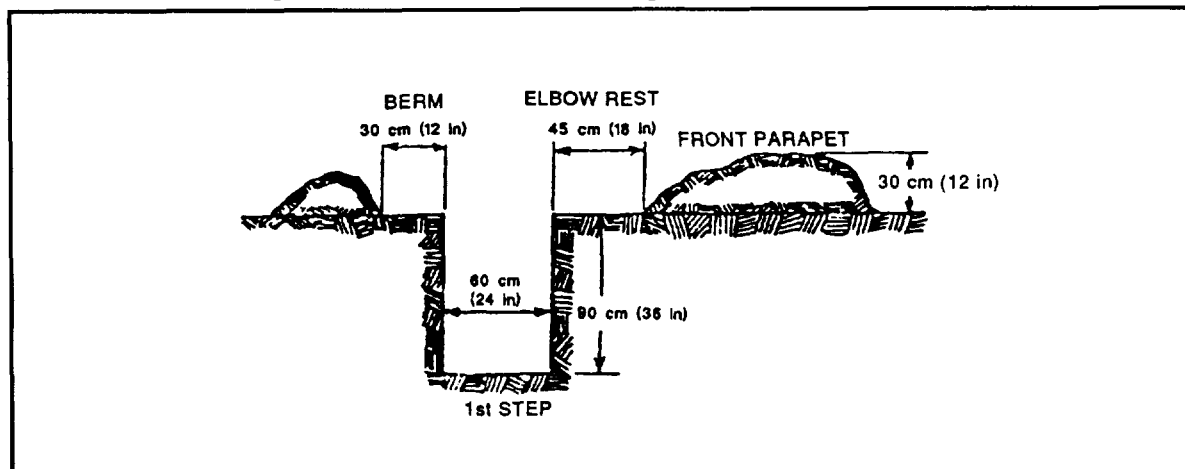


Figure 4-118. Crawl trench.

Once the commander and platoon leaders have established a location for each of the fighting positions, the responsible soldiers will begin construction. Next, communications trenches and later fighting trenches, and finally a standard trench line will connect each of the fighting positions. Figure 4-118 illustrates the dimensions of a crawl trench or what is commonly referred to as the communications trench. Because this trench will later be developed into a fighting trench, the crawl trench should have the zigzag pattern expected of the finished trench line.

After the completion of the crawl trench, the commander will have the company improve the trench into a fighting trench (see Figure 4-119). The trench is dug by men working in the same direction and far enough apart that they do not interfere with each other.

The standard trench is developed from the fighting trench by lowering it to a depth of about 5-1/2 feet (see Figure 4-120). It may be constructed with fighting bays or a fighting step. fighting positions are constructed on both sides of the trench to provide alternate positions to fight to the rear, to provide step-off areas for foot traffic in the trench, and to protect against enfilade fire (see Figure 4-121). This trench is primarily a fighting position but can also be used for communications, supply, evacuation, and troop movements.

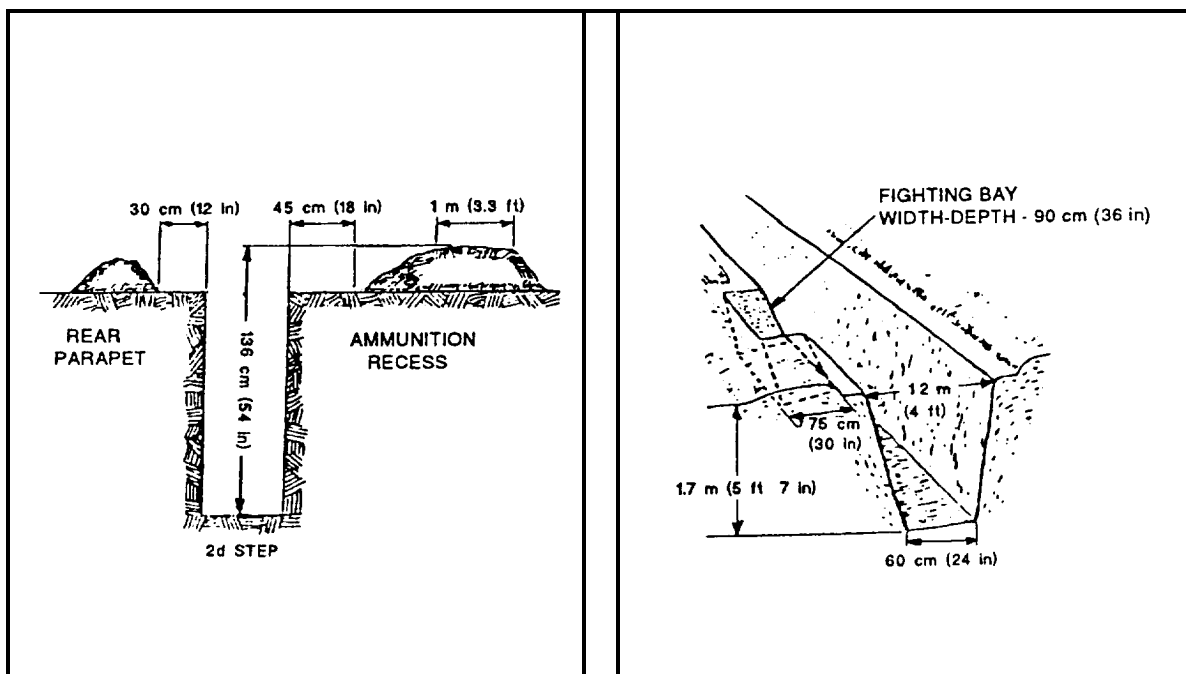


Figure 4-119. Fighting trench.

Figure 4-120. Standard trench with fighting bay.

Traces. Each trench is constructed to the length required and follows one of the traces described below to simplify construction. Special combinations and modifications may be developed.

Octagonal trace. Excellent for fighting positions, it has the following advantages:

Ž It affords easy communication.

- It affords excellent protection against enfilade fire.
- It facilitates oblique fire along the front.
- It is economical to construct, both in labor and material.
- It can be provided with a continuous fire step. Its chief disadvantage is that the layout lacks simplicity of detail (see Figure 4-122).

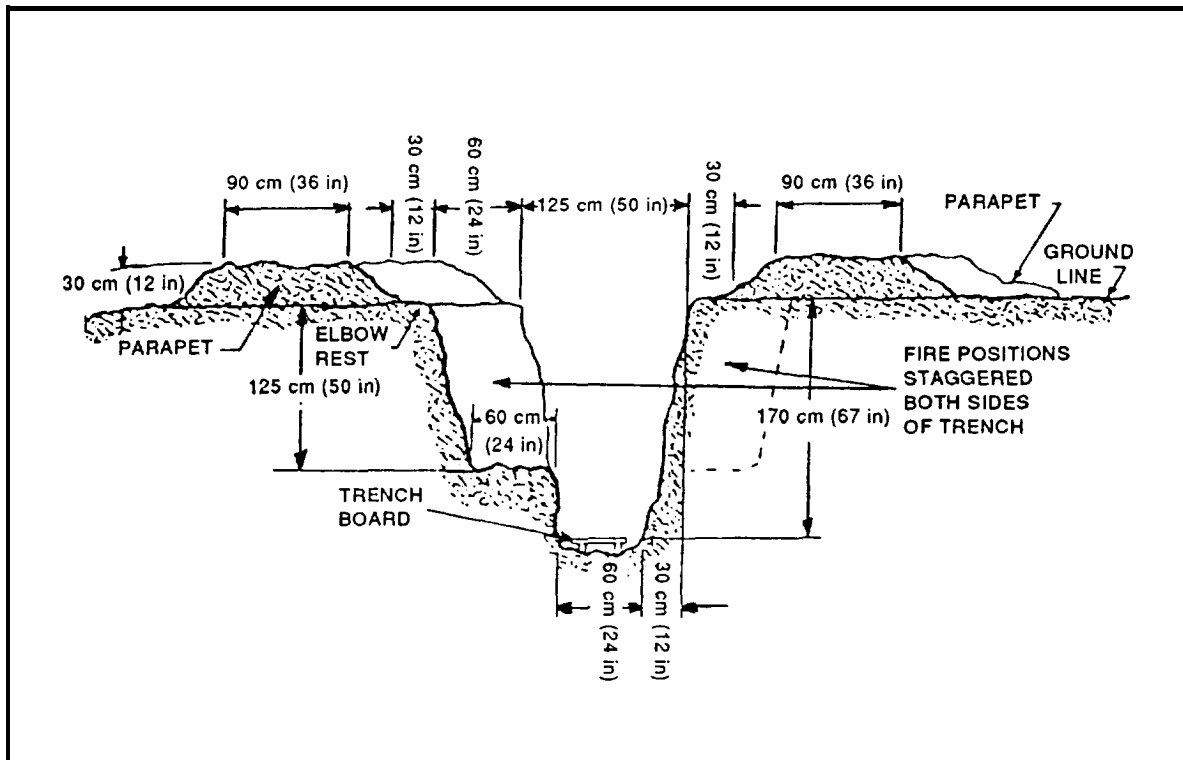


Figure 4-121. Standard fighting trench with fighting step.

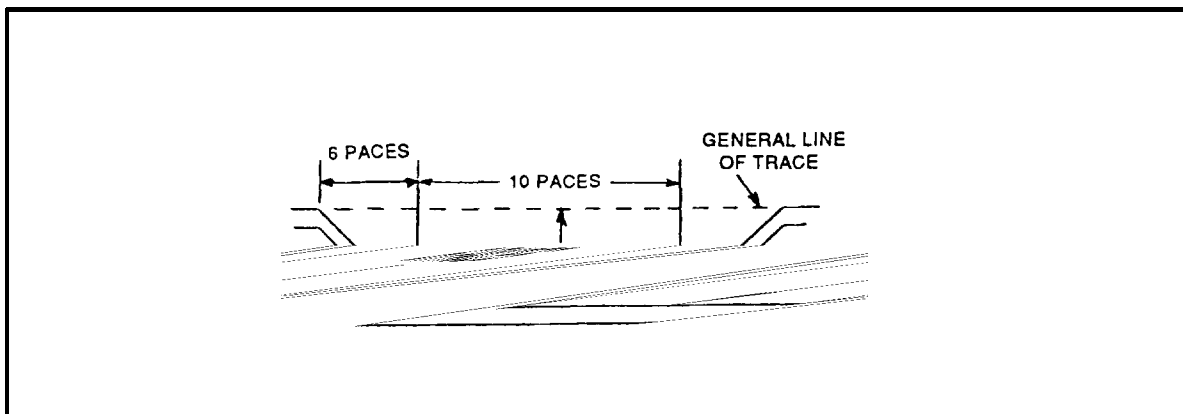


Figure 4-122. Octagonal trace.

Zigzag trace. It can provide protection from enfilade fire and shell bursts by the employment of short tangents and the occupation of alternate tangents (see Figure 4-123). The zigzag trace has the following advantages:

- It is the simplest and easiest to trace, construct, revet, and maintain.
- It may be readily adapted to the terrain.
- It permits both frontal and flanking fire.
- The trace has no specific disadvantages.

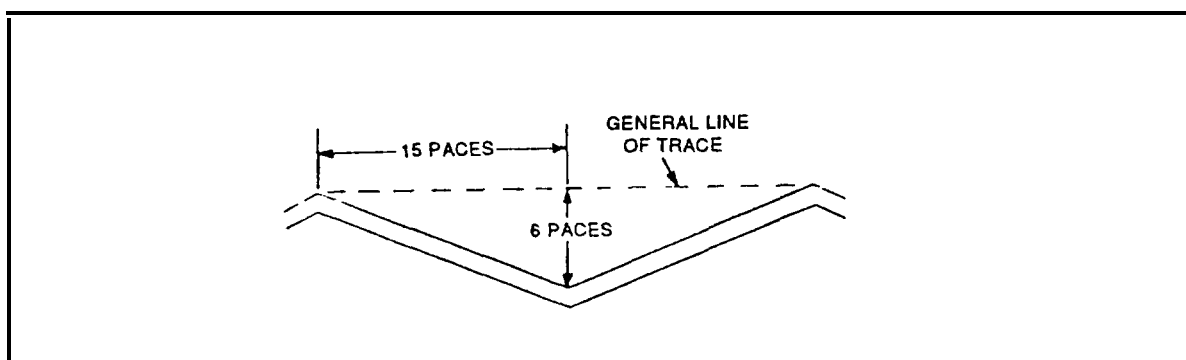


Figure 4-123. Zigzag trace.

The trench system may be connected to underground bunkers by means of a tunnel system. This provides the greatest amount of safety to the company and allows reinforcement and resupply to become very responsive, as the men are able to move quickly around the position in relative safety.

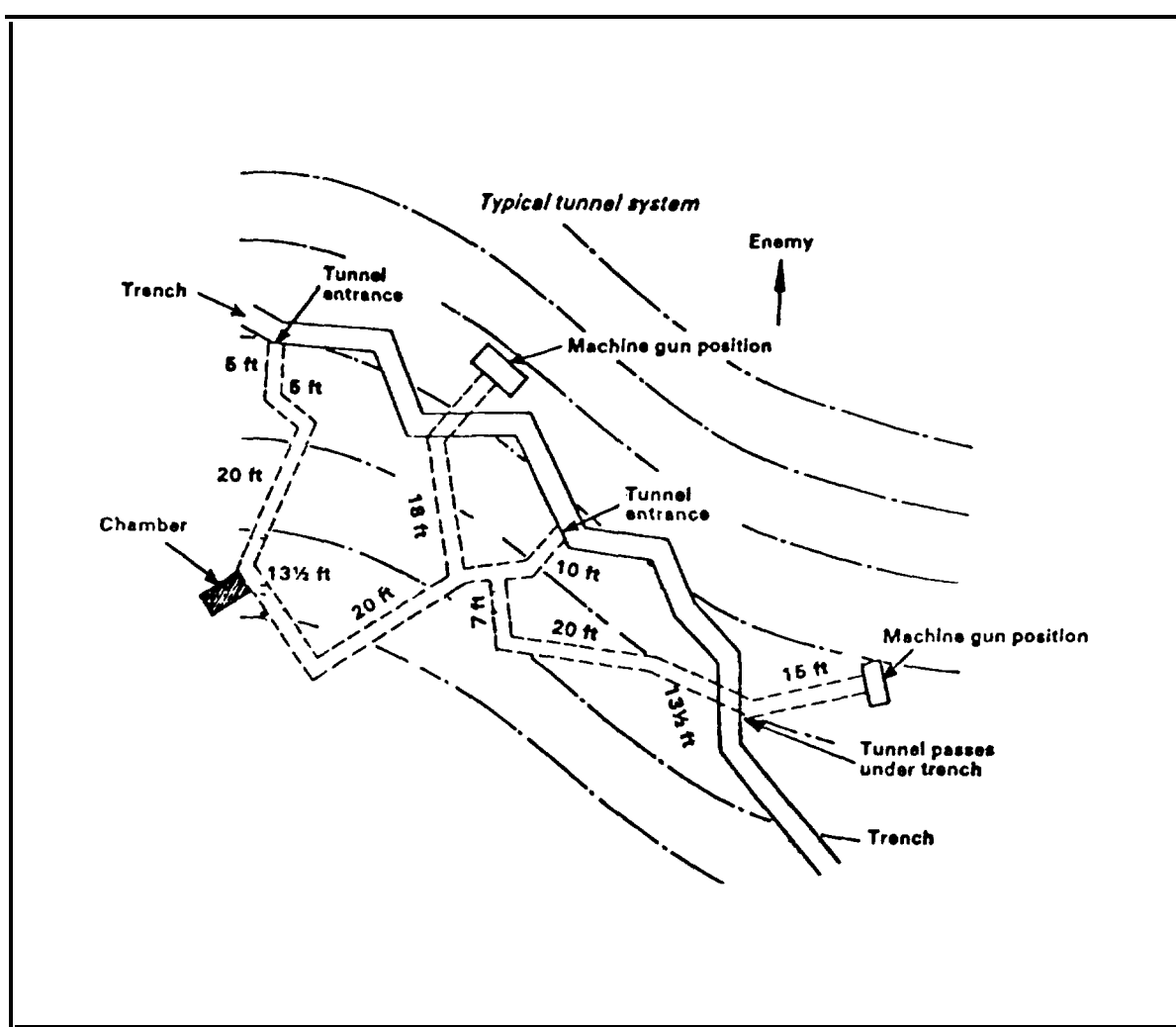


Figure 4-124. Dummy earthworks.

Dummy earthworks. Dummy trenches and fighting positions are intended to deceive the enemy as to the true disposition of the strongpoint (see Figures 4-124 and 4-125). Placing brush in a shallow trench will produce an internal shadow effect, similar to that of a deep trench. Parapets must be similar to those of other trenches, and concealed in the same manner. A dummy emplacement may be constructed by placing a box on its side, open toward the enemy, and covered with earth (see Figure 4-126). This will appear as a deep internal shadow to the enemy. When incorporated with the actual positions, the dummy earthworks will deceive both aerial and ground reconnaissance.

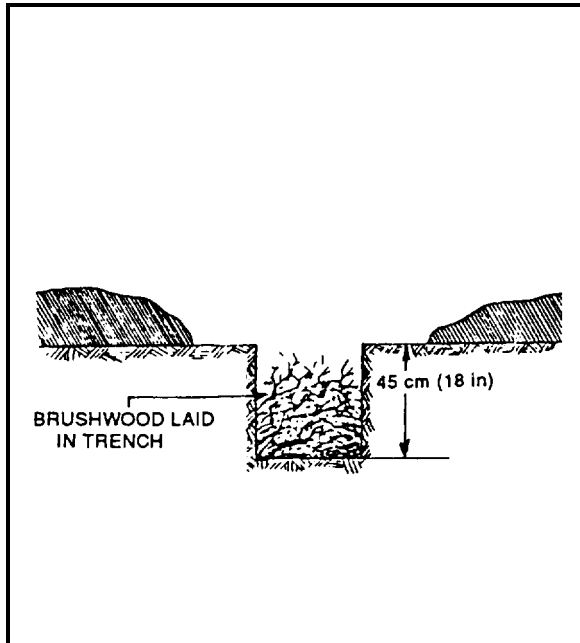


Figure 4-125. Dummy trench.

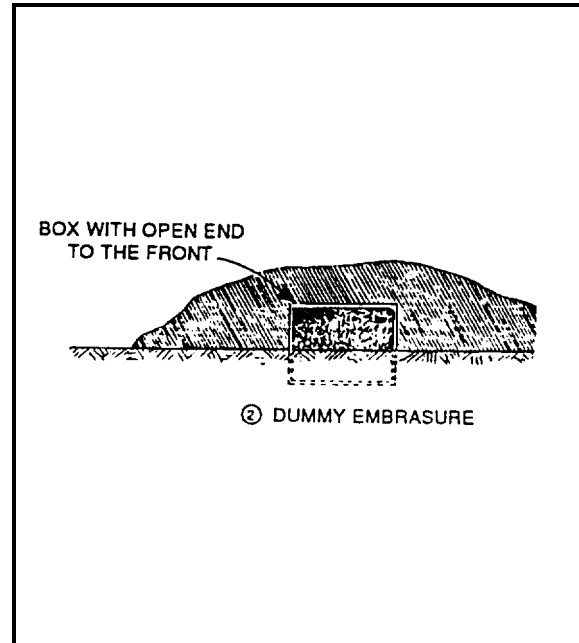


Figure 4-126. Dummy embrasure.

Mobility. The mobility within a strongpoint is centered around the ability of the CSS personnel and the reserve to accomplish their respective missions. Therefore the connecting trench line is essential to conducting resupply operations. From the perspective of the reserve, the trench line may serve their need to respond to a particular area within the strongpoint; however, a mounted reserve may require a cut road and prepared fighting positions which allow it to cover a specific area (see Figure 4-127). Whether mounted or dismounted, the reserve must be able to respond quickly, arrive as a surprise to the enemy, and at full strength. Should the enemy interdict or prevent the commitment of the reserve, the defending commander will have lost his ability to significantly influence the battlefield.

Air Defense

Planning for the strongpoint air defense involves selecting Stinger team firing positions which may be incorporated into the fortification plan. The firing positions must be linked to the trench line and the missiles should be prestocked in proximity to the firing positions. Of course the firing positions must be able to orient on the enemy air avenues of approach, but they may not be able to locate within the position on the high ground. This is because a fighting bunker will most likely control the internal ground of the strongpoint and is more important to the survivability of the position.

Combat Service Support

The first thing to keep in mind when supporting a strongpoint is to keep the supply route open as long as possible (see Figure 4-128). The company should avoid using prestocks as long as the resupply can occur as it would for a BP. The main difference being, once the supplies reach the rear of the position, they must be handcarried to the destination. Should the strongpoint become isolated, then the company must be prepared to survive on its own. Every class of supply should be prestocked throughout the position. The company would

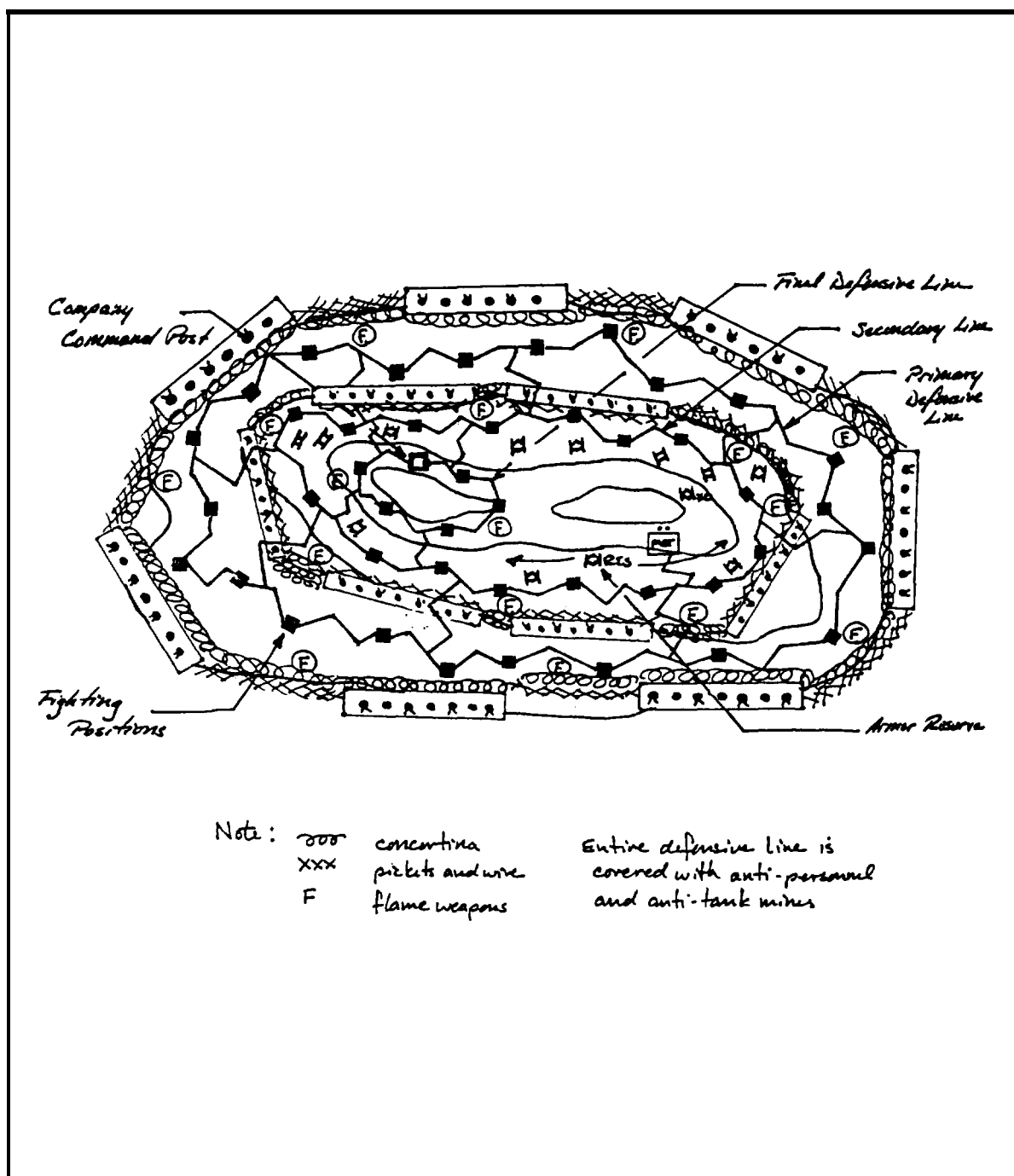


Figure 4-127. Strongpoint fortification and reserve plan.

also receive additional support which would be required to sustain its operations. This would include a surgeon or physician's assistant, support platoon personnel to carry supplies, radio repairmen, and a section of mortars.

Each of these elements must be placed within the position, and also given a fighting position should it be necessary. A resupply and evacuation plan must be prepared, and if possible, routes should be marked within the strongpoint so that traffic can be kept one-way.

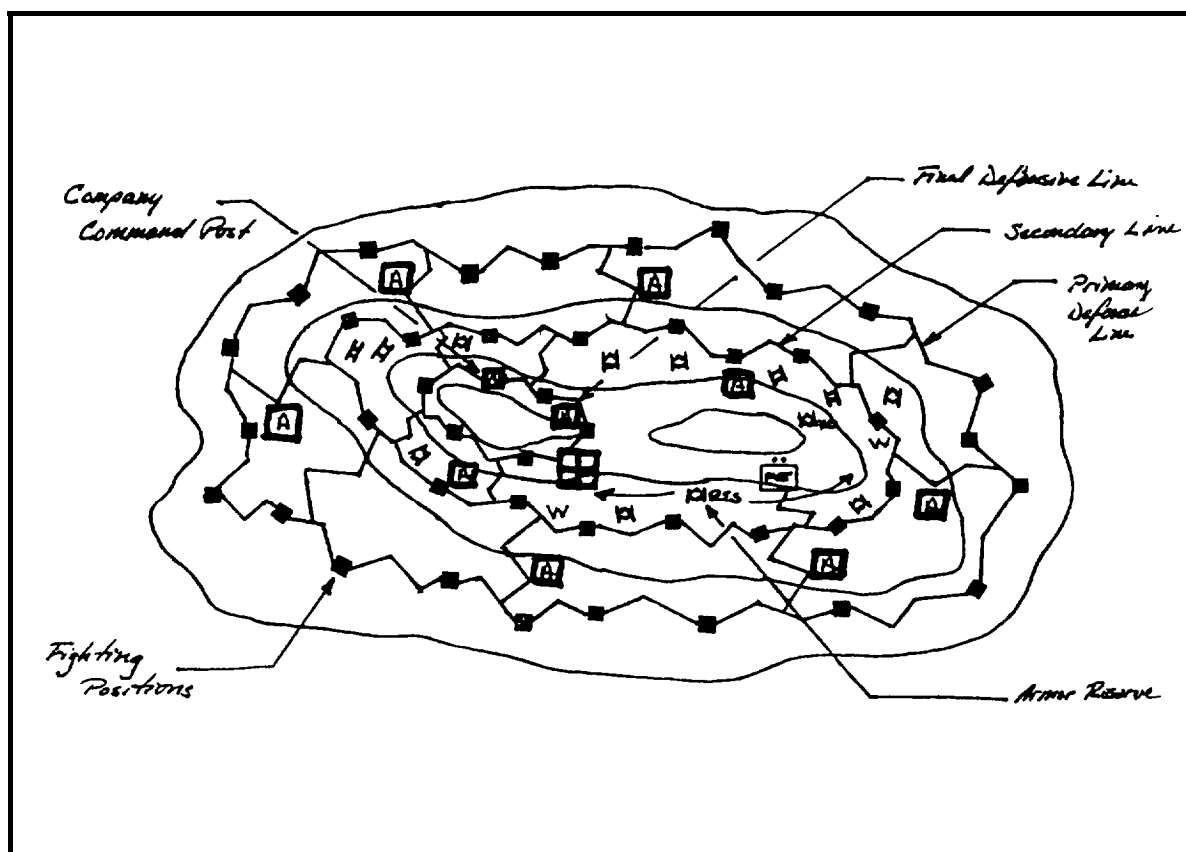


Figure 4-128. Company team combat service support plan.

Command and Control

The commander will have to take advantage of any opportunity to conduct offensive actions, whether they include engagement by artillery, the use of flame weapons, ambushes, or counterattacks. He must ensure that his direct and indirect-fire instructions are sound and easily understood. He should use as many event-driven activities as possible. Even though wire will be buried, there is no telling of its longevity under heavy artillery suppression. He must select a position which allows him to watch the strongpoint and make timely assessments, as well as decide when and where to commit the reserve.

Preparation

Intelligence

The company commander prepares for the strongpoint defense by conducting a rehearsal to check the effectiveness of his defensive and fire plans. The commander will initially drive the enemy avenues of approach. He will begin by examining his decision support template as it relates to the battalion's EA. Specifically, the commander ensures his assumptions concerning the direction of the enemy attack, locations for changing formations, and actions on confronting obstacles are accurate.

Once that is complete, he will systematically negotiate each enemy avenue of approach into the strongpoint. This will replicate the enemy isolating the position and conducting probing attacks to find a weakness. As with the main EA the commander will examine the decision support templates he has constructed for each of the flank and rear avenues of approach and confirm his impression of the likely maneuver plan.

If an LP/OP is placed outside the position, he ensures the communications are effective and redundant. Also, he will ensure there is a path by which the LP/OP personnel reenter the position if necessary. Their

areas of observation and reporting procedures will be checked during the rehearsal to ensure that they are able to accomplish their assigned mission. Their sustainability and camouflage will also be examined from the perspective of the enemy.

The commander will annotate identified discrepancies from the decision support template and during the rehearsal, and will adjust it accordingly. Some changes to the company surveillance plan may be required however, the commander should avoid making drastic changes if possible.

Maneuver

The commander will be concerned about two phases of the strongpoint battle: the initial defense as it relates to the battalion defense plan, and the defense of the strongpoint itself. He will begin by confirming his direct-fire plan.

After the initial defensive phase has been rehearsed, the commander will direct his attention to the strongpoint defense. As he drives each of the avenues of approach, he will check to see how well the position is camouflaged and whether or not dummy positions and bench lines appear realistic. Next, he will determine if the direct-fire plan is executed according to plan. Each element will radio to the commander when he initiates engagement. The commander ensures he is at the appropriate trigger line location when this occurs. He should attempt to drive the terrain as much as possible to give the gunners an impression of the target present times. This is especially important for wire-guided missiles.

The commander should walk the areas likely to be used by dismounted enemy to identify any dead space that may have been missed during planning and construction. In particular, the commander should verify that flame weapons, Claymore mines, and other command-detonated munitions are assigned to individuals who understand the event-driven initiators that will trigger the mines.

Within the position, the commander will examine the internal direct fire measures these are orientations to the rear or to the flank, which would serve in isolating an enemy penetration of the perimeter. He will rehearse the company falling back to a second defensive perimeter and the direct fire control measures necessary to accomplish the maneuver. He will exercise the reserve to see that it can accomplish each of its missions effectively. The reserve must be able to move relatively undetected, set up in position, and orient appropriately to augment the existing defensive fires. Finally, the commander will check the last line of defense, which is usually a fighting bunker or bunker complex, to verify its direct fires within the position.

Fire Support

The company commander will conduct the indirect-fire rehearsal with the maneuver rehearsal. First, he will examine the indirect fire plan as it is incorporated into the battalion FS plan of the main defensive battle. He then ensures that company called fires are synchronized with the direct fire, and are able to simultaneously engage the enemy at the desired place and time. He will rehearse the FS plan for each of the remaining avenues of approach into the strongpoint position.

The commander will check the FPFs along the company defensive perimeter. FPFs will be called should the enemy appear close to penetrating the position. Similarly, fires along the trench line may be used to suppress any enemy who enter the perimeter. A second set of FPFs should be planned forward of the second line of defense, and lastly, fires should be planned on the final defensive positions should it become necessary to call fire onto our own position.

The commander ensures that the FSO has a fortified position from which he can observe the battle. Redundancy must be planned for the field artillery communications, and if possible, the FIST may be positioned separately so as not to present a single target. At first communications from the trench line to the FSO will be over the company command hot loop. If that becomes destroyed, an alternate means of communication will be necessary.

Mobility, Countermobility, and Survivability

The commander will assess the effectiveness of the obstacle system as he drives the enemy avenues of approach. He ensures that the obstacle plan is completely integrated into the direct and indirect-fire plan by monitoring engagement reports and calls for fire as he inches each of the obstacles. The proper positioning

of the minefield is extremely important. The enemy should not be able to identify the obstacles until he is unable to find a bypass or easily extract his formation.

Obstacles that turn the formation should do so gradually, allowing the enemy commander to think that he is proceeding as planned until he unknowingly becomes vulnerable. At that point, the commander must verify that the fire plan takes proper advantage of the enemy's vulnerability.

The commander should also check the close-in protective obstacles to verify their sufficiency against both mounted and dismounted assault. Booby traps and command-detonated devices should be checked and the obstacle reinforcement plan rehearsed so the barrier will be executed with reoriented direct fires.

Within the position, precharges on the initial defensive trench should be set so that if the enemy does penetrate a portion of the trench line, it may be detonated and reoccupied. Claymore mines should be positioned at turns within the trench to prevent any progress in clearing the trench. Dummy trenches and special false trenches equipped with booby traps should look like actual trenches. If the assets are available, AP and AT mines should cover the top of the position. This will force the attacker into the trench line where he is reduced to a one-man frontage, and loses mass and momentum.

The fighting positions should be inspected to ensure they are properly camouflaged and dummy positions are easily mistaken for the actual fighting positions. Bunkers should be inconspicuous, yet able to cover their assigned area. Routes for the counterattack force must remain clear throughout the rehearsal and actual execution so that the counterattack force can arrive unimpeded.

Air Defense

The Stinger teams must practice issuing air defense warnings over the company hot loop and command net so that the strongpoint weapons can adopt an air defense posture. Warnings should cover air attack along each avenue of approach so the company has practice engaging in all necessary directions. If available, extra Stinger gunners may be recruited from some of the CSS personnel in order that all the grip stocks will carry a missile.

Combat Service Support

The CSS plan should be rehearsed concurrently with the maneuver plan. Specifically, the support personnel must practice moving to each part of the strongpoint as they would under combat conditions. Stretcher bearers should carry their stretchers to identify possible areas where they may have difficulty transporting a casualty. Sharp turns in the trench line which inhibit casualty evacuation should be noted and the engineers informed so that appropriate action may be taken.

The prestock plan should be reviewed and each man should know where he can get additional ammunition, particularly assistant machine gunners. The traffic plan within the strongpoint should be checked to ensure that it does not impede the defense of the position. Conversely, the plan must expedite support to the frontline. Buddy-aid will be very important to the survival of the company, especially considering the amount of fire the strongpoint will draw. Therefore, additional medical supplies should be located near or in the fighting positions.

Command and Control

The commander must ensure that his location is effective for observing the battlefield. The XO should be positioned to cover the area the commander is unable to observe. The certainty of heavy enemy artillery and rocket suppression on the strongpoint will present difficult challenges to the commander and his ability to control the battle. Wire will probably be the first means of communication, then radio, then messenger. More importantly, however, each man must know when he must engage and where he must orient; he must be prepared to fight on his own, without guidance, once the attack begins. The commander must make sure during the rehearsal that this is the case.

The commander must also validate his decision support template; he ensures that the enemy course of action reflects the type of maneuver found to be the most realistic as a result of driving the terrain. Armed with this information, he will review the conditions under which he would commit the reserve. His greatest concern is that he must not overreact and commit the reserve early. If the reserve becomes decisively engaged early in the fight, the commander loses his ability to influence the battle. If he waits too long, he

could lose everything. Therefore, the preconditions which trigger the release of the reserve and the time it will take for them to arrive in place must be clear in the mind of the commander before execution.

Execution

Intelligence

As the enemy enters the battalion sector, the scout platoon will begin to report the enemy's location, strength, and probable course of action. As the screen is withdrawn, the company will begin to engage the enemy with indirect fires. Once the enemy reaches the battalion EA, the enemy will be engaged per the battalion defensive plan. A more in-depth discussion of the main EA fight is found earlier in this section under Defend a Battle Position.

If the enemy is able to press the attack and isolate the position, then company stay-behind patrols will report enemy movements around the strongpoint position. Because they will be situated to cover the areas not observable from the strongpoint, they will be able to direct continuous artillery fire on the enemy even before he gets within line of sight. These reports are essential to the commander's ability to anticipate the intentions of the enemy. If he knows that the enemy is forming for an attack from a specific direction, the commander may reposition forces within the strongpoint to meet the attack.

Maneuver

Forewarned of the impending action, the commander will have his weapon systems oriented to meet the enemy force; however, security will be maintained all around the position throughout the battle. Once the enemy meets the engagement criteria and crosses the trigger line, the company will open up with both direct and indirect fire. Fires will try to optimize the effect of the obstacle plan, fragmenting the enemy formation and destroying his force piecemeal.

If the enemy is able to continue the attack and approach the strongpoint in an attempt to make a penetration, the company will specifically target breaching equipment to include tanks with minerollers or plows. Additionally, the direct and indirect fire will separate the armor forces from its trailing infantry. If the close-in obstacle is effective in preventing enemy vehicles from entering the perimeter, the enemy infantry will attempt to continue the momentum with the support of all available direct and indirect fire. To repulse the dismounted attack, soldiers will man the command detonated munitions and destroy the enemy as he attempts to negotiate the wire obstacles.

Should the enemy penetrate the defensive perimeter and enter the trench line, the defending forces will orient inward to isolate the penetration. The enemy will be engaged by both direct and indirect fire, and as they attempt to expand their gains, Claymore mines, and other demolitions. Once the penetration has been halted and terminated, the defenders will counterattack to reoccupy their original fighting positions.

If the enemy is able to expand his initial penetration of the perimeter, the commander may choose to withdraw to the next defensive perimeter. FPF will assist the withdrawal, and units will cover each other's moves as they occupy their new positions. If planned and executed properly, the second perimeter should be every bit as formidable as the first. Also, with the minefield covering the position, the enemy is forced to attack up the trench line.

At this point in the battle, the defender should fight with absolute determination. If the counterattack has not occurred until now, it certainly will be a valuable asset to the commander as he attempts to have strength meet strength. From the attacker's standpoint, however, they have made progress and may feel that victory is obtainable. Therefore, it is up to the defender to break the will of the attacker. This can only be done by firepower and accurate shooting. If the enemy makes a final effective push, the last resort is for the remaining defenders to withdraw to their bunker complex and call artillery or air strikes onto their own location.

Fire Support

In its initial stages the FS plan will be executed as described in other company team defensive operations. However, in the case of the strongpoint, once the enemy has isolated the position, the artillery's role becomes absolutely essential to the success of the mission. The strongpoint essentially trades space for fortification

and firepower. Indirect fire, therefore, must be used heavily and with great effect to prevent the enemy from entering the position.

As mentioned earlier, the stay-behind patrols will adjust artillery as the enemy forms up and approaches the position. This interdiction should degrade the enemy's C2. However, once the enemy encounters the obstacle belt the artillery must be devastating. Target groups must be called against the stalled formation while other fires reinforce the obstacle system. All the while, direct fire will rake the formation to complete destruction. Dismounted infantry should not survive the fire.

If the enemy is able to close with the position, the indirect fires will continue until the enemy breaks or enters the perimeter. If the enemy gains a foothold, the commander may attempt to concentrate indirect fire on the penetration; however, if the attack was extremely successful, he may call for an FPF to allow his force an opportunity to regroup.

Once the second perimeter is occupied, the process will be repeated. As mentioned earlier, as a last result, artillery may be called on the position itself as the defenders seek the safety of the bunker system.

Mobility, Countermobility, and Survivability

Should the enemy push through the EA and approach the protective minefield, direct and indirect fire must increase in intensity. However, command-detonated munitions will make the close-in obstacle system somewhat more active through the use of flame weapons, shrapnel demolitions, and a heavy mix of all types of mines and wire. If properly sited, the dismounted infantry will be unable to negotiate the gauntlet of booby traps, mines, and demolitions.

If the enemy is able to enter the perimeter and the trench line, previously emplaced mines along the trench line may be executed to destroy anyone who has entered. Afterward, the defenders can reoccupy the position. Dummy trenches may also lure an aggressive enemy into a series of booby traps and mines. Mines placed on top of the position will keep the enemy in the trench line where he is easily isolated and destroyed by direct and indirect fire.

Air Defense

The Stinger teams will notify the company of any impending air attack. If the strongpoint is being heavily suppressed, the Stinger team will probably not be able to engage. Therefore, the strongpoint must rely on air defense assets outside the strongpoint which can cover the area.

Combat Service Support

The CSS plan will be executed as required by the needs of the company. Heavy suppression may impede some support operations; however, evacuation teams will move forward as required to carry wounded to the aid station. The 1SG must keep a careful watch on the rate of sustained casualties as they relate to the perimeter. Should a portion appear to become weak, he should inform the commander, who will take the appropriate action.

Command and Control

The commander will observe the battle from whatever position is necessary. It is imperative that he locates himself where he can visually assess the battle, and if need be, personally direct the soldiers. As mentioned earlier, his primary concern will be knowing when to commit the reserve. He must be located where he can make an immediate assessment and decision, launching the counterattack as needed. Communications will be difficult if the hot loop is cut and artillery suppression makes listening to a radio almost impossible. Runners will be needed to deliver the messages of the commander.

SECTION IV. EUROPEAN DEFENSIVE SCENARIO

The division will defend with 2d Brigade in the north, 3d Brigade in the south, and 1st Brigade in reserve (see Figure 4-129). An ACR will be the covering force in the southern three-quarters of the division sector, and 2d Brigade will cover the northern quarter. Both covering forces will operate under division control. The BHL will be PL DICK. The 2d Brigade can anticipate a weak enemy attack, but the ACR will likely

encounter strong reconnaissance forces and the enemy main attack. The ACR must destroy the reconnaissance forces and the first-echelon MRBs, which forces the commitment of the follow-on MRBs of the lead MRRs. Once the ACR forces the commitment of the second echelon and identifies its main attack, the ACR will hand the battle to 3d Brigade. With 2d Brigade holding strong in the north, 3d Brigade will destroy the remainder of the first-echelon MRR east of the Haune River. This will force the enemy to have his second-echelon MRR conduct a hasty river crossing. The 3d Brigade should use the Haune River to force the enemy to piecemeal his attack, and should defeat this second echelon east of the Fulda River (PL BOB). By holding the Fulda River in the center, an assailable flank will be created for the 3d Brigade counterattack. This attack will destroy the remnants of the lead MRD combat forces, which include its C2 and logistics. Furthermore, the 3d Brigade will be well-positioned to meet the second echelon of the CAA. The window for this attack is about 6 hours, so timing is critical. The division will use BAI, interdicting fires, and attack helicopters to increase this window. When 1st Brigade is committed the division cavalry squadron will screen the eastern flank of the attack, and will continue east from Hunfeld to identify the lead of the 2d Division.

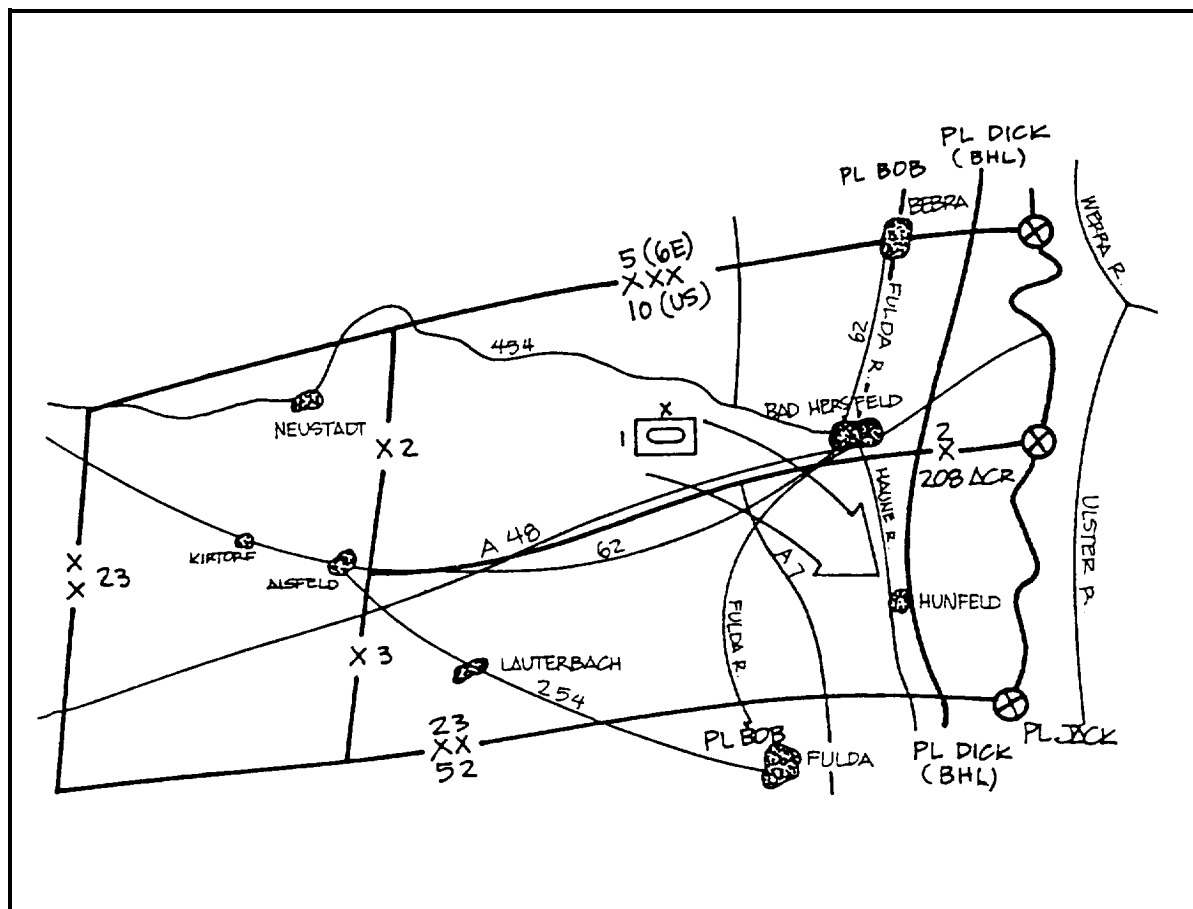


Figure 4-129. Division plan.

Brigade Defense Plan

The division LO delivers the WO and the commander's concept to the 3d Brigade commander (see Figure 4-130). The LO uses a sketch and map of the area in his explanation of the division commander's concept. After several questions are answered, the LO departs. The brigade commander reviews the WO and realizes he has about five days to prepare the defense.

UNCLASSIFIED SAMPLE	
	Copy <u> </u> of <u> </u> copies 23 AD KIRTORF (NB0724), FRG 070600 FEB XX
WARNING ORDER	
1. SITUATION. 23AD will be attacked by the 8CAA not earlier than 130600 FEB XX. 4MRD with 3MRR forward in the north (AXIS--BAD HERSFELD, NEUKIRCHEN, STADT ALLENDORF) and 39GMRD with 2MRR forward in the south (AXIS--HUNFELD, LAUTERBACH). 39GMRD will be the main effort.	
2. EARLIEST TIME OF MOVEMENT. Bdes may SP on approved deployment routes at 071200 FEB XX.	
3. NATURE/TIME OF OPERATION. 23AD defends with 2 Bdes forward and 1 in reserve NLT 120600 FEB XX to defeat the 8CAA. 1 Bde reserve, AA BILL vic SW NEUSTADT (NB1032); 2Bde--NB535480, NB421269, NB252430, NB202214; 3BDE--NB421269, NB443065, NB202214, NB221045.	
4. DIV OPORD at 080600 FEB XX at KIRTORF NB078243.	
5. ACKNOWLEDGEMENT: XZ 24.	
GARRETT MG	
OFFICIAL:	
TANK	
G3	

Figure 4-130. Sample warning order.

The brigade commander begins his mission analysis to determine the essential task and why the brigade must accomplish the mission. This allows him to do two things: issue his restated mission or provide planning guidance to the staff. Based on his analysis, he determines the essential task to be defend in sector. The restated mission becomes: 3d Brigade defends in sector from NB421269 to NB443065 NLT 120600 FEB XX to destroy the lead MRD of the 8th CAA and provide a time window for the division counterattack.

The brigade XO takes the restated mission and begins to draft a WO to the subordinate units. This WO is based on the division WO and the commander's mission analysis. Movement of the units to forward positions is included, along with the time and place of the brigade OPORD. Although vague, this WO allows subordinates to begin their own planning and reconnaissance, and as more information is obtained, FRAGOs are issued as updates.

While the WO is being drafted, the commander reviews his mission analysis and conducts a detailed map reconnaissance. During the map reconnaissance, the commander mentally develops a MCOO, enemy course of action, and situation template. This review helps to develop planning guidance so the staff can begin an estimate. The commander has two concerns: placing sufficient combat power forward to control the first-echelon division and to cause attrition, and providing a reserve large enough to destroy their attack. He knows he must use some brigade assets to control not only the speed of the enemy attack, but also the size of the enemy unit that each task force must face at one time. The staff also provides subordinate units a plan that allows them to fight the enemy while still in an approach march. This maximizes the capability to attack the enemy flanks. With this in mind, the commander issues the following guidance to the staff.

"I'm not set on any one course of action. Look at the terrain and place the combat power to control terrain that restricts the enemy's movement. Try to keep the enemy in column so that the task forces can attack the flanks. Use CS assets to enhance these natural choke points. I don't want the DS field artillery battalion in the counterfire business unless it is a RAG or DAG supporting the unit attacking us. Consider both a large, two-task force, and a small task force (-), reserve. Accept some risk in the southern and northern AAs, but for counterattack purposes, protect the road network in the center of sector. Plan to commit the reserve so that it hits the enemy while he is still in regimental column. XO, let's get a decision on this by 1400 hours today, and we'll provide the task force commanders a brief on the concept at 1700 hours. Don't get locked in as though this is a final product, because some changes will be necessary once the division order is final."

Without a final order, the staff begins the operations estimate based on the WO and the commander's guidance. The S2 section and the S3 identify the AO and agree on the area the MCOO will include. During the preparation of the MCOO, the S2 section also identifies the order of battle of both the 4th MRD and the 39th GMRD, since one or both could enter the defensive sector of the brigade. Current weather and light data are obtained. Doctrinal templates of an attacking MRR are evaluated to determine changes predicated on the

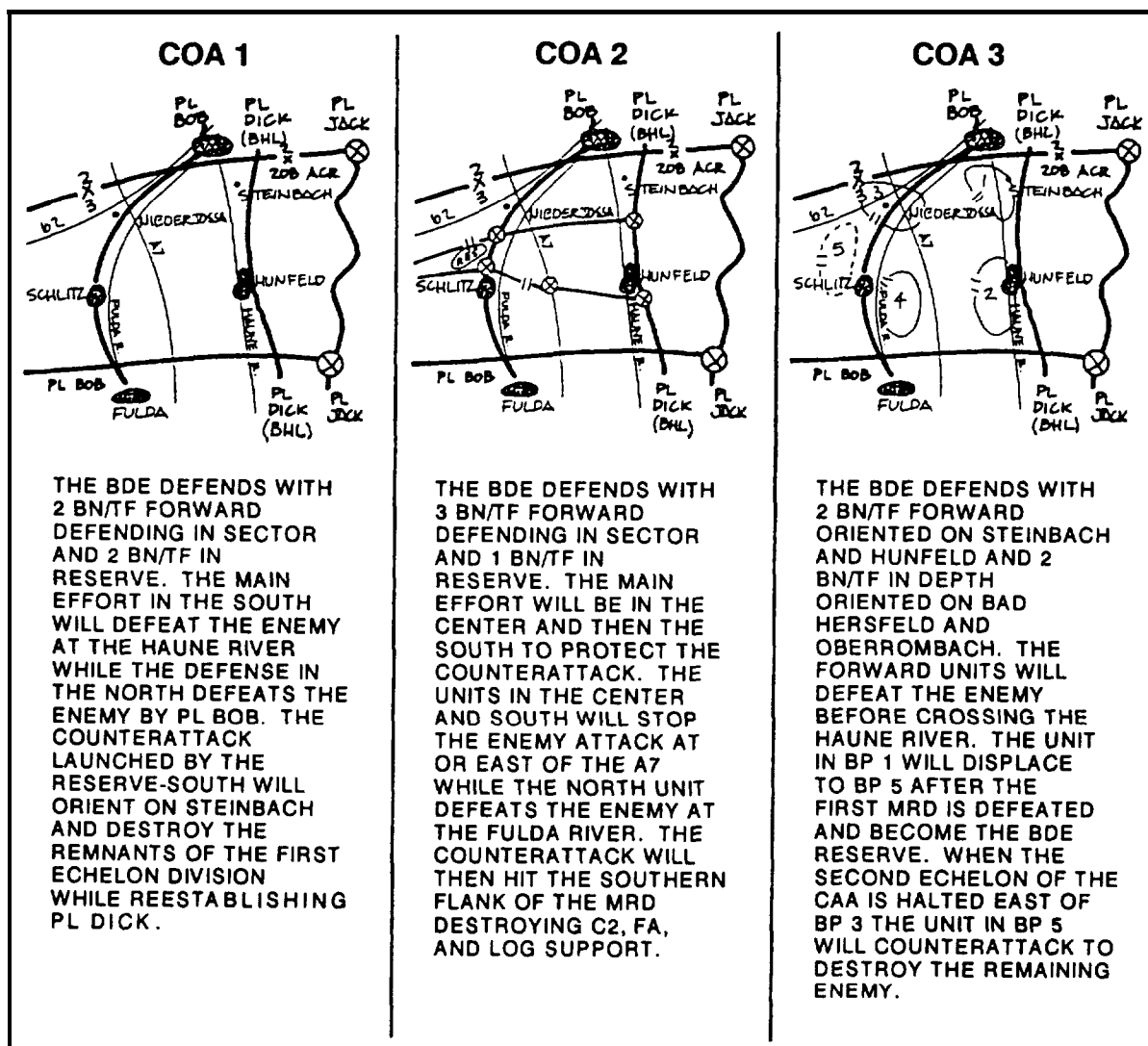


Figure 4-131. Three possible courses of action.

order of battle and the effects of terrain and weather. These situation templates are used later when war-gaming. Finally, the S2 establishes the capabilities of the enemy and develops the enemy's most probable course of action. This course of action could be expressed in time lines showing how the attack will be conducted, where forces will be located, and what objectives will be taken.

During this time, the S3 evaluates the time and troops available to complete the mission. He arrays these forces to develop the course of actions that follow the commander's guidance and accomplish the mission. In this scenario, the S3 develops the three course of actions illustrated in Figure 4-131.

The S3 presents these courses of action to the staff as soon as they are completed. The S1 estimates the personnel losses for each subordinate unit in each course of action while the S4 does the same for equipment losses and consumption of Classes III, IV, V, and IX.

The staff and, if his duties allow, the commander then use the products developed (situation template, order of battle, MCOO, and course of action sketches) to war-game each course of action to determine strengths and weaknesses. The course of action can be modified during the war-gaming to make it stronger and better able to accomplish the mission. Any changes are disseminated to the staff. Each course of action is independently war-gamed, and its advantages and disadvantages recorded.

When all the courses of action have been independently war-gamed, the XO leads the staff through the comparison process and the development of the decision support template with synchronization matrix. They start by reviewing the critical events of the operation. These events include the battle handover, defeat of the first and second echelons, and commitment of the reserve. Using these events as a point of departure, the staff concludes that course of action 2 is the best to recommend to the commander. This course of action places the most combat power forward to conduct the battle handover, allows one battalion task force to focus on one main AA controlling the enemy's ability to mass, allows the brigade to mass its forces against the enemy attack in small pieces (never larger than an MRB), holds the reserve until the main attack is clearly identified, and retains internal counterattack routes.

The XO assembles the staff and provides the commander an informal decision briefing that recommends course of action 2. The commander approves the staff's recommendation, and with all the key staff leaders present, he states the tentative plan (see Figure 4-132).

"We expect the enemy to initiate his attack from present positions in five days. The covering force should reduce his first echelon strength and force him to show his main attack. We will initially see up to three tank and two MRBs in the north, and one tank and one MRB in the center, and two tank and one MRB in the south, from the first-echelon division. Our recon effort must observe the lateral mobility corridors open to the enemy. Once we defeat the remnants of the first-echelon division, we should see the 9th GTD without much of a break. I expect their main attack on the northern avenue of approach. That means at least one tank regiment and possibly two on that avenue.

"We will defend with three task forces forward defending in sector. The fourth task force will be in reserve, and located west of the Fulda in the forest west of Rimbach. We need balanced task forces in the north and south and mech heavy in the center. Based on the AA, the S2 is probably right and the main attack will be in the north. That is not to say we will not see a strong effort in the south and center. The center task force is a linchpin in this defense. It must initially defend east of Langenschwaz (NB4419), but must have prepared positions to occupy rapidly to defend the northern and southern approaches along the Fulda, in priority. The defense of this BP and the high-speed routes it protects are the hinge of the brigade's scheme of maneuver. The success of the center task force guarantees the mobility and protection of the counterattack. The reserve must be prepared to counterattack east and then swing either north or south into the enemy's flank. The counterattack objectives in priority are LYNX (NB4622), then TIGER (NB48 12). As a third priority, the reserve must be prepared to conduct the counterattack north or south along the Fulda River. Task organization is summarized in Figure 4-133.

"The counterattack must hit the enemy behind the lead regiments in order to destroy command and control along with RAGs and DAGs. Don't be surprised if we see both DAGs in our sector. The

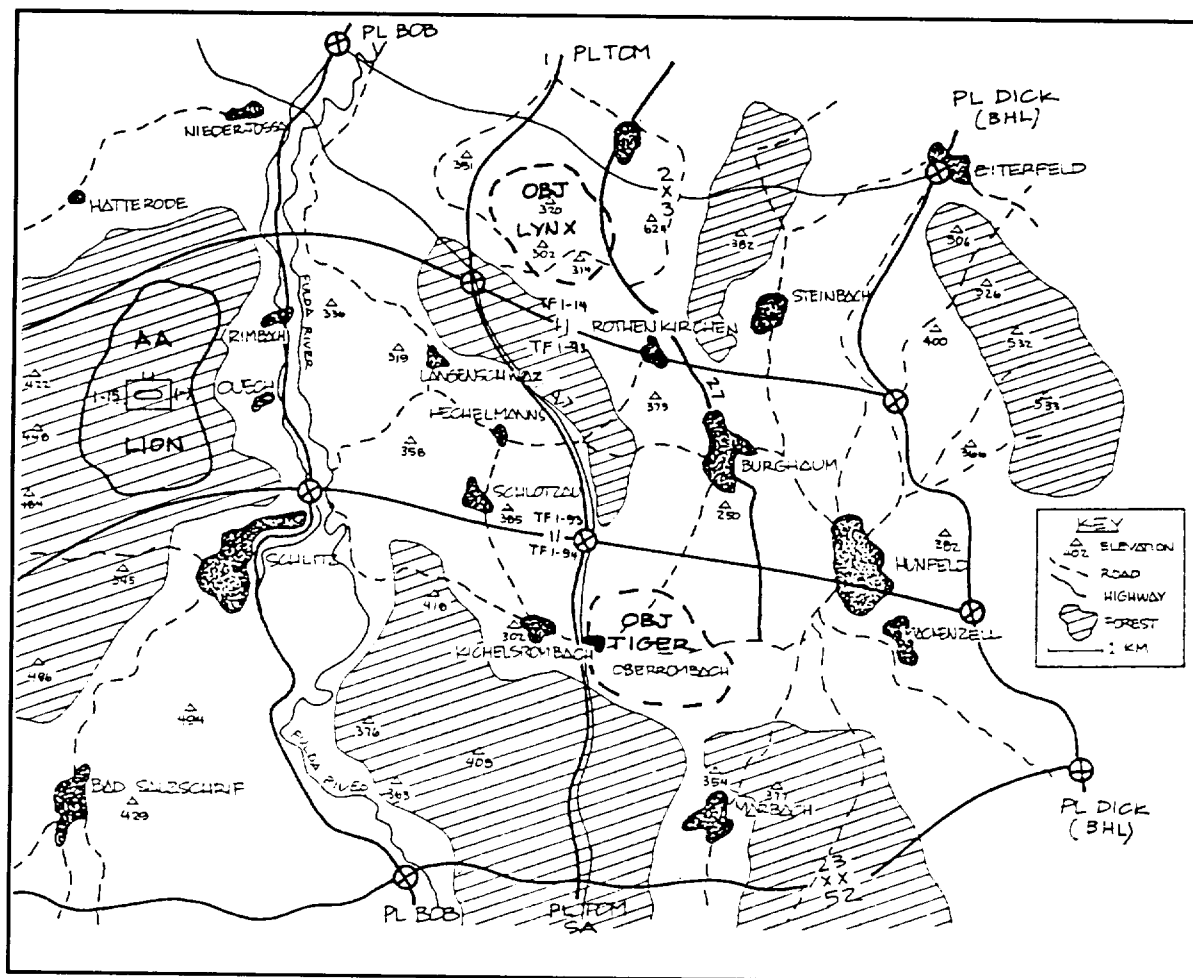


Figure 4-132. Brigade tentative plan.

counterattack should strike just when the enemy is strung out in regimental columns on the confined northern or southern AAs. This will allow the counterattack to execute short-range violent attacks against the flanks of the attacker. The northern task force must observe both of the northeast avenues (NB4824 and NB4327), and be prepared to occupy company-sized BPs early on to block the enemy's use. The southern task force must do the same on the southeastern avenue (NB4406). I expect to accept penetration in the north and south by a single battalion west of the Fulda River before initiating the counterattack. With one MRB west of the river, a task force can mass to defeat this MRB as the counterattack aims at the vulnerable flanks of the follow-on enemy forces. These synchronized actions should completely defeat the enemy before he reaches the 30 grid line.

"Location of the reserve is critical. It must have quick access to high speed routes, which forces it to be east of the 36 grid line. It can be assigned widely dispersed areas for its protection without exclusive control of a large task force position, since land is at a premium.

"FS must be carefully planned since we don't have much to employ. If need be, tell the direct-support battalion to be prepared to attack the RAGs and DAGs supporting the lead enemy units with reactive counterfire, but try to get division to do it with MLRS first. FSO, get with the field artillery battalion commander and see if, between the two of you, we can get some reinforcing support after the passage of the covering force. If we get it, put them on the reactive counterfire mission.

“Engineer, plan to put our initial support in the countermobility role in support of the center task force. Once complete, look at making the east side of the Fulda an obstacle belt in the northern and southern sectors. This will support the primary counterattack east of this area, and the secondary axis on the west side of the Fulda.

“I want to keep the air defense under brigade control. We must cover the air avenues at the battle handover. This will protect the maneuver forces as well. Look at using division assets to protect our CSS assets so we can protect the air avenues that could be used to attack our flanks around the Fulda River and Highway A7.

“The fluidity of the battle forces us to get as much of the CSS assets behind our rear boundary as possible. Small, compact support elements can be placed only in carefully selected and coordinated locations. Keep the task forces going, but don’t build a support base that has a signature so large it can be seen in Karl Marx Stadt.

“Our intelligence effort must paint a true picture before the battle handover or we may lose command and control before the fight begins. Eavesdrop on the covering force and establish liaison with them early. Use the division to confirm what the covering force reports. Don’t hesitate to assign task forces recon missions that require stay-behind recon. I’m sure that, when executed, the defense will be successful and within 3 days we will reestablish PL JACK.

“Look at placing the TAC CP in the vicinity of the Fulda. The TOC needs to fight the field artillery battle, especially if we get into the reactive counterbattery tight. It must also be ready to control the JAAT counterattack when the division releases the attack helicopter assets to us. The depth of the sector will require the use of RETRANS. Find a couple of secure locations and put them out early. If we can, collocate the RETRANS with other elements for their protection.

“I know that we will not be able to finalize this until we get the division OPORD tomorrow morning, but let’s get the task force commanders and their key staff leaders up here to brief them on the concept so they can use the time for their own planning.”

The XO then arranges for subordinate commanders to rendezvous at a forward location within the hour. While this occurs, the brigade commander, the S3, and the S2 begin identifying reconnaissance requirements. They agree the first priority is to reconnoiter the BHL to identify where FS should be planned to assist the covering force. Next, they want to look at the primary and secondary counterattack routes and the AAs with the goal of identifying the most restrictive locations for the counterattack objectives. Because time is limited

TF 1-14 (2M, 2T)

1-14 AR(-)

A/1-93 MX

B/1-94 MX

BDE TROOPS

C/1-440 ADA(V/S)(DS)

3/23 CML CO

TF 511 (DS)

511 ENGR CBT BN

(OPCON)

C/23 ENGR (OPCON)

3/23 MP (DS)

3 FSB (DS)

TF 1-15 (1M,3T)

1-15 5 AR(-)

D/1-94 MX

TF 1-93 (3M,1T)

1-93 MX(-)

A/1-14 AR

TF 1-94 (2M,2T)

1-94 MX(-)

B/1-14 AR

D/1-15 AR

1-52 FA (DS)

Figure 4-133. Task organization.

before they have to go to the division OPORD, they limit their reconnaissance to these, knowing that the final order will create other reconnaissance requirements.

Battalion Defense Plan

As the battalion commander leaves the concept briefing with the brigade command group, he notes that it is 1800 hours and getting dark. After he reviews the brief, he initiates the same mission analysis process as did the brigade commander after the division LO briefed him. He recognizes that his unit, TF 1-14 AR, has the northern AA, which will be used by tanks. 'his guides all of his analyses. To make the most of the weapons assigned to his task force, he knows he has to position his companies to maximize short-range flank shots while the task force does all it can to control the flow of enemy into these deadly company sectors of fire. As his driver negotiates the forest with the HMMWV, the battalion commander begins to list the tasks the brigade assigned (see Figure 4-134).

He recognizes that his battalion has to defeat elements of more than one MRR. Looking at the task force sector, he thinks it will not be a problem, especially since the brigade commander told him that up to an MRB could cross the Fulda River in his sector. The task force must initially destroy any first echelon enemy that gets through the covering force. Once the battle is handed over, the task force will need to defeat the second-echelon regiment of the lead division. By his estimate, the task force should begin to fight the second-echelon division around the Fulda River, The enemy's crossing the Fulda should help the task force.

As he proceeds to his task force TOC, he reviews the list of tasks he made and begins to formulate his planning guidance. The plan will require companies and teams to conduct coordinated independent engagements. Where possible, two teams should be concentrated to attack a single target, but since the task force has to defeat more than a single regiment, maximum use of company-size engagements throughout the depth of the sector will be necessary. Although there is a covering force, the task force needs to establish a

- **OBSERVE HWY 27**
- **OBSERVE HWY A7**
- **OBSERVE AA FROM NIEDERAULA**
- **ESTABLISH LIAISON WITH THE
BDE COUNTERATTACK FORCE**
- **ALLOW ONLY 1 MRB TO CROSS
THE FULDA RIVER**
- **PLAN 1 FA PRIORITY TARGET
PER PL**
- **PLAN OBSTACLE BELT ON EAST
BANK OF THE FULDA**
- **COORDINATE WITH ADA ASSETS
IN SECTOR**
- **CONTACT COVERING FORCE TO
COORDINATE BHL**
- **ORGANIZE CSS INTO SMALL
SUPPORT PACKAGES**

scout screen as far forward as the BHL, and it needs a company sector to destroy enemy reconnaissance elements that get by the covering force. This force will need indirect FS and, perhaps, some RETRANS help. The task force must plan to meet the enemy on all three MRB-sized AAs forward of Highway 27. This is where the defense should be initiated. The Haune and Fulda Rivers should be used to strengthen the defense. His planning guidance will stress the need to be careful in selecting the positions from which the companies defend; they need to be able to dominate the eastern banks. West of the Fulda, the task force sector splits into two major AAs. The northern one runs from Breitenbach to Lingelbach, and the southern one from Breitenbach through Grebenau to Schwarz. The plan must observe both, and then move forces from one to the other to concentrate against the enemy's attack. He notes that the task force is second in the priority of fires and has one priority target to plan for each brigade PL. The priority target will be used to slow the enemy that is outside of company EAs. There will be enough obscurity without our own field artillery adding to it, so he needs to keep those fires beyond the primary direct-fire EAs. Mortar smoke and smoke pots will be needed to improve concealment while companies displace between positions. He decides that disrupting obstacles will be used to increase

Figure 4-134. Accept battle handover.

the time companies could engage the enemy, with blocking obstacles protecting the friendly units. There are places such as the road junction at grid 491208 that need to be closed after we pass through. He will tell the S3 to ensure these are positively controlled and that he has specific instructions for closure. He will direct the XO to assist the S4 and the BMO to plan the CSS for the defense. The small packages the brigade commander wants to use so signatures are reduced will require positive control. The last thing he wants is a fuel HEMTT leading the counterattack. With his notes ready, he arrives at the TOC and provides his planning guidance to the assembled staff (see Figure 4-134).

After the commander answers several questions about his planning guidance, his staff begins the same estimate process as the brigade staff. Before the staff sections initiate the planning process, the task force commander gathers the XO, S2, S3, S4, FSO, C Company commander, mortar platoon leader, and scout platoon leader. Even before the OPOD is developed, the commander wants to establish his own security force. The scouts are instructed to establish a screen line along PL DICK to watch the roads into Eiterfeld, Malges, and Kimhasel. They are to move now and report exact locations once established C Company receives one mortar section OPOD, and is to establish a defense in sector between PL DICK and PL GRANT. It will destroy any enemy formation smaller than 15 combat vehicles. It expects to stay out there until the battle hand-off with the covering force. All reports are to be on the task force net. The scout platoon and C Company have to cross talk to hand off enemy, and in this way, the task force TOC would monitor the battle. The task force commander makes sure the scouts and C Company understand that they should be in position before dawn and should make maximum use of cover and concealment. With that, he orders them to move out. The commander checks his watch and realizes that it has been only one hour since he received the brigade concept. With the staff already working, he is able to provide guidance to the companies before he receives the final brigade order.

As the staff works on the estimate, the task force commander monitors the movements of the scout platoon and C Company. Once they are in their initial positions, the task force commander sleeps.

At around 0200 hours, the task force XO wakes the commander and tells him the staff is ready to present him three options for the operation. He shakes out the cobwebs and moves into the house that serves as the planning TOC. The commander studies the map as the S3 explains the three courses of action. The rest of the staff listen as the S3 and XO make the staff's recommendation. The commander ends the informal 10-minute brief by approving the staff recommendation. Before he releases the staff, he decides to go over the plan one time with everyone present (see Figure 4-135).

"Generally, we will execute the task force defense in sector using company team BPs in depth. Some will be mutually supporting by engaging the enemy from two directions simultaneously, while others will be individual company fights. The scouts will make contact with the covering force and, along with the S3, will coordinate the battle hand-off and rearward passage of the covering force. Companies, be prepared to release your XOs as guides so we won't have to pull the scouts off their forward screen.

"C Company and the scouts will act as the task force security force during the preparation of the defense. Communication between the scouts and C company is critical. Scouts, avoid fighting except in self-defense. Pass the enemy off to C company for destruction. If the covering force is doing its job, we shouldn't see much, but be prepared to tight CRPs, FSEs, or individual companies that slip through. Once the covering force passes, the scouts will remain along PL DICK, and C Company will withdraw to BP 4. This is also the cue for the mortars to displace, and for the platoon to come back under task force control.

"Initially, the main enemy force could attack with three battalions forward, one from Kornbach to Oberstoppel, a second from south of Kornbach to Unterstoppel, and a third from Steinbach to Rothenkirchen. Since these battalion objectives would be crossing sites on the Haune River, it will be difficult to force the enemy to go where he does not want to go. Because of this, obstacles between PL GRANT and the Haune River will be used to protect our positions and disrupt the enemy. If they also do some attrition and turning, that's fine, but don't count on forcing this initial enemy attack far off its plan. With that in mind, Team A will begin the task force defense from BP

	TM A	CO B	CO C	TM D	SCT	HVY MORT
PL DICK TO GRANT SECURITY			DEFEND IN SECTOR PL DICK TO PL GRANT		SCREEN PL DICK	SEC A OPCON TO C CO
PL GRANT TO TOM	OCC 1/A	OCC 2/B	PREP 6/F OO CATK CP 71	OCC 3/C RECON 5/E OO CATK CP 71	SEC A PL DICK SEC B CP 10/N	SEC A BP 5 SEC B BP 2
PL TOM TO BOB	PREP 7/G	PREP 8/H	REP 9/I OO ORIENT L	PREP 10/J	SEC A CP 20/N SEC B CP 10/N	VIC 427240
PL BOB TO LEE	PREP 11/K	PREP 13/M RECON 16/P	RECON 14/N PREP 15/P	RECON 12/L	SEC A CP 20/N SEC B CP 30/N	VIC CP N
PL LEE TO JACK	RECON 17/Q RECON 19 RECON 21	RECON 35 RECON 33 RECON 25	RECON 18 RECON 34 RECON 24	PREP 20/T RECON 23 RECON 26	SEC A HWY 62/E SEC B JOSSA/E	VIC BP 20
KEY FOR BOX INTERIORS: LEVEL OF BP PREPARATION/BP NUMBER OR LOCATION/ORIENTATION.						

Figure 4-135. Execution matrix.

1. Using direct fires to cover the blocking obstacles to their east, the company's fires should concentrate on the road from the east, which forces the northern MRB away from Oberstopfel. The success of the MRB to their south should pull them along toward the engagement area around Unterstopfel. Here Company B will destroy the remainder of the northern MRB and most of the center MRB. The DPICM field artillery priority group target, A1A, which will be initiated by Company B after the lead MRC are taken under direct fire, will destroy some of the following MRC and slow their advance to a manageable speed. By improving the cuts along the railroad and highway south of Steinbach, the southern MRB will be forced north of Steinbach, putting it behind the battle around BPs 1 and 2. Team D in BP 3 will fight this MRB once it is west of Steinbach and approaching the Haune River. Make sure some vehicles, maybe platoon sergeants', concentrate their fire against bridging and engineer vehicles. Team D will need to fight BP 3 as long as Company B and Team A are withdrawing to subsequent positions. Team D can displace to BP 4 if enemy pressure is too great. If the enemy crosses the Haune and slides to the south, make sure Team D coordinates a way to report this to TF 1-93. I believe that our limit east of the Haune will be the destruction of these lead elements of the first three MRB. A COLT and the field artillery coordinator will locate on the high ground in BP 4. Their mission is to execute a brigade-established Gator minefield, which is designated obstacle 1004, and to disrupt the enemy using CAS and field artillery. Company B will execute obstacle 1004 at the Haune crossing, which will signal the forward air controller to bring in the aircraft to lay the minefield. Team D, you can begin to displace as the minefield is going in. Just make sure you stay there long enough to provide protection for the aircraft on their initial passes (see Figure 4-136).

"Our next engagement will center around Schlezenrod. Although the terrain appears open, close inspection of the contour finds it to be rolling with very few long-range shots or places where two companies can see the same target. It still provides us good locations to hit the enemy from several

directions at one time. BPs 5, 6, and 8 will be occupied by Team D, Company C, and Company B, respectively. We need to be prepared for the enemy to attack from Rhina and north of Wehrda. We've planned on both, but if their attack comes from only one direction, we will maneuver the unit out of contact into the fight. Company C will initially orient to the north to protect the task force flank. Company C must stay undetected if the enemy attacks from the east. This will give the task force a forward placed reserve, and a way to hit the following companies of the MRB. Company B and Team D will need to hold their fires until the disrupting obstacles slow the enemy. Although most of Company B's shots will be frontal, the short range will allow them to do a great deal of damage. Team D needs to be prepared to counterattack to CP 71 if no enemy is south of Hill 302, CP 71. The fires of Company B and Team D should concentrate on the lead MRC to allow Company C to hit the following MRC. Since we expect the enemy to concentrate in the north, we've planned a priority group target, A2A, to be executed by Company C. The purpose of this target is to again slow the enemy and confuse the following MRC before Company C hits its flank.

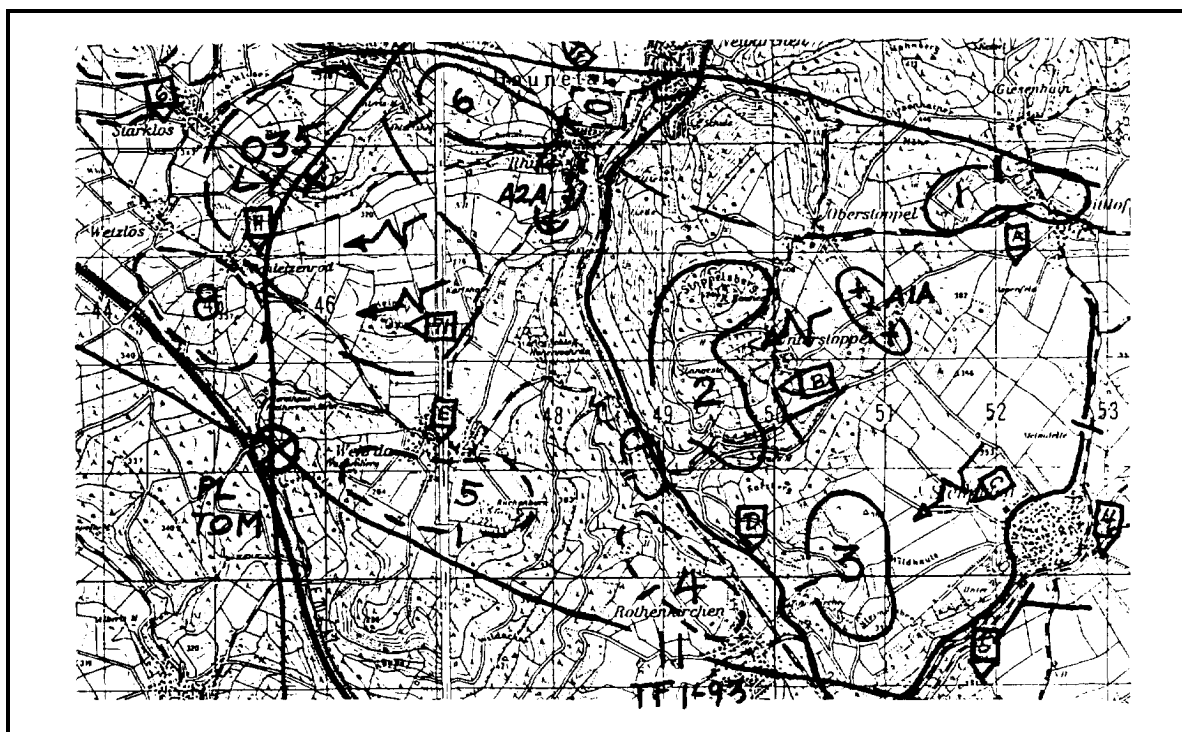


Figure 4-136. Battalion/task force defensive plan.

If needed, Team A will be moved from BP 7 to south of Starklos to add its weight to the fight, but I prefer to keep them out of this to cover our withdrawal. I think we can fight these positions long enough to destroy three or four MRC. If we can, we will stay longer, but pressure from the north around Holzheim or Niederaula will force us back to the Fulda. Ideally we will move during the confusion between the attacking echelons. If we must fight our way back to the Fulda River positions, Company B will cover the withdrawal of the two teams. Then Team A will overwatch Company B's movement. This forces Team A to withdraw on its own.

"The task force's strongest positions are those along the Fulda River. We will need to dominate the east bank with direct fires. The brigade obstacle plan makes the east side of the Fulda a blocking obstacle belt. This will force the enemy to concentrate his attack to seize in-place bridges. In our sector, this means he will focus his initial attack to seize the autobahn A7 bridge. This will be prepared for demolition, but blown only on order of the brigade. The fires of Company B from BP

13 and those of Company C from BP 9 will stop the enemy from getting bridging assets forward, which will deny him the ability to conduct a hasty crossing. His attack will be into the teeth of Team D in BP 10, which will deny him the bridge. As the enemy initiates his attack we will use our mortars to smoke the east bank heavily. We will need to prestock mortar smoke to do this. 'his will increase the confusion of the attack to help deny the enemy the chance to find the obstacle belt or routes to the bridges. To increase this confusion, Team D will execute priority group target A3A when they begin direct fire toward the autobahn bridge. These strong positions will be pinpointed by the enemy after his first attempt to cross the Fulda. Because of this, after the first attack but before the enemy's second assault, Team D will displace to BP 12 and Company C to positions west of Highway 62 on the high ground in BP 9. Company C should keep one platoon oriented east to disrupt assault bridging, and the other two oriented on CP L to engage enemy that have crossed the Fulda at the autobahn bridge. Each time a MRC plus gets across, it will be engaged by the units in BP 9, 11, or 12. The Jossa River should force the enemy north once he crosses the Fulda in strength, so Company B will move to BP 16 to destroy any enemy that slips past BP 12.

The battle to cross the Fulda should destroy two MRB. As we fight in depth east of Breitenbach, the final MRR should become combat ineffective. This will force the commitment of the ITB or a second-echelon division around Breitenbach. Company B will cover the task force movement from the Fulda positions to the Breitenbach positions. Our task force's ability to hold this area is key to the successful execution of the brigade counterattack to Objective LYNX. To improve our capability, this area will be the focus of our countermobility effort and all survivability positions created will be two-tiered. From BPs 15, 17, 20, and 35 we will hold the nose, as the brigade counterattack kicks them in their rear and flanks at either Objective LYNX or along the west side of the Fulda. The enemy will either push along the north side of Breitenbach toward Gehau or south toward Grebenau. We need to be ready for both. At this point in the battle, either the divisional ITB will be committed, if the enemy commander perceives success, or a second-echelon division. We will call the main attack the ITB, and will maneuver to defeat it. If a second-echelon division is committed the BMP MRR or the tank regiment will be the main attack. If we get both, we will need to get brigade assistance to continue to defend. To defeat the main attack we will maneuver at least one company away from the enemy supporting attack to concentrate against his main effort. The longer we slow his forward momentum, the better the chances the brigade counterattack will succeed. Scouts need to position a section just west of BPs 17 and 20. Be prepared to maintain contact with his supporting attack with one section while the other helps a company occupy either BP 21 or BPs 18 and 19 to meet their main attack. By the time we are in this fight, the first-echelon division should be destroyed and the second-echelon division of ITB should be fully engaged. Once the brigade counterattack is committed, I will be looking for an opportunity to conduct a hasty attack to destroy the enemy in our immediate front and reestablish at least the Breitenbach positions. More than that, and we will need major resupply and significant counterobstacle engineer effort.

"OK, remember this is just a tentative plan, so don't go final until after I'm back from the brigade order. In the meantime, company commanders, go and work on your plan for your first two BPs while the XO and the loggies figure how to support this operation (see Figure 4-137)."

Company Team Defense Plan

Before leaving the task force TOC, the Team D commander made arrangements with the Team A commander to cross-attach a platoon. Once complete, he turned his attention to BP 3. He understood that his primary mission in this BP was to concentrate his team fires toward the area west of Steinbach. By conducting a map recon, he could see that his position was excellent for doing this, but it was also vulnerable from the east. He was glad that he would have the advantage of planning the defense on the actual ground. This way, he would not be caught short by inaccurate maps (see Figure 4-138).

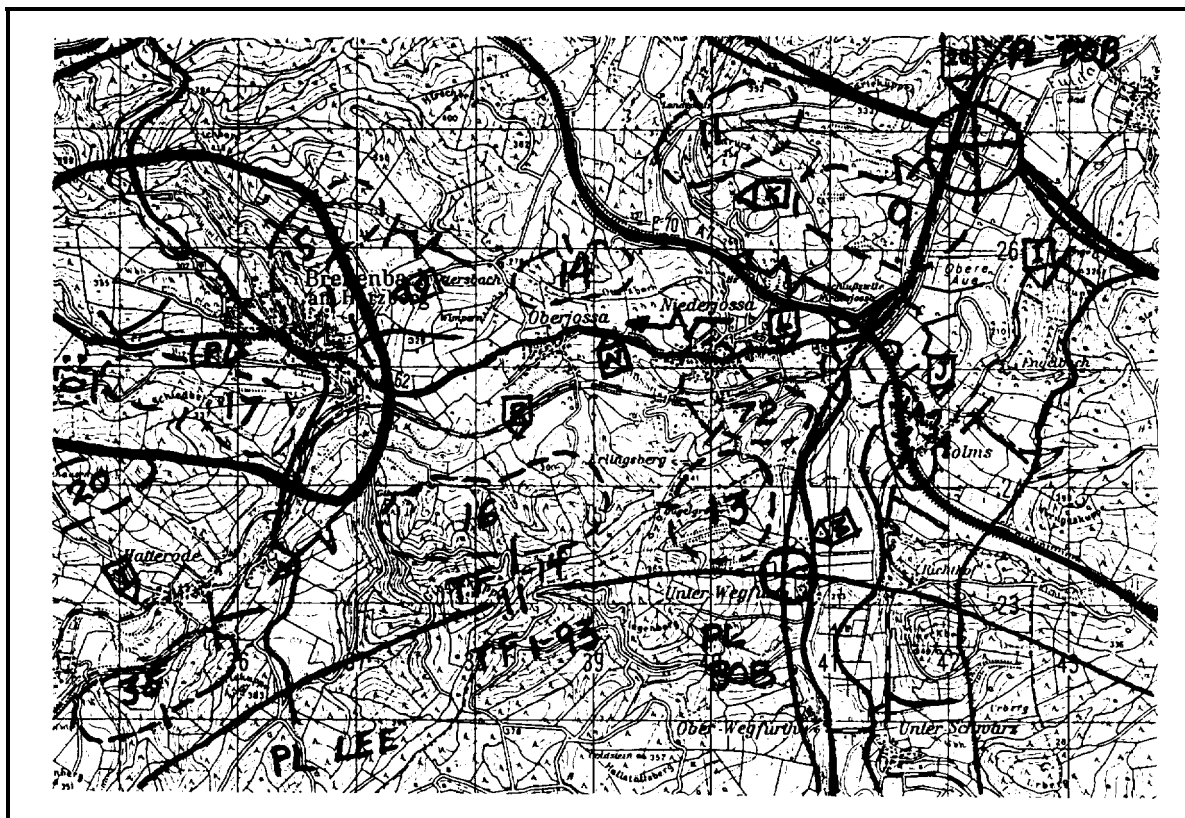


Figure 4-137. Battalion task force defensive plan, battle in depth.

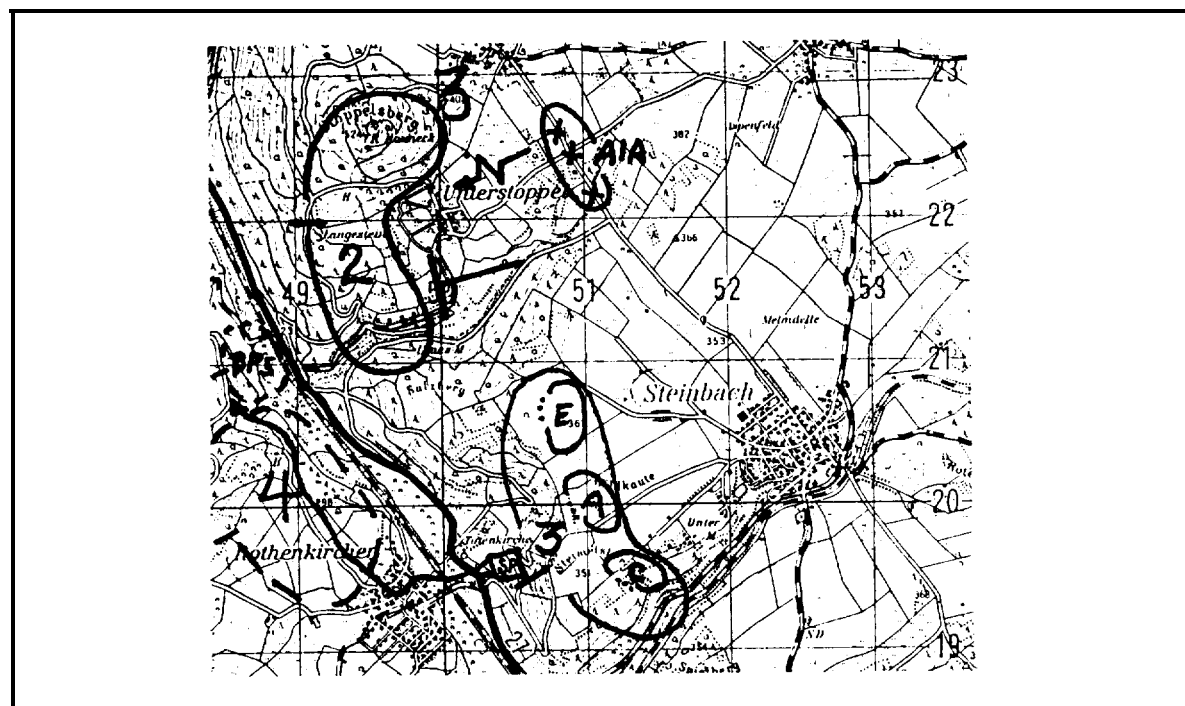


Figure 4-138. Company team defense plan.

He passes through his company AA and instructs the XO to move the company to an AA south of Wehrda while he takes the FSO and platoon leaders forward to BP 3. He explains that the area around Wehrda is the team's second position, and that once there, the XO and platoon sergeants should conduct a thorough reconnaissance. When the tentative plan for BP 3 is ready, he will return and lead reconnaissance to include all leaders down to track commanders. With that, he and the platoon leaders pile into his HMMWV and speed off to BP 3.

Once in BP 3, the commander outlines his tentative plan. He begins by explaining where he thinks the enemy will come from. The primary approach will be the open terrain west of Steinbach. He determines that up to an MRB could use this route. He also expresses concern that an MRB could force its way south of Steinbach into the flank of BP 3. The first approach would be ideal, but the second would force the team to maneuver to supplemental positions. The possibility exists that the enemy could put one MRB on each avenue of approach simultaneously. This would be the worst case, but one for which the team must plan.

The commander next relates where he wants to destroy the enemy on each avenue. Looking at the one west of Steinbach, he decides to destroy the enemy at CP 3 and the white ball running west of Steinbach. The close range will increase the number of first-round kills and improve the effectiveness of the Bradley's 25-mm cannon. BP 3 is also large enough to position one platoon on the flank of the enemy avenue of approach. To the east, he establishes the wood line east of the candystripe as a trigger line. It will not allow massed fires against the enemy, but most shots will be into the flank, which will be effective.

With these considerations in mind, he and the platoon leaders begin to select tentative platoon positions. They agree that one tank platoon should be on each avenue with supplemental positions on the other. The M2's TOW will be most effective west of Steinbach, and the platoon's dismounted weapons best used in the east. Because of this, the dismounts and M2's will be assigned two adjacent positions. The carriers and a tank

	PRIMARY LOCATION	TRIGGER	PRIMARY ORIENTATION	SUP ORIENTATION
TK 1	E	TRIGGER LINE WEST	CP C TO THE SOUTH	SOUTH OF STEINBACH
TK 2	A	TRIGGER LINE WEST	CP 30 TO CO C4	SOUTH OF STEINBACH
MX (M2)	C	TRIGGER LINE WEST	CP C	STEINBACH
DISMOUNT PLATOON	D	ROAD TO NE	RD TO NE OBSTL TO E	/
CO	A	/	/	/
XO	E	/	/	/
FSO	VIC HILL 351	MORT SMK N OF TL W		SOUTH OF STEINBACH

Figure 4-139. Fire control matrix.

platoon will immediately support the dismounts. In addition, the commander will change the size of the BP. He will get the task force to include the woods east of Hill 351. The BP will then be large enough to observe and fight both approaches. With this, the commander prepares the graphics in Figure 4-139.

The platoon leaders and the commander move out and walk each platoon position. They ensure that there is adequate space for the platoon to fight and maneuver, and begin to make an engineer work list. This work list includes individual fighting positions for the dismounted platoon, vehicle fighting positions for the Bradleys and tanks in BPs C, E, and then A, improvement of two or three trails for internal mobility, and the emplacement of disruptive minefields.

Once the walkabout is complete, the commander sends the platoon leaders to link up with the company. While they were gone, the commander and the FSO walked out to the area targeted for the mortar smoke. They confirmed the limit of the smoke so it would obscure the following MRCs, but not the company EA. The commander tells the FSO that he will be responsible for firing this target when the tank and Bradley platoons open fire. The commander tells the FSO that he will get the task force to designate this a mortar priority target. He is to get the exact grids of the targets using the G/VLLD, and select a position for his FISTV that would be able to observe this group. They then begin to walk the area and select tentative disrupting obstacle locations. The commander again tells the FSO to confirm the locations using the G/VLLD. The FSO will also plan indirect fires to cover the obstacle. The commander explains that these obstacles will increase the time the company can engage the enemy. During his reconnaissance of the BP, he also decides to use some blade time to improve the railroad embankment to make it a blocking obstacle covered by the dismounts from the Bradleys.

When the platoon leaders rejoin the commander at the BP, he briefs all the assembled leaders on the tentative plan. He then sends the FSO in his FISTV to CP 3 on the road that was Trigger Line West. He also

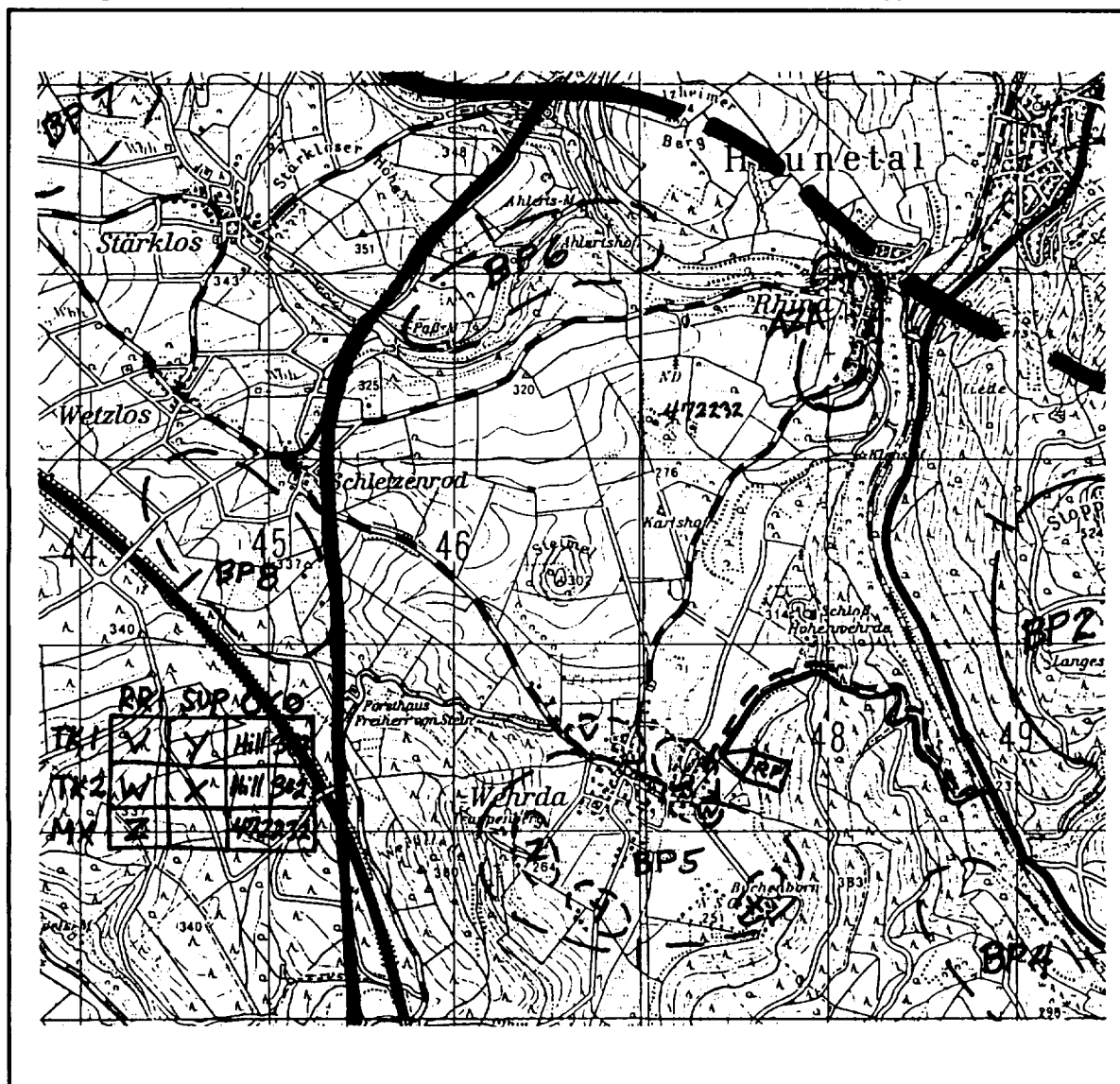


Figure 4-140. Company team defense plan.

sends his own tank to CP 30. Once in position, each platoon leader selects vehicle and individual firing positions that can see and engage these two points. As the platoon leaders do this, the commander uses his HMMWV to move from platoon BP to platoon BP to check the individual positions and supervise the platoon leaders. When they are finished, the platoon leaders go back to the AA and return to their platoons.

The commander arranges with the task force to have two bulldozers support the team. These arrive shortly after the platoons. The 1SG takes control of these, and supervises fighting position preparation. At the same time, two engineer platoons arrive to begin emplacing the disrupting obstacles. The commander and the engineer company commander decide on the exact location before emplacement begins. To speed things up, eight men per platoon are detailed to break down the mines' packing material to allow the engineers to concentrate on fusing and emplacing the mines. The first tank platoon is assigned to guard these minefields. The tank PSG checks with the FSO to ensure that these obstacles are covered with indirect fires.

While the platoons continue work on weapons range cards, sector sketches, and protective obstacles, the commander and the XO begin to reconnoiter routes out of the BP. They have to come up with a plan to get from BP 3 to BP 5 and avoid the obstacle on the bridge at grid 488212. During their reconnaissance, they find a ford site just south of the bridge at 501194. They decide to use this if two platoons have to cross the river at once. The company combat trains will establish a position near the bridge and ford, and guard them for the team. The commander makes a mental note to have three vehicle positions dug for the trains in this area. He will also see if the engineers can prepare the bridge for destruction. This will allow someone in the team to cut off any following enemy, and the combat trains can execute the obstacle.

The commander goes back to BP 3 to continue the preparation. He begins with a leaders rehearsal. He supervises the platoon leaders' beginning and ending engagements and their use of the routes out of BP 3. He then gives orders for each platoon to rehearse these moves while he goes back to BP 5 to conduct his reconnaissance (see Figure 4-140).

When he returns, he conducts a full team rehearsal. Using the maintenance M113 as the enemy, he starts it at the smoke target and moves it to BP 3. Each vehicle confirms where it can engage the advancing enemy. When the "enemy" reaches trigger points, the FSO or platoon leaders radio in their platoons' actions. The mechanized platoon begins its mounting drill according to plan and begins movement to BP 5. The tank platoons withdraw to BP 5 according to plan, and as the last tank flashes its VS-17 panel while clearing the bridge, the 1SG radios that he blew the bridge. The commander orders the platoons back to position and conducts the rehearsal again. He then rehearses with the enemy attacking through and south of Steinbach.

The team conducts a LOGPAC in Wehrda while the commander goes over his tentative plan for BP 5. Once the platoon leaders understand where the enemy will come from, where the commander wants to destroy him, and the general locations of their platoons, the commander gives orders to move to BP 5 and begin preparation under the XO's supervision. He and the FSO are off to get the final task force order.

Chapter 5

RETROGRADE OPERATIONS

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SECTION I. BRIGADE RETROGRADE OPERATIONS**Delay in Sector**

Delay is an operation in which maximum damage is inflicted on an advancing enemy without the delaying force becoming decisively engaged in combat. The force in contact trades space for time. A delay operation is usually conducted to provide time to concentrate or withdraw forces, to establish defenses in greater depth, to economize in an area, or to complete offensive operations elsewhere.

Planning***Intelligence***

The nature of the delay is to maximize the use of terrain. The S2, therefore, will prepare a detailed modified combined obstacle overlay. This involves identifying possible areas from which occupying forces may cover enemy avenues of approach. The actual terrain analysis is discussed in greater detail in Chapter 4, *Defensive Operations*. For the delay, however, some of the following characteristics of the terrain will aid in mission accomplishment:

- Cross compartments astride the enemy line of advance.
- Streams, swamps, lakes, and other obstacles to the front or flank that will slow enemy movement.
- Good observation and fields of fire.
- Covered routes of withdrawal.
- A good road network and cross-country trafficability.

The delaying force must be able to inflict maximum destruction without becoming decisively engaged. The commander must be able to anticipate enemy maneuver and execute plans to counter it. The S2 should

identify the worst-case scenario for the enemy's attack. A careful analysis of the enemy's avenues of approach and probable objectives must yield usable information regarding the locations of probable enemy vulnerability. This will serve as the basis for the delay plan.

The brigade S2 must request, from division, collection support that the brigade cannot provide. He must task battalions to cover portions of the brigade sector which cannot be covered by attached brigade R&S assets.

Maneuver

The same types of activities required for defensive operations would be necessary for a successful delay operation. The leaders and soldiers must understand the fundamentals of defensive operations (see Chapter 4). The delay, however, does not include decisive engagement. As a result, the delay is considered more difficult than the defense. The following list describes some of the reasons:

- Greater ranges for triggering disengagement.
- Reconnaissance and countereconnaissance operations must be highly mobile due to the defender's intent to forfeit terrain, thus preventing use of stay-behind patrols.
- More open terrain needs more effective obstacle systems to give the delaying force the freedom of maneuver.
- Maintaining contact with the enemy makes decisive engagement difficult to avoid.

Characteristics. Brigades accomplish delaying missions by assigning AOs to subordinate battalions. Battalions accomplish their delay missions by delaying on successive positions, by delaying on alternate positions, or through a combination of the two techniques. The C2 of the delay can take two forms: delaying in sector and delaying in sector forward of a specified line for a specified time. Regardless of how the delay is controlled, there are several characteristics of delay operations which should be taken into consideration during the planning process.

Centralized planning and decentralized action. Delaying actions are characterized by operations on a wider front than in defense. There are usually more forces in contact and fewer forces in reserve. Delaying in battalion sectors allows battalion commanders freedom to conduct independent operations within the parameters of the brigade commander's intent. The brigade commander must ensure that each unit has a frontage which is within its capability to control. Toward the rear of the brigade sector, the commander may wish to retain more control. One option is for him to designate battalion BPs. This will allow him to have a last defensive position from which his elements will fight until they have completed their mission.

Flank coordination is an important concern in a delay. Coordination points must be carefully located along task force boundaries in depth. The brigade must ensure the battalions do not become wrapped up in their own actions and forget their responsibility to provide continuous resistance along the entire brigade front. An enemy force which is able to exploit a gap in the brigade frontage could easily begin to roll up a flank or penetrate deeper into the brigade sector. With a relatively small brigade reserve, this could spell disaster. Flank coordination must also be maintained with the elements to the left and right of the brigade. Flank coordination, therefore, is essential to the success of delay operations.

Forcing the enemy to deploy and maneuver. Select terrain appropriate for the proper positioning of the battalion task forces. The commander should use the terrain analysis to determine which areas lend themselves to the most effective delay. There probably will not be an opportunity to create a brigade EA. As a result, the commander must be aware of the responsibilities of the battalions: to cause the enemy force to think it is facing a deliberate defense and require it to deploy to break through. He must provide the battalions with terrain that allows them to create effective EAs capable of inflicting significant destruction, appearing to be a deliberate defense.

Maintaining contact with the enemy. The commander must ensure that the battalions will be able to maintain contact with the enemy throughout the operation, but without becoming decisively engaged. This is accomplished by the battalions in contact. The brigade generally will not have the ability to deploy a reconnaissance element of its own; therefore, it must rely on the reports from the battalion task forces. If aviation

assets are made available to the brigade, they may be deployed to assist a battalion that may have temporarily lost contact with the enemy. The division may temporarily OPCON the division cavalry squadron to the brigade. If this occurs, cavalry elements may assist the battalions. By alternating positions with the battalions, the cavalry will be able to maintain contact with the enemy, allowing the battalions to occupy their secondary positions. However, both of these situations are the exception rather than the rule.

Avoiding decisive engagement. One of the greatest dangers in conducting delay operations is that the delaying force will become decisively engaged with the enemy. To prevent this from occurring, the commander must perform a time-distance analysis. First, the commander must understand the conditions of the brigade delay. For example, the brigade may be required to delay forward of its rear boundary until 1200 hours. Second, he must determine the amount of time it will take the enemy to maneuver through the sector. The difference between these two times determines how long the brigade must delay, while the sector describes the amount of space in which the delay must be accomplished. The brigade commander's responsibility lies in the proper allocation of space and time within the predetermined parameters.

The time in which the enemy can negotiate the sector is determined using the following formula: Time equals distance divided by rate of movement. The commander will then examine each battalion sector to determine where the greatest danger lies.

Techniques. There are three techniques the commander may use to determine the allocation of space and time.

The first is called the buffer technique (see Figure 5-1). The commander knows that he must delay forward of the rear boundary until a specified time. Therefore, he moves the line forward and in turn issues instructions to the battalions to delay forward of the new line until that same time. That way if the enemy attack is stronger than expected, the brigade and battalion commanders still have some maneuver space in which to continue the delay.

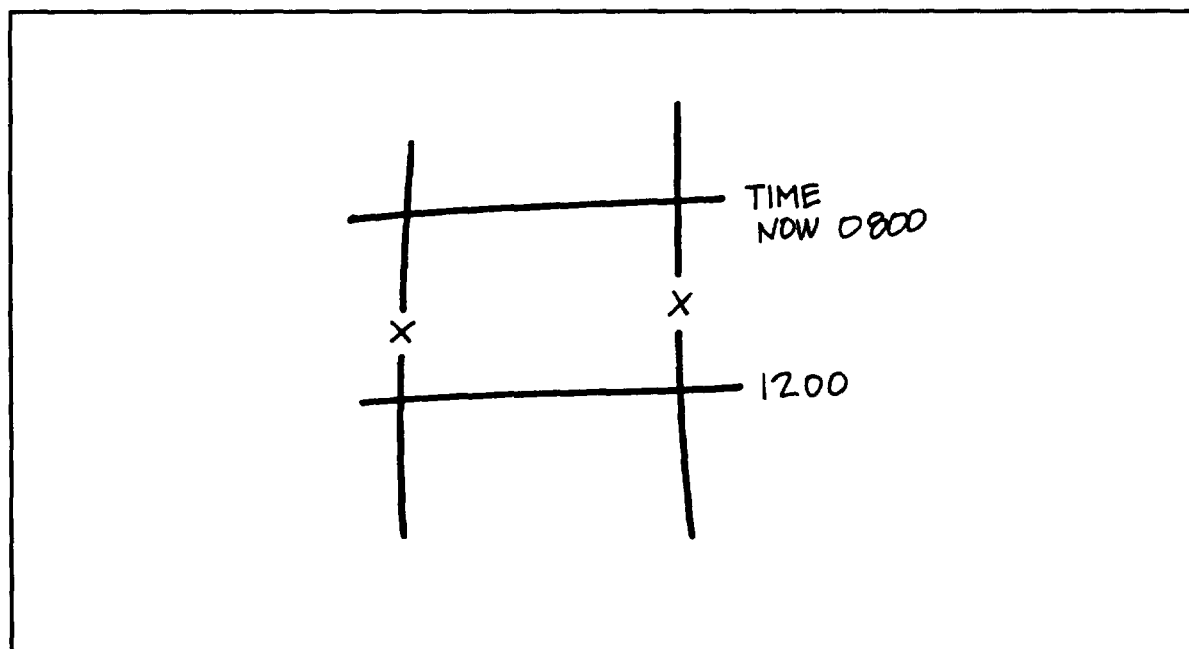


Figure 5-1. Buffer technique.

The second method is the *halves* technique (see Figure 5-2). This approach divides the amount of time the brigade has to conduct the delay in half and applies it to the terrain. As a result, in areas of generally even terrain, a PL may be placed in the middle of the sector and the battalions are given equal time to delay in each portion of their sector. Similarly, the better defensible terrain requires less space; therefore, the halftime PL will be positioned accordingly.

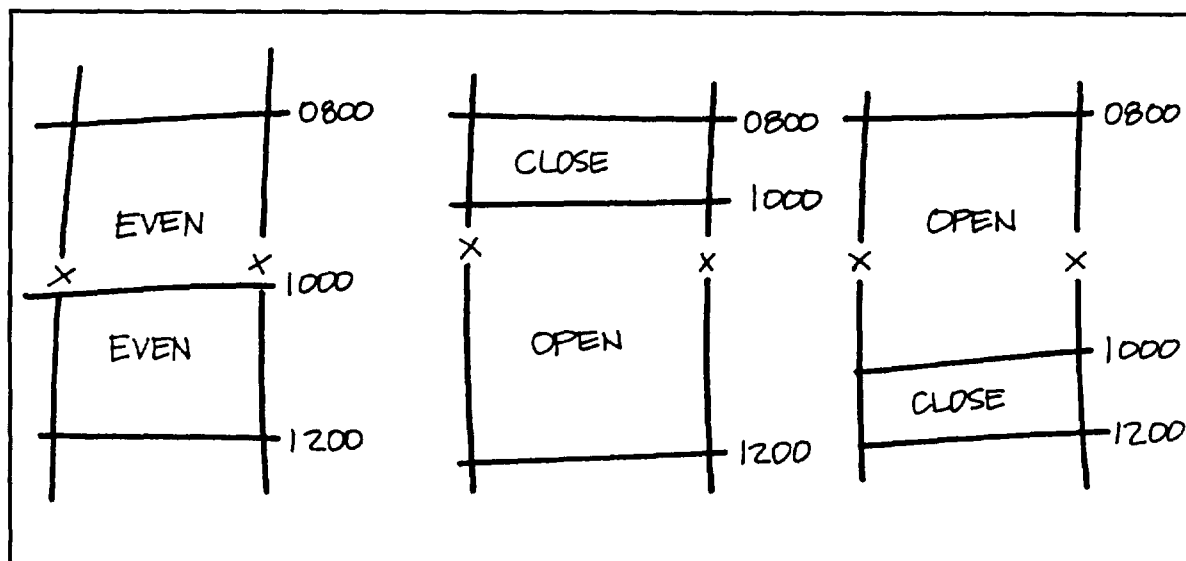


Figure 5-2. Halves technique.

The last and most effective technique is a *detailed analysis* of the brigade sector (see Figure 5-3). In this technique, the commander compares the tentative locations of the delaying elements to the location of the enemy throughout every stage of the battle. In chronological order, the commander will determine the following times and distances:

- Amount of time the enemy needs to travel from the point where it comes within line of sight to the trigger line.
- Amount of time the enemy needs to move through the EA from the trigger line to the break line.
- Amount of time delaying force needs to evacuate their positions, travel to the next position, and prepare to fight.
- Given the amount of time in number 3, the location of the enemy if it is able to reform and continue the attack at doctrinal speed.
- The amount of time it will take the enemy to travel between the location identified in number 4 and the next trigger line.

NOTE: This process will continue for the depth of the sector.

This process should be conducted for each battalion sector. It allows the brigade commander the opportunity to visualize each battalion's fight. Moreover, as the analysis is conducted, the brigade commander will gain an appreciation for where each brigade delay line should be drawn and the amount of time the battalions can reasonably be expected to delay at each one. Accordingly, in situations where the unit never seems to have enough maneuver space to outdistance the enemy and set up in position, the commander will have identified areas requiring priority of engineer countermobility support.

After the brigade commander has determined each phase of the delay (indicated by the PLs), he will determine the strength and mission of his reserve. Generally, a brigade conducting a delay can expect to face an enemy force ratio of about 6:1. If the enemy knows it is facing a delaying force, the ratio could be greater. Therefore, the necessity to have maximum combat power forward becomes self-evident. The reserve, however, must be large enough to reinforce a weakened battalion or successfully block an enemy penetration. It is often impractical, during a delay, to designate an entire battalion task force as the brigade reserve. A smaller force, therefore, may have to be used. The brigade commander will position the counterattack force where it can respond to any sector within the brigade frontage.

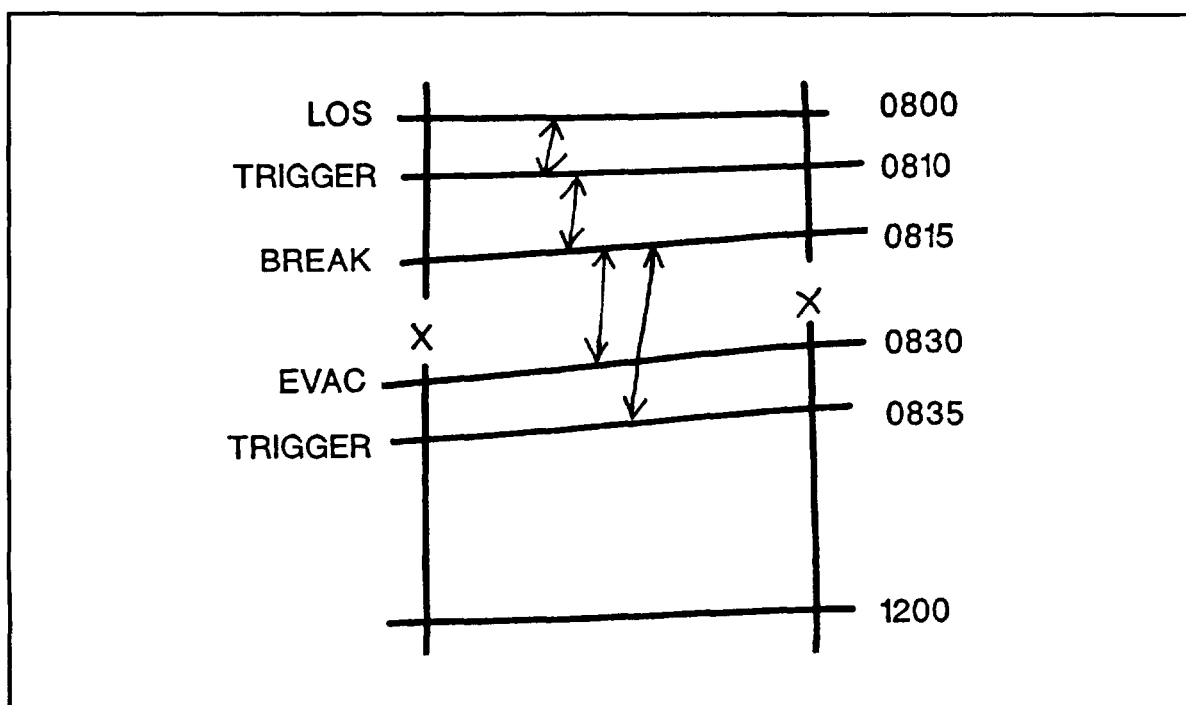


Figure 5-3. Detailed analysis technique.

Fire Support

The FS plan will be developed concurrently with the maneuver plan and in the same manner as defensive FS planning. One difference is that, in the delay, the ground maneuver forces will rely more heavily on artillery fire to prevent them from becoming decisively engaged. It may also be more difficult to plan fires to support the delay because of more extended frontages. Field artillery positions must be planned to ensure coverage across the sector.

The FS plan should be integrated with the obstacle plan so that obstacles are covered by fires. Munitions such as FASCAM will be of little use unless the terrain in which they are used is restrictive to maneuver by the enemy. Plan for large expenditures of smoke to support the withdrawal of units from defensive positions.

Mobility, Countermobility, and Survivability

The brigade may not be able to emplace an extensive defensive obstacle belt. Resources may be limited. The brigade commander will decide which battalion sectors are the most vulnerable to attack and task organize his engineer assets accordingly. The trade-off during delay operations is between enemy countermobility and the delaying force's mobility. If the operation is to be successful, the delaying force must be able to maintain a mobility advantage over the enemy. A technique the brigade can use to integrate obstacles between task forces is to plan obstacle boxes on the brigade obstacle overlay.

Task organization of engineers will be decentralized to support repositioning forces. The most typical obstacle belts used in retrograde operations are disrupt and fix. The belts will correspond to the PLs. Mobility support to guide repositioning forces through obstacle belts and to close lanes will become a critical activity.

The obstacles used are surface-laid hasty minefields or other easily emplaced obstacles. Point obstacles must be sited where they may have a significant effect by themselves, or the enemy will quickly bypass them. Above all, both direct and indirect fires must be completely integrated into the obstacle plan. Breaking obstacles should be sited where they can allow the force to withdraw quickly while slowing the enemy. Smoke should be planned on delay positions.

Air Defense

Air defense is extremely important throughout the delay operation. Air defense assets must remain mobile yet able to engage at a moment's notice. Assets should work in teams, able to move to the rear in alternating bounds. This ensures that the air defense will always have ready units in position, with the flexibility to keep pace with the operation. Early warning of enemy air attack is provided over FM nets. Priority of protection should be toward maintaining the mobility of the force. Therefore, maintaining the security of routes to subsequent positions should be stressed.

Combat Service Support

The FSB should be positioned as far as possible to the rear of the delaying force without sacrificing the quality of support. This will keep CSS away from the enemy and out of the way of the delaying units. Due to the amount of time it takes to move support assets, every precaution should be taken to streamline support operations as much as possible. Only essential support equipment and personnel should remain forward. Evacuation operations should be planned to move the vehicles or personnel as rapidly as possible to the rear of the sector. Conversely, emergency resupply of ammunition and fuel must be made available to the force. Due to the inherent mobility of the operation combined with the expected high volume of fire, these two classes of supply must be preplanned and prestocked as much as possible.

Command and Control

The delay, often conducted on a broad front, demands greater decentralization. The brigade commander will rely heavily on the reports of battalion commanders and staffs to assess the situation. Additionally, members of the brigade staff may be placed to observe actions of each battalion to provide information from a brigade perspective. Throughout the operation, however, graphic control measures take on special importance. The brigade commander must ensure flank coordination is conducted at each phase of the operation. He must also know when each element is clear of the PLs because they could easily become on order FS coordination lines or other control measures.

Preparation

Intelligence

The brigade S2 will prepare for the brigade delay by rehearsing the operation with the brigade commander and battalion task force commanders. Specifically, he should role-play the enemy, depicting as accurately as possible the likely enemy courses of action. Using a sand table or some other representation of the battlefield, the S2 will commence his attack of the brigade area; battalion commanders will confirm their understanding of the reconnaissance/counterreconnaissance plan.

The brigade maneuver plan is rehearsed. The S2 should include unexpected enemy action in the process. This will challenge the chain of command and stimulate thought toward contingency missions. The commander ensures his intent is understood throughout. The rehearsal not only confirms the plan, but prepares the unit for other eventualities.

Maneuver

The brigade commander begins by having the battalion task force commanders backbrief their individual operations, explaining how their missions fit into the overall brigade plan. The commander must ensure that his control measures are understood by each commander and that flank coordination can be executed without hesitation.

Next, the commander checks that the battalions are able to maintain contact with the enemy without becoming decisively engaged. He examines the direct-fire instructions issued to the battalions by their commanders, paying special attention to the disengagement criteria. In particular, he should be satisfied that the battalions will be able to inflict maximum destruction, yet retain their mobility. Disengagement execution should be linked to obstacles and indirect fire; however, the commander may identify areas within the plan when and where a battalion task force may require assistance in disengaging from the enemy. Assistance could be provided by aviation, field artillery, or the commitment of the brigade reserve. The reserve can both significantly augment the lethality of the delaying battalion and assist in their disengagement.

The movement from primary to secondary positions (as well as other subsequent moves) is the area of greatest risk to the force. Friendly forces will be exposed and vulnerable to direct fire should the enemy be able to press the attack. Moreover, the delaying force must have a mobility advantage over the aggressor to allow time to occupy their next position. As a result, the commander will verify through the rehearsal and time-distance analysis that the forces will be able to maintain their mobility. Again, in locations where there seems to be little margin for error, the commander will consider the use of Army aviation assets or perhaps the reserve to overwatch the move.

Fire Support

The FS plan will be rehearsed along with the maneuver plan. In particular, the commander must ensure that the fire plan augments mobility of the force. Therefore, fires oriented on enemy avenues of approach and the break line must be carefully planned to inflict maximum destruction and provide obscuration of friendly disengagement. Priority targets should be placed on the likely areas of enemy mass formation.

During the rehearsal, the commander will check that smoke screens are called in anticipation of their actual use. DPs should be identified for this. In other words, because it takes several minutes for a smoke screen to develop, smoke must be fired before the withdrawing force needs it. Another consideration is that the force cannot count solely on indirectly fired smoke to provide the obscuration required, due to the unpredictability of weather. HE ammunition will raise some dust and contribute to the cloud. Similarly smoke pots and generated (on board) smoke may also add to the effect. However, the most important aspect of the delay movement remains the proper use of terrain. The disengaging force must be able to get behind covering terrain before the enemy can engage with direct fires.

FASCAM should be used judiciously and only under conditions of compartmentalized terrain. The time it takes to emplace the minefield should be carefully weighed against the effect other munitions may have over the same period of time. COLTs maybe used to increase effectiveness of the counterreconnaissance battle by attaching them to task force scout platoons; this should be made clear in the brigade commander's guidance.

Mobility, Countermobility, and Survivability

The obstacle plan is examined during the rehearsal to determine its effectiveness. Specifically, the commander will check that obstacles are placed so they can be covered by direct and indirect fires. Moreover, the obstacles associated with the break line should be closely checked to ensure that the enemy will not be able to breach or bypass them without significant loss of momentum and a forced change of formation. Target turnover for brigade reserve targets should be exercised to verify that the battalions understand the conditions under which they should be executed.

During the early phases of the delay, the engineers should continue to improve the obstacle plan in depth. Care must be exercised to ensure the engineers are not vulnerable to being overrun as the enemy presses the attack and the delay is conducted to subsequent positions. The commander must check the obstacle construction plan as well as the control during the delay. Usually, engineers be attached to a battalion task force during this type of operation.

Air Defense

The commander makes sure that the air defense commander is satisfied with positioning of ADA assets within the brigade and that his air defense priorities of protection are met. He ensures that the early warning net is tied into the brigade command net so the force has time to prepare for an impending enemy air attack.

Combat Service Support

The CSS plan must be checked to ensure that only necessary vehicles and equipment have remained behind to support the brigade. The recovery and evacuation plan should be checked to ensure that damaged vehicles can be removed to the rear rapidly. This will not be easy due to the limited number of recovery vehicles. It will be important for tanks with fire control damage to drag other vehicles to the rear as necessary. Maintenance collection points should be used only long enough to transfer damaged vehicles to other recovery vehicles. What must be avoided is collection of damaged equipment that exceeds the UMCP's ability to transport it at a moment's notice.

Prestocks of ammunition should be placed adjacent to subsequent positions. The stocks should not be so large as to prevent the unit from continuing the mission should the stocks be destroyed. The stocks should be kept on transport vehicles to make availability more flexible and to permit their evacuation rather than force destruction in the face of the enemy. The same technique holds true for fuel, although fuel requirements will be easier to forecast than ammunition consumption. In this case, the fuel trucks must be available for emergency requisition. (Topping off before execution of the operation should be required to avoid emergency refueling during combat.) Again, the commander must ensure that his CSS plan allows the brigade to maintain mobility while providing the means to inflict maximum destruction.

Command and Control

The reserve may be called upon to execute several tasks, such as blocking an enemy penetration, reinforcing a weakened sector, assisting in disengagement, and counterattacking. Generally, the brigade reserve will avoid missions that extend far forward of the FLOT. Rather, it is used to maintain the cohesive nature of the delaying force. As a result, the brigade commander must clearly define how, where, and under what conditions he will use the reserve. The same time-distance analysis required in defensive planning is essential in proper reserve force planning; its integration into the maneuver plan using the decision support template must be a matter of course.

During the rehearsal, the commander will exercise the reserve in each of the missions which he has determined to be appropriate to the overall delay mission. Specifically, he must verify that the force can assume its required position prior to the arrival of the enemy. This will also confirm his decision support template. In each case, he must know how long it takes the reserve to move from its hide position to the counterattack/overwatch position and prepare to fight. This should be based upon information provided by the reserve commander, who actually drove the route at tactical speed in preparation for the battle.

Execution

Intelligence

As the enemy moves toward the delaying force, the battalion scout platoons will begin to report enemy maneuver. The task forces will relay these reports to the brigade staff. The reports will be reconciled against the commander's decision support template and event template to confirm the enemy's probable course of action. In particular, the commander will want to make an initial assessment of the enemy's strength. This information will influence his estimate of the brigade's ability to conduct the operation as planned.

Reports of enemy activity approaching TAIs should initiate responses from the brigade, such as calls for indirect fire. Throughout the operation, the brigade commander must rely on the battalions in contact for information concerning the enemy's strength, disposition, and probable future operations. This will be particularly difficult when delaying on a wide frontage.

Maneuver

The brigade commander controls the delay using the control measures assigned with the delay plan. Specifically, he requires the timely reporting of PL crossing, passing of checkpoints, coordination point contact, and the occupation of BPs. As the enemy presses the attack, attempting to maneuver against the delaying battalions, the commander will monitor the action closely, in an effort to anticipate possible decisive engagement. Should a particular battalion appear to have trouble maintaining separation from the enemy, the brigade commander may place greater emphasis of CS in that particular sector.

The use of Army aviation must be measured. It is a limited resource and should be used only when necessary. Early commitment of aviation assets may be a mistake if they are not in a position to significantly augment the killing power of the battalion in contact. A more appropriate use would be to assist the battalion in contact in maintaining its freedom of maneuver.

The commander must use the brigade reserve wisely. Due to the wide sector frontage, the brigade reserve will only be able to influence the situation within one area. When the commander commits the reserve, it must be for decisive action. As with aviation, the reserve should not be committed early in the operation unless the situation dictates. Early loss of the reserve could mean the end of the brigade commander's ability to influence the battle. It is possible to commit the reserve several times throughout the battle, but only when it can be quickly extracted.

Fire Support

Enemy action normally initiates execution of the FS plan in the delay. Fires normally begin after receipt of spot reports from the battalion scout platoons. Heavy and accurate indirect fires are key to the success of the delay and must be pursued aggressively throughout the duration of the operation. As the enemy encounters each obstacle, it must be engaged with effective indirect fire. Fires should cause the enemy to button up and slow down. Fires can also be used to separate enemy attack echelons. The brigade should seek to engage deeper enemy targets with available fires while the battalions are fighting forward enemy units.

The artillery must be especially strong for FPF and for recently evacuated friendly positions. Smoke missions should be called to further mask the movement of the force. The commander must ensure that supplies of ammunition are adequate to sustain this type of indirect FS.

The process will continue in this manner throughout the operation: hitting the enemy hard along choke points and in EAs, then just when he may think that he is successfully maneuvering against a position, he gets hit again while the delaying force disappears behind a cloud of smoke, dust, and HE munitions.

Mobility, Countermobility, and Survivability

Obstacles will be more effective if tied to existing obstacles. The effectiveness of the obstacles also depends on direct and indirect fires. FASCAM minefields should be used to delay enemy passage through choke points. The commander shifts the engineer's countermobility effort to the sector in which the enemy appears to be making the most progress. To this end a "reserve" of mine-emplacement equipment, such as GEMSS or even M113s loaded with mines, will assist in fortifying the area in depth. Of course, the engineers must be given enough time to accomplish their assigned mission.

Meanwhile, mobility assets continue to keep routes open for CSS assets as they travel back and forth throughout the sector. Target turnover, particularly of brigade reserve targets, should be reported upon execution.

Air Defense

Enemy aviation will attempt to multiply the effect of artillery. Air defense assets must be prepared to keep the enemy from reaching friendly positions. Weapons should be kept away from obvious defensive locations. They must remain in contact with the air defense early warning net. The trade-off will be between the siting of the ADA weapons where they are survivable and the mobility of the weapons themselves. This will be examined more closely at battalion and company level.

Combat Service Support

The FSB should be far enough away so the BSA cannot be attacked by artillery. At the same time, however, it continues to support the delay operation. Maintenance, medical, and resupply operations must continue, but with the intent to evacuate, as opposed to returning a damaged vehicle to combat. Unless the vehicle can be fixed quickly on the spot, it should be sent to the rear. The delaying force cannot afford to lose vehicles during the operation, as vehicles left behind will be captured or destroyed.

Command and Control

Due to the decentralized execution of the delay, the brigade commander must rely on his battalion commanders to execute the mission and ask for help when they need it. This places a heavy burden on the battalion commanders, particularly when considering the strength of the enemy force they will be facing. Therefore, the brigade commander must see to it that his subordinate commanders get what they need to do the job within the realm of the possibility.

During actual execution of the delay, the commander must carefully monitor progress of each battalion. Because he is separate from the action, he can look at the actions without becoming mesmerized by the close-in fight. His anticipation of future enemy actions, or battalion needs, will stimulate CS and CSS operations in a specific sector.

He must maintain the cohesiveness of the overall operation, ensuring that flank coordination is maintained at all times. Most important, he must carefully assess the situation to determine the most effective use of the brigade reserve. Once he reaches his DP, the commitment of the reserve must then receive all the support necessary to successfully accomplish its mission. It is imperative that the counterattack force strike quickly and violently. It must be withdrawn just as quickly so that it can be used again at another opportune moment.

Withdrawal

A withdrawal is disengagement from the enemy, either unassisted or assisted by another force. It is conducted so that the battle may be handed over to another unit positioned to the rear of the withdrawing force, allowing the withdrawing force to prepare for future operations. Withdrawals may or may not occur under enemy pressure.

Planning

Intelligence

The S2 reviews the intelligence estimate to establish the IPB process. He must ensure conditions are right for a withdrawal. He must also determine how the enemy is most vulnerable to deception. The S2's analysis of the enemy situation determines the type of withdrawal the brigade will conduct and predicts whether or not the withdrawal will be under pressure. A withdrawal requires employment of a DLIC.

The worst time to conduct a withdrawal is in the face of an enemy attack. Therefore, the S2 must analyze the situation carefully to determine the best time to conduct the withdrawal. The intelligence collection plan will be extremely important in this regard. Information from the division G2 should be obtained in an attempt to identify massing formations. The commander will then decide if the brigade should request an assisted withdrawal or conduct an unassisted withdrawal. He must also decide whether to retain a DLIC. The more potent and imminent the threat the greater the security precautions required for the operation.

Maneuver

The commander will begin planning for the brigade withdrawal by first examining the situation. The strength of the enemy and his intentions are weighed against the friendly situation. This analysis will suggest when it is appropriate to ask higher headquarters for assistance in conducting the withdrawal. The analysis may cause the commander to form a DLIC. The following paragraphs address the conditions under which each of these techniques is used. Withdrawals are usually conducted during periods of limited visibility.

The *assisted withdrawal*. If the brigade will have difficulty breaking contact with the enemy, or if the enemy will attack during the conduct of the withdrawal, the commander should request assistance from the higher headquarters. In practice, the assisted withdrawal takes the form of a rearward passage of lines and battle handover to a stationary unit, called a covering force, which is occupying defensive positions to the rear of the withdrawing force (see Figure 5-4).

The advantage of conducting an assisted withdrawal is that the stationary force will overwatch the withdrawing force, protecting it as it moves to the rear. The disadvantage is the detailed coordination required in planning, preparation, and execution of the passage. If time is at a premium, shortcuts in this essential coordination could contribute to fratricide. C2 is compounded when withdrawals are conducted under cover of darkness.

The withdrawing force actually moves as in a delay in sector until it occupies positions within direct-fire range of the stationary force. At a designated time or upon signal, the withdrawing force conducts a rearward passage of lines along covered and concealed routes through and around the positions of the stationary force. The withdrawing force then moves quickly to AAs where the force can form into march columns for sub-

sequent movement to its final destination. Once disengagement is accomplished, the success of a withdrawal depends on the orderly movement of the forces to the rear. MP and traffic control are essential. Multiple routes are selected to avoid congestion.

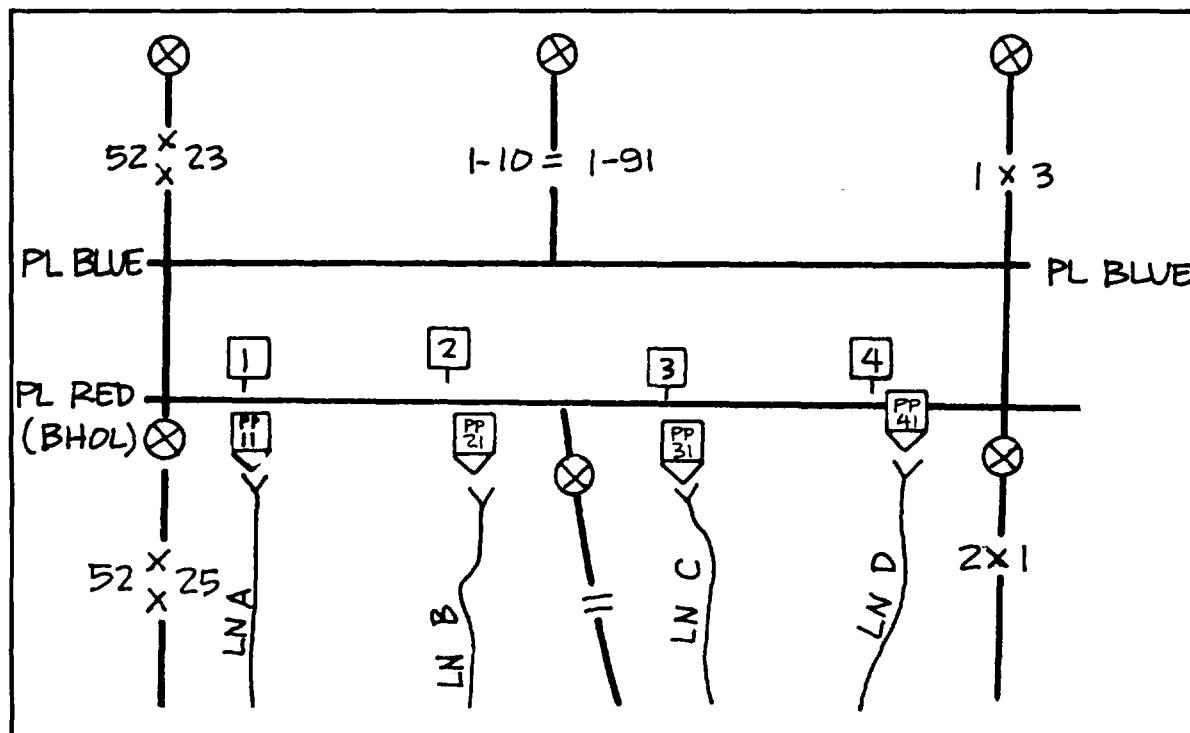


Figure 5-4. Withdrawal assisted by a covering force.

Unassisted withdrawal. If the division is unable to form a covering force, or if the brigade is not under enemy pressure, the brigade will conduct an unassisted withdrawal. The brigade commander could establish his own covering force from within the brigade, form a DLIC with brigade assets, or a combination of both.

The brigade forms its own covering force. This operation mirrors the assisted withdrawal discussed earlier, but uses only the assets found within the brigade. One option is to use a battalion in reserve as the covering force (see Figure 5-5). This will simplify both C2 and CSS operations. The covering force may actually be located to the front, adjacent to, or to the rear of the forward positioned battalions. The actual positioning of the covering force will be a function of defensible terrain versus the likelihood of enemy attack.

When all battalions are in contact, the brigade commander may construct the covering force from a portion of each battalion in contact (see Figure 5-6). This is a complicated option because it entails an ad hoc task organization. The covering force units could come under the OPCON of the brigade S3. Changes in logistics arrangements will further complicate this option. This option is best undertaken when the withdrawal is not under enemy pressure.

The brigade forms a DLIC. When the enemy is not applying pressure to the sector, the commander will probably choose to remain in contact with the enemy while a major portion of the brigade withdraws. DLICs must possess sufficient combat power to delay the enemy if the withdrawal is discovered and the enemy attacks. Usually, one-third of the force is designated as the DLIC. For a battalion task force, this corresponds to one company team, the scout platoon, the mortar platoon, a C2 element, and an appropriate portion of CSS.

This technique provides a reasonable amount of security to the withdrawing forces and deceives the enemy about the true activities of the brigade. For simplicity and optimum C2, DLIC units remain in the same sector. C2 of the DLIC is accomplished by the brigade S3 in the TAC CP. He will monitor the activities of

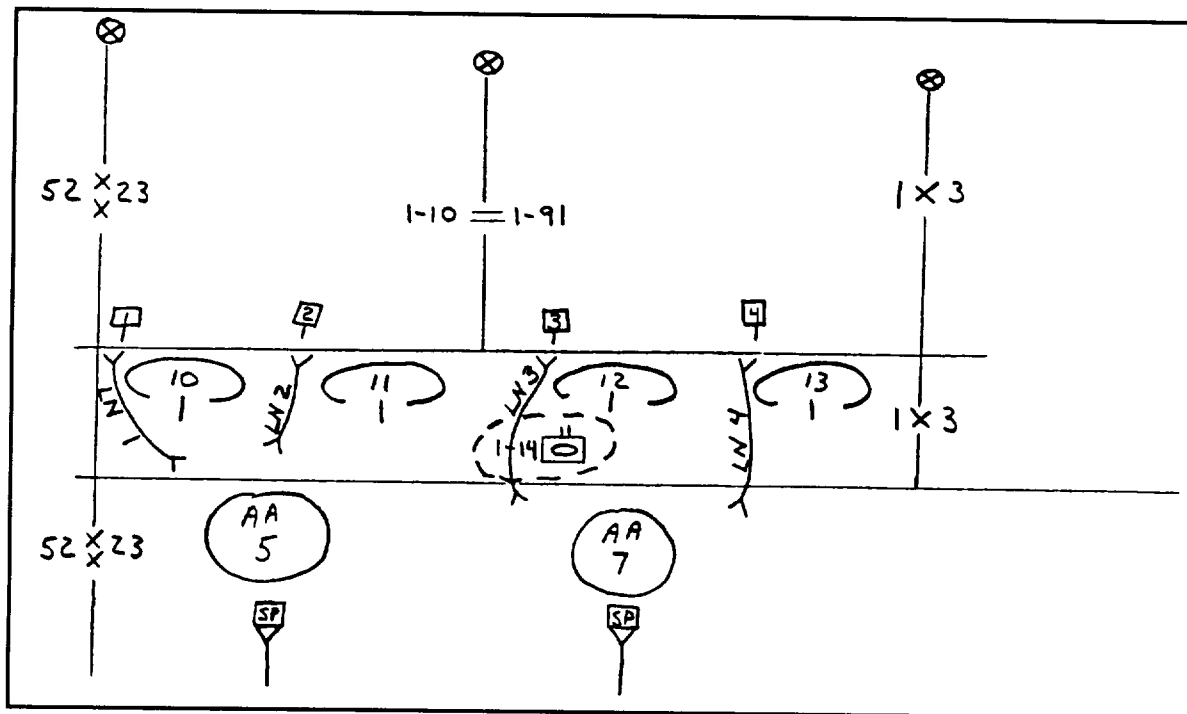


Figure 5-5. Brigade covering force formed from a reserve battalion.

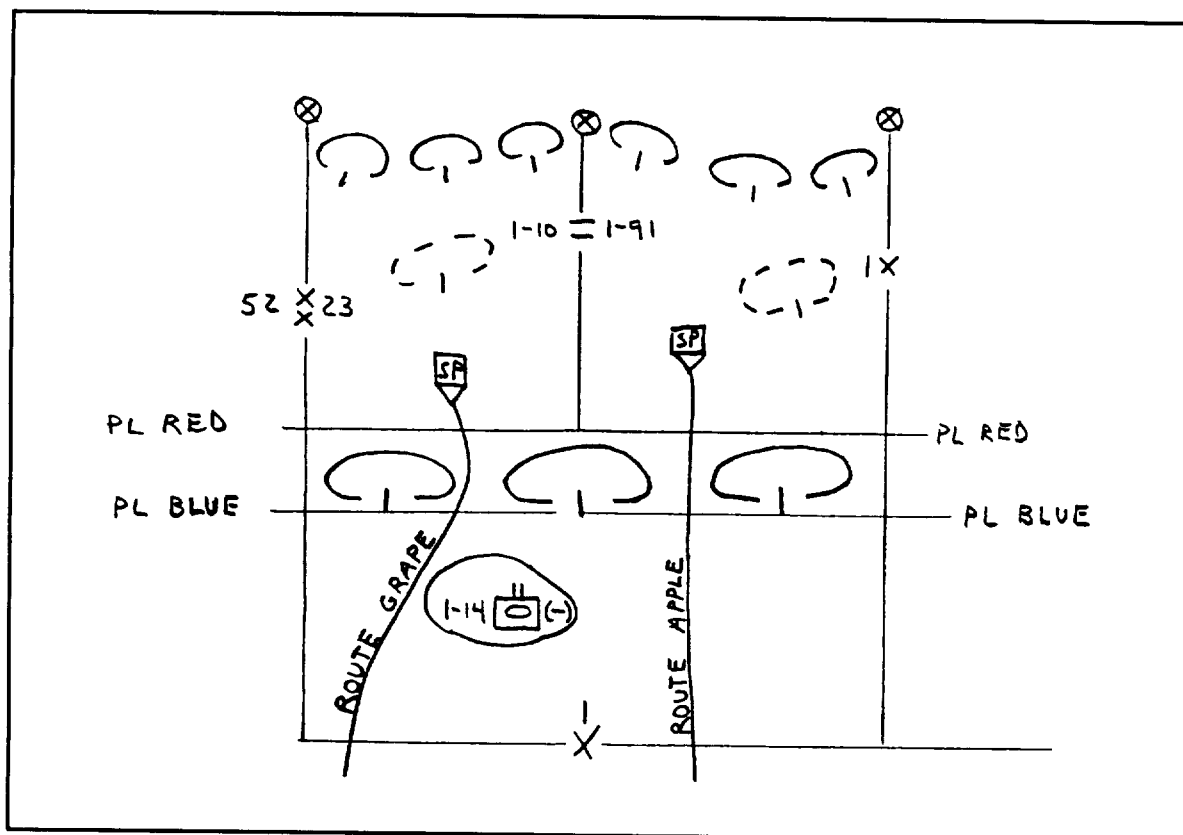


Figure 5-6. Brigade covering force formed from units in contact.

Regardless of the type of withdrawal selected by the commander, the S3 will prepare a deception plan. This will require the close coordination of the battalion task forces to ensure that the plan is effective. Deception techniques the brigade may use are artillery suppression to simulate an attack or increasing radio traffic to further reinforce the idea that an attack is in preparation.

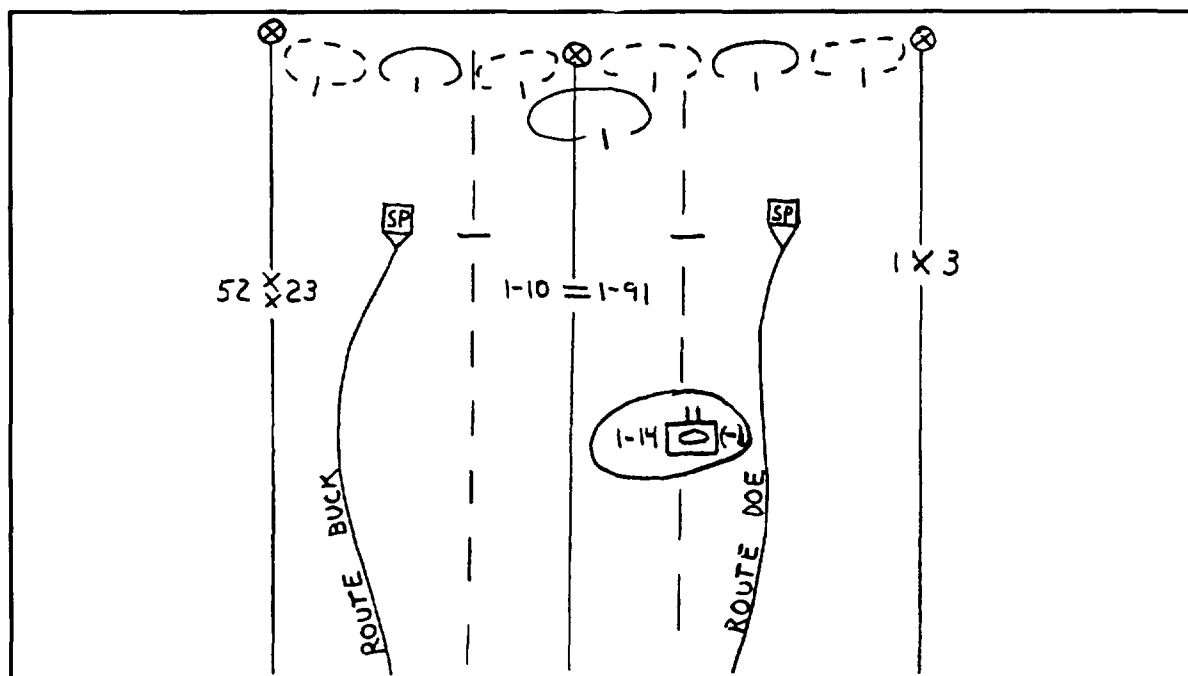


Figure 5-7. Brigade unassisted withdrawal with detachment left in contact.

Within the brigade sector, only a portion of the brigade may actually be able to conduct a withdrawal (see Figure 5-7). Battalions in other sectors may be conducting a delay or defense in sector. The brigade commander may choose to commit the reserve as a covering force for a battalion under enemy attack. This will allow the battalion to disengage and withdraw, while at the same time strengthen the sector.

Fire Support

In planning brigade FS, the commander and FSO conduct the same type of process as in other defensive operations. There may be additional tasks for FS during withdrawal operations, however. FS could be used to support the deception plan. FS could simulate brigade offensive intentions. Fires can cover the sound of withdrawing vehicles. The fires should also be planned to take advantage of the intelligence concerning enemy locations, so as not to waste the ammunition.

The FS plan should be designed to keep the enemy from interfering with the withdrawal. The brigade must be prepared to revert to delay operations if the enemy attacks during the withdrawal. When a detachment is left in contact, the FS plan is critical to protection of the force. FPF should be planned for each element of the DLIC. Smoke missions could be used to lead the enemy to miscalculate the strength of the force and its disposition.

In assisted withdrawal, covering force fires can reinforce the withdrawing force's DS fires. The reciprocal holds once the withdrawal is over and the enemy makes contact with the covering force.

Mobility, Countermobility, and Survivability

The obstacle plan which will support the brigade withdrawal will be based upon the same siting criteria as for the delay or defense. The obstacle plan will be prepared in depth to provide the covering force or a DLIC the ability to prevent the enemy from decisively engaging it.

In the case of a brigade deployed with all battalions abreast and only a small reserve, the obstacle plan should be designed mostly to protect the mobility of the brigade rather than to ensure complete destruction of the enemy. The DLIC must be strong enough to cover the obstacles with fire and ensure their effectiveness. Additional obstacles in depth will be required as the DLIC begins its delay in sector and attempts to hand the battle over to the stationary force.

If time and resources allow, engineer assets may improve the survivability of the DLIC by preparing fighting positions. Primary and alternate fighting positions should be prepared along subsequent lines of defense for the DLIC.

Air Defense

The brigade air defense plan must take three areas into consideration: the protection of the force while it is in position, the protection of the DLIC, and the protection of the force as it moves to the rear. While the main body withdraws from its forward position, it will move away from the DLIC, extending the area required to be covered by the air defense assets. As a result, dedicated air defense assets must be assigned to each of the forces.

Air defense assets must be sited to safeguard brigade routes of withdrawal. This will be less complicated when the brigade is out of contact and out of indirect-fire range. Therefore, ADA assets will assume good defensive positions along the route, oriented along air avenues of approach without fear of effective suppression.

Combat Service Support

CSS assets are reduced to only those elements essential to the sustainment of the brigade during the withdrawal. After replenishing the units, supply and service facilities are withdrawn. Only the minimum necessary recovery, medical, ammunition, and fuel assets remain forward. This clears the way for the main body of the brigade to withdraw. If a detachment is left in contact the CSS organization associated with that force remains in support.

Plans should include prestocks of Classes III and V along the withdrawal route when applicable. Maintenance plans should emphasize forward repair. This may include maximizing use of component replacements, cannibalization, and forward positioning of repair teams.

There will be little time during the conduct of the withdrawal to operate on casualties or to repair equipment. Therefore, diagnoses, stabilization, and evacuation will be the rule for casualties; evacuation of damaged vehicles, whenever possible under their own power, will be the norm for vehicles.

If there is a covering force assisting the brigade's withdrawal, the covering force's CSS assets can support the brigade. This will allow the withdrawing force's support elements to move to the rear sooner. The brigade should coordinate CSS with the covering force early in the planning process.

Command and Control

The brigade commander must select a position which allows him to control the withdrawal. If the division provides a covering force, then the commander will collocate his headquarters with the covering force's headquarters. This will ensure proper battle handover and rearward passage of lines. In an unassisted withdrawal, the commander must place himself where he can control the main body's movement to the rear. The brigade S3 and the TAC CP will remain to command the DLIC. The TAC CP must be provided with sufficient staff and radios to command and control a delay if the enemy presses an attack. Accordingly, there must be representatives from the S2, FS, engineers, S3, and S4 sections to assist the S3 in the C2 of the operation. This is an instance in which the commander must delegate the control of the operation to allow himself the opportunity to plan for future missions. This also keeps the commander with the main force of his brigade.

Preparation

Intelligence

The brigade S2 will prepare for the withdrawal by ensuring that R&S can be executed even after the main body withdraws. The R&S plan will be essential to the security of the force, as it will provide for early warning of an impending enemy attack. The S2 should ensure that the units concentrate on NAI along enemy avenues of approach. Seeing an enemy attack coming, the brigade commander can get the brigade in the proper delay posture to receive the oncoming enemy. The proper selection of DPs will allow ample time to react to the enemy attack.

Maneuver

Critical to the success of an assisted withdrawal is the coordination between the brigade and the covering force. The collocation of headquarters will help in solving some of the problems during preparation and execution.

The withdrawing brigade must coordinate a rearward passage of lines. The BHL and recognition signals must be agreed upon. Fire control measures must be established to safeguard the rearward movement of the brigade. If time allows, members of the covering force should meet on the ground with the leaders of the withdrawing force to agree on contact points, PPs, passage lanes, obstacles, and FS plans.

The commander must rehearse the conduct of the withdrawal, paying particular attention to the possibility of reverting to the delay. Movement plans, followed by rearward passage of lines, should be stressed. Control must be maintained throughout the operation. Each player must understand his role in the operation.

Fire Support

In preparation for the operation, the brigade FSO should attempt to identify all possible artillery support for the operation. Additional FS may come from the covering force.

The brigade commander should rehearse the FS plan along with his maneuver plan. The execution of the FS plan, as the brigade moves rearward to the BHL, will be critical. The withdrawing force must be able to inform the covering force when a particular FS coordination line is active. This will allow the covering force to actively engage the enemy with indirect fire before the withdrawing force departs the sector.

Mobility, Countermobility, and Survivability

The preparation of the obstacle plan will be contingent upon the coordination made between the covering force and the brigade. Each facet of engineer operations will come into play in the withdrawal. First, the countermobility plan must not impede the maneuver of the DLIC or the main body. Obstacles must be significant enough to slow the enemy and make it vulnerable to attack by direct and indirect fire. Mobility throughout the sector is essential to avoid decisive engagement but targets must be planned to deny the enemy the use of these same routes. Brigade target turnover must be rehearsed so that the responsible unit understands the conditions under which targets are executed. Obstacle free zones must be identified. In some cases, obstacles may have to be removed to make way for counterattacks. As with all operations, the commander must check that the FS plan and the obstacle plan are completely integrated. The preparation of survivability positions for the DLIC will be critical if the enemy presses the attack.

Air Defense

The air defense plan is rehearsed along with the maneuver plan. In particular, the commander should ensure that the air defense assets are able to engage enemy targets at any time during the operation. As the force moves to the passage lanes, it will become a lucrative air target. As with artillery, ADA support from the covering force may further protect the force.

Combat Service Support

During preparation for the withdrawal, CSS elements will begin their movement to the rear. Ensure that the movement is not observed by the enemy. Many separate routes may be preferable to a few MSRs until the force is behind the covering force. Evacuation routes should be checked to ensure that none are closed accidentally. Target turnover is important along supply routes.

CSS assets that do remain should be able to meet the needs of the combat units during the withdrawal. To this end the S4 should make every effort to provide ample supplies to the battalions, covering the period of the operation, before the withdrawal begins. Prestocks may be sited to sustain DLIC operations. If the DLIC is composed of a battalion task force, CSS will generally occur as it would for any defensive operation.

Command and Control

The commander will check the coordination between the brigade and the covering force. The covering force should be kept informed of the activities of the brigade throughout the withdrawal. Collocating headquarters and providing LOs between headquarters will help in reducing confusion. The commander and staff will rehearse the conduct of the withdrawal, to include reverting to the delay in the event of an enemy attack. The decision support template and other tools must be at their disposal.

Execution

Intelligence

As the time of execution arrives, the brigade will begin the deception plan. Artillery fires could trick the enemy into thinking the brigade is going on to the offensive and prevent him from detecting the withdrawal. The suppression should cover the withdrawing force's movement from the FEBA.

Security elements will carefully monitor their assigned sectors, reporting any signs of enemy activity. As the force begins to move to the rear, the security force will displace to the next designated PL.

Accurate reporting and relaying of information through the battalion task force headquarters will be essential to the proper assessment of the situation. Security elements will call for indirect fire to keep the enemy off balance and prevent him from closing with the main body. Once the screen reaches its last position, adjacent to the covering force, battle handover will be effected and the enemy engaged as in a deliberate defense. If this is conducted properly, the enemy, in its haste to reestablish contact with the withdrawing force, will plunge into the deliberate defense, sustaining heavy casualties.

Maneuver

As the battalions report they are clear of each brigade PL, the brigade will inform the covering force that the PL represents the brigade CFL. This will allow increased FS in the brigade sector and prevent the enemy from reestablishing contact.

From their final positions, the battalions will begin passage of lines in accordance with the plan coordinated with the covering force. If there is no covering force the DLIC will cover the movement of the brigade to the rear.

After the battalions have passed to the rear of the covering force, they will quickly form up in AAs to prepare for the road movement to their final destination. The covering force will have assumed responsibility for the sector once the brigade clears the BHL.

Fire Support

The artillery may begin the withdrawal with a preparation of known and suspected enemy positions as part of the brigade deception plan. The fires will be directed toward the suppression of enemy reconnaissance or first-echelon forces. This will help prevent the enemy from observing the rearward movement of the main body.

Should the enemy attack, the brigade may revert to a delay, in which case direct fires would augment the effect of indirect fires, particularly along obstacle belts. FPF and smoke screens may be required to keep the enemy from decisively engaging brigade elements. Once the force arrives at its final position before conducting its rearward passage of lines, the FS must be continuous. After the brigade completes its rearward passage, the artillery may fire in support of the covering force as it repels the enemy's attack.

Mobility, Countermobility, and Survivability

As the security elements evacuate a position, they will close the lanes and roads used by the withdrawing forces. It is imperative that as each lane is closed, it is reported to higher headquarters. The enemy may

otherwise discover an open road which was thought to be closed. Security elements must call for artillery as the enemy reaches each of the obstacle belts.

Air Defense

Air defense elements will protect the main body and the DLIC, if deployed. The air defense commander will issue air warnings over the command net. The ADA assets should integrate their support with that provided by the covering force.

Combat Service Support

The greatest CSS challenge lies in supporting a DLIC. As vehicles are damaged and casualties are sustained, the support assets will quickly evacuate them to the rear area. Ambulance exchange points and UMCPs are essential to these operations however, they must remain streamlined and mobile so they do not slow down the tempo of the operation. After the withdrawal has begun, it may be best to evacuate vehicles and equipment behind the covering force. Emergency resupply of ammunition and fuel should be accomplished, if possible, out of contact. Those supplies or items of equipment which cannot be evacuated should be destroyed.

Communal and Control

C2 of the withdrawal is conducted much like a delay, except that enemy contact is avoided as much as possible. Therefore, the brigade commander must position himself where he can monitor each battalion sector. During initial stages, this may be just to the rear of battalion sectors. The brigade main CP, collocated with the covering force CP, provides the commander with critical information.

Throughout the operation, the commander's main concern is avoiding decisive engagement with the enemy. To do this, he must make his assessment based on reports of units in contact with the enemy. The commander should remember that an appropriate course of action for one battalion may not suit another. A battalion may respond to enemy success by reverting to the delay while adjacent battalions continue to withdraw.

If a DLIC is employed, the brigade S3 will control it as the commander moves to the rear with the main body. The S3 will closely monitor reports. He will ensure that flank coordination is maintained between each of his subordinate units.

Retirement

A retirement is a retrograde operation in which a force not in contact moves away from the enemy. In the retirement, the brigade conducts either a tactical or administrative move to the rear.

Planning

Intelligence

The S2 evaluates the terrain, weather, and enemy. His assessment of the enemy's capability to maintain contact or attack determines whether the brigade will move tactically or administratively. When enemy contact is unlikely, the brigade commander will likely choose administrative movement, especially when a stationary force lies between the retiring brigade and the enemy. Otherwise, the brigade S2 must prepare the same types of products for the commander and the rest of the staff as in any tactical operation. Under conditions in which the enemy is able to maintain contact, the S2 prepares a R&S plan. This information is critical to the conduct of the rear guard because it prevents enemy interference with movement of the main body.

The S2 also should analyze movement routes and the final AA to determine possible locations for enemy ambushes or other level one and level two threat activity. This information affects main body movement and influences the formation and disposition of forces as the brigade moves to the rear. A further discussion of movement planning and AA operations is found in Chapter 2, *Preparation for Combat*.

Maneuver

The commander prepares for retirement by examining the S2's analysis of the enemy situation. If enemy contact is unlikely, he will probably choose to move administratively to the designated AA. A discussion of road movement planning is in Appendix A, Movement. When the enemy appears to be able to affect movement of the brigade, the commander may choose to form a rear guard and move tactically. In a retirement that follows an unassisted withdrawal, the commander designates the DLIC as the rear guard. If the brigade has its own covering force during the withdrawal, the covering force can be the rear guard. It is preferable to form the rear guard using existing subordinate organizations (see Figure 5-8).

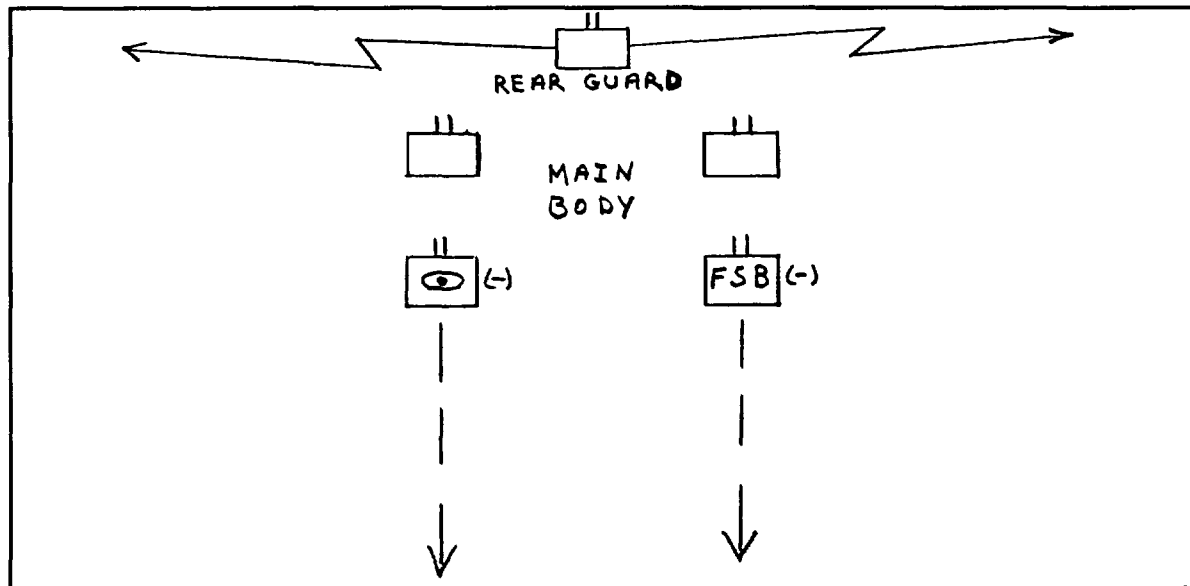


Figure 5-8. Brigade tactical retirement formation.

Fire Support

The FSO will ensure that the artillery is positioned to support the rear guard throughout the retirement; however, some assets must also support the flank and advance guards should they also make contact with the enemy. Generally, task force mortars will support their designated guards, but if the support is not strong enough, the artillery must be ready to respond.

If the brigade conducts a rearward passage of lines through a stationary force, indirect fires must be coordinated with the unit owning the ground. The objective of FS planning is to keep the enemy from closing with the rear guard. Fires should be planned to maintain mobility of the force while slowing the momentum of the enemy. Smoke missions and targets planned on obstacles will obscure the rear guard and separate the enemy from the rear guard as the rear guard conducts its delay.

Mobility, Countermobility, and Survivability

There will probably be little opportunity to emplace significant obstacles in the path of the enemy forces. Some countermobility and survivability assets, however, should support the rear guard.

Air Defense

ADA assets will be allocated to support both the main body and the rear guard. For the rear guard, these assets will conduct operations as in delay or defensive operations. The main body, however, will receive the bulk of the protection because movement formations present lucrative targets for enemy aircraft. The brigade ADA officer will plan to locate his assets where they can best provide air security to the force as it moves to the rear and occupies its AA.

Combat Service Support

CSS assets will have to sustain the rear guard, move to the designated AA, and support the movement of the brigade main body. If the rear guard comprises a single maneuver element, CSS for that organization already exists. Service support operations for the movement mostly involve recovery, emergency refueling, and medical evacuation. CSS elements not essential to the operation should be moved early to reduce congestion during the retirement. A complete discussion of movement planning is found in Appendix A, *Movement*.

Command and Control

The command of the rear guard may come under the brigade S3. If a battalion is designated the rear guard the battalion commander will command it. The brigade S3 will use the TAC CP to provide the brigade C2 element for CS and CSS. An alternative is to provide necessary CS and CSS assets to the rear guard.

The brigade commander will monitor the movement of the main body. He will either control the force in its tactical movement or monitor its progress as it moves administratively to its designated M.

Preparation

Intelligence

The S2 briefs the commander and orders group on the enemy situation. He will ensure the commander receives as complete a picture of the enemy situation as possible. The commander and staff war-game the decision support template to ensure everyone understands how the commander wants the operation to be executed.

For the axis of advance, the S2 will identify to the orders group possible congestion areas, likely locations of enemy ambush or interdiction, and areas of vulnerability to air strikes.

Maneuver

The commander reviews the maneuver plan with the battalion commanders. He ensures each commander understands his mission and responsibilities. If the brigade is conducting a tactical movement coordination between the rear guard and the main body will be addressed. The main body must not outrun the rear guard. Actions in rearward passage of lines with a stationary force must be rehearsed so each element understands which position to occupy before executing its rearward passage. The BHL must be understood by the rear guard as well as on-order CFLs. Order of march from each unit's final defensive positions to passage lanes and ultimately routes to the AA must be clearly understood.

For administrative movement, maneuver is less complicated, but should be reviewed nevertheless. Each battalion task force and brigade element must know when and where it is to travel on the rearward route to the AA. Emergency stop areas, maintenance halts, and rest halts should be identified as well as UMCPs and emergency fuel support.

Occupation of and actions within the AA should be reviewed so that each element understands the geographical boundaries of his area and his responsibilities upon occupation. A complete discussion of AA operations is found in Chapter 2, *Preparation for Combat*.

Fire Support

The FS plan is rehearsed during the brigade rehearsal to ensure the rear guard has enough FS to accomplish its mission. The FS plan for movement of the main body is also rehearsed. Artillery may engage only *identified* enemy threats because the brigade does not own terrain through which it is traveling. The brigade should coordinate with the unit that owns the ground before engaging targets.

Mobility, Countermobility, and Survivability

Mobility of the force is critical during retirement. Engineer mobility assets will be placed along the route to safeguard transportation across bridges and other potential choke points. The rear guard should take over targets turned over by supporting engineers.

Air Defense

The air defense plan should be checked to ensure continuous protection is achieved throughout the operation. As the last elements of the brigade clear a particular area, the ADA assets must redeploy to provide continued protection all the way to the AA. Actions upon air engagement should be rehearsed. Once occupation of the AA begins, the positioning of the air defense assets should be checked to ensure they are coordinated with the organization which owns the land.

Combat Service Support

CSS operations should be rehearsed to ensure that support of the rear guard does not interfere with movement of the main body. There will be forces traveling in opposite directions. If available, separate routes should be identified for each activity. During an administrative movement, CSS elements can be positioned along the route to support the force. Once in the AA, CSS assets should be positioned to refit, refuel, and rearm the brigade for future operations.

Command and Control

The commander must ensure that the rear guard commander has everything needed to command and control the rear guard. Control measures should be clearly understood. The brigade commander will position himself where he can best control and monitor the operation. Actions upon contact should be rehearsed with each of the battalion commanders to ensure that they understand the proper procedures.

Execution***Intelligence***

Once the brigade begins its move to the rear, the rear guard will attempt to keep the enemy from observing the force. Identified enemy elements will be engaged by indirect fire. Properly directed artillery fires, to include smoke missions, should keep the main body and the rear guard obscured.

Advance parties will report any enemy activity and verify the conditions of the routes to be taken by the main body.

Maneuver

The rear guard will delay the enemy as required to protect the main body, fighting from subsequent lines of defense. The rear guard must not become decisively engaged.

The main body will move in column. As the brigade approaches its final positions before executing a rearward passage of lines, the units may have to temporarily adopt a hasty defensive position until each element is able to conduct its rearward passage of lines. This temporary halt may be expedited by increasing the number of passage lanes.

Once the passage is complete, the brigade will form into march elements and begin the road movement to its designated AA. It may be advisable to occupy temporary AA positions to reorganize before beginning the road movement. Reconnaissance elements and MPs may assist in traffic control during this phase of the operation.

Fire Support

FS will be used primarily to support the rear guard. At times, significant amounts of artillery suppression may be required to prevent the rear guard from becoming decisively engaged. As the force conducts its rearward passage of lines, FPF may be needed. Fires called during the administrative portion of the movement will be shot only upon positive identification of enemy forces to reduce the risk of fratricide.

Mobility, Countermobility, and Survivability

Throughout the operation, engineer assets will move with retiring units to ensure the mobility of the force. The highest priority mission for those engineer assets accompanying the rear guard will probably be surviv-

ability. Engineers may be called upon to execute point type targets located at identified choke points. Some hastily emplaced minefield may be emplaced as well.

For administrative moves, pre-positioned engineer mobility assets will ensure the route remains open.

Air Defense

ADA will provide area coverage throughout the operation. In the event of an identified air strike, the information will be issued over the brigade command net so the brigade can quickly adopt a protective posture. If the route becomes clogged due to air interdiction, march units may be issued on order AAs to the left and right of the route where they can better protect themselves and present less of an obvious target to the enemy until they can resume travel.

Combat Service Support

Support of the rear guard will occur as it would for a delay operation. As for the main body, the FSB will move in its assigned location. If possible, some support assets may be able to leave with the quartering parties to pre-position themselves along the route in support of the administrative movement. The majority of CSS operations will be devoted to getting the brigade to its AA, losing as few vehicles along the way as possible. Once the brigade arrives at the AA, CSS assets will attend to the needs of the battalions. Task force LOGPACs of ammunition, fuel, food, and any other expendable supply item will be sent to the battalions, where they will conduct tailgate resupply.

Command and Control

The brigade will provide C2 for the rear guard as well as the retiring units. The commander will travel in the area of the brigade where he can best influence the action. He will also want to ensure the smooth transition from tactical to administrative movement. He will temporarily collocate his CP with the stationary force CP to supervise the rearward passage of the brigade. Then he will move to a forward march unit to monitor movement all the way back to the AA.

SECTION II. BATTALION TASK FORCE RETROGRADE OPERATIONS

Delay in Sector

A delay operation trades space for time while avoiding decisive engagement. The delay incorporates all the dynamics of defense, but emphasizes the preservation of the force and the maintenance of a mobility advantage over the enemy. The battalion task force may be given a delay mission as part of a covering force or an economy of force operation or to control an enemy penetration in preparation for a counterattack.

Planning

Intelligence

The battalion S2 prepares for the delay as he would for any defensive operation (see Figure 5-9). To avoid decisive engagement and make the enemy deploy as frequently as possible, his terrain analysis must clearly address the relationship between terrain features and enemy avenues of approach. A delaying force, delaying on a wider front, must be prepared to fight larger enemy forces than in defensive operations. Enemy areas of vulnerability, therefore, take on even greater significance.

The situation template will help the commander determine the best times and locations to force the enemy to deploy throughout the depth of the sector. The event template will help the commander to focus intelligence gathering efforts and identify NAIs. Finally, the decision support template will be used to war-game the plan against probable enemy courses of action.

A narrow frontage suggests the use of a delay on alternate positions; a broader frontage lends itself better to a delay on successive positions. The terrain analysis and identification of platoon and company positions will help confirm which technique is most appropriate for the given battalion task force sector. As with defensive planning, these positions should be identified by their ability to influence the previously identified enemy areas of vulnerability, particularly from the flanks and rear of the approaching enemy.

Once the commander has identified all of the potential platoon BPs, he will combine them to form company positions. This refinement, however, is not merely a grouping of positions. It is an assemblage based upon the ability to engage the enemy where the commander has determined to kill him, maintain the survivability of the force, and allow the force to displace to subsequent positions before the enemy has the opportunity to close with it.

Direct-fire control measures will then be added to the plan as in defensive operations. EAs, TRPs, trigger lines, break lines, and engagement priorities are examples of the control measures required. A more complete discussion is found in Chapter 4, Section II, on battalion defense. Routes from position to position should be clearly identified and reconciled with the battalion obstacle and FS plans. Likewise, order of march and on order orientations to cover other unit moves should be assigned to each element.

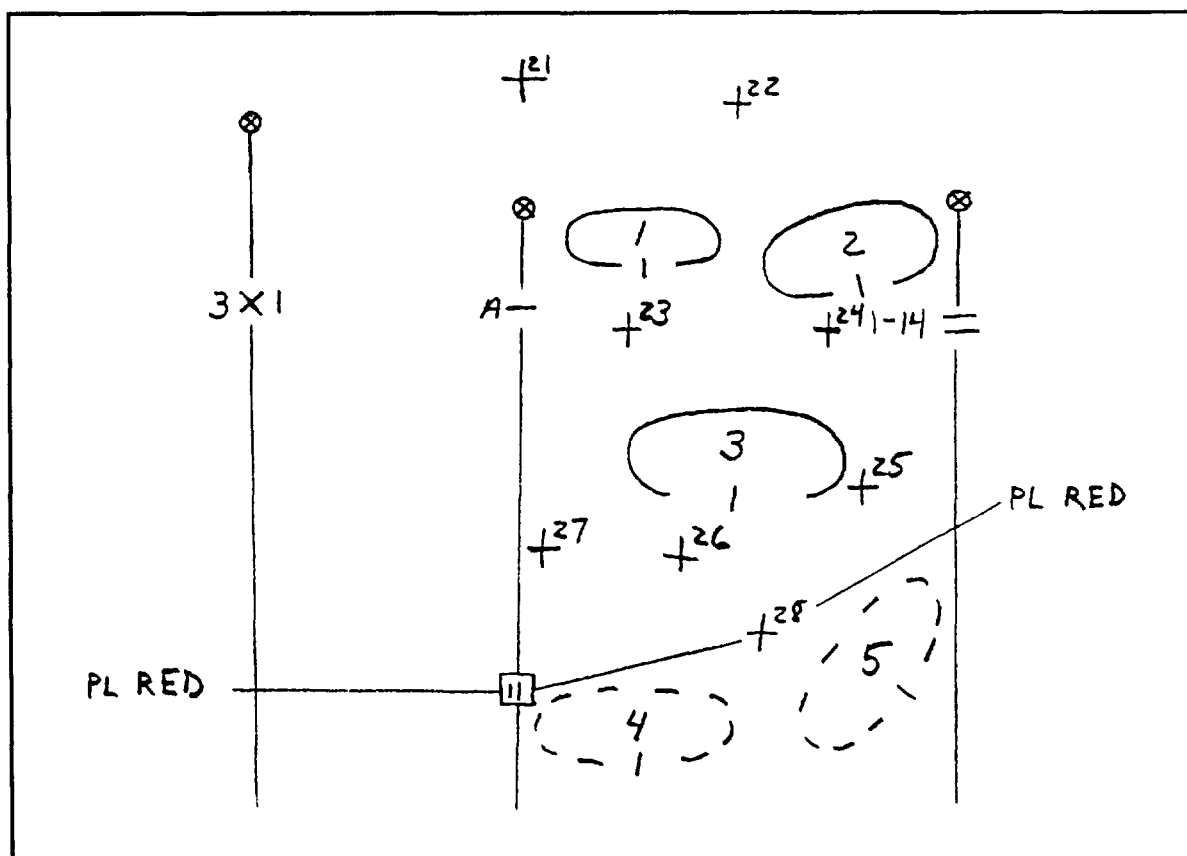


Figure 5-9. Battalion task force delay in sector plan.

Delay operations are designed to maximize firepower within the sector. For this reason, the reserve is normally smaller than for a defense. While defensive operations usually suggest a company reserve, delay operations will more often form a smaller reserve. In the case of a two-platoon reserve, the remaining platoon could be given to one of the other companies, creating a four-platoon company. The advantage to this is that the C2 of the reserve is consistent with the organizational structure. In a single-platoon reserve, the platoon leader will report directly to the battalion commander. The same type of control measures must be incorporated into the plan for the reserve as in defensive planning. Likewise, obstacle-free zones, no-fire artillery zones, and RFLs should be completely integrated into the counterattack plan.

The delay in sector should be planned to end in another operation. The company teams will establish final defensive positions along the rear portion of the battalion sector. Another force could conduct a counterattack into the enemy's flanks, supported by the delaying force. The delay is often designed to buy time for another force to prepare its defenses. In this case, the delaying force would coordinate and establish a BHL and conduct a rearward passage of lines, handing the battle over to the stationary force.

In planning employment of the scout platoon, the commander will often want to maximize early warning by placing the scouts in a forward screen. Reports generated by the scouts are useful when used with the decision support template. Once the enemy maneuvers within close proximity of the MBA, the scouts could screen a vulnerable flank.

Fire Support

The FS plan is developed concurrently with the maneuver and obstacle plans. The same considerations are used in delay FS planning as in the defense. The only significant difference is that in the delay the artillery is used more for maintaining the mobility of the delaying force than in ensuring destruction of the enemy. As a result, linear sheaths of smoke should be planned to assist companies as they move to their subsequent BPs. PPF should be planned forward of each BP and artillery targets should be placed on the positions themselves. Fires for the EA will be linked to the obstacle plan and prepared in the same manner as in a deliberate defense.

The mortars will generally operate in split sections to cover the large frontage of the battalion sector. In narrow sectors, they are more likely to operate as a platoon. It is important that the mortars keep a section on the ground at all times so they can respond immediately to calls for fire. The disadvantage of operating with mortars in split section is that any call for mortar fire will generally be met by only one firing section. Only in the areas where the two sections' arcs of fire converge will the battalion be able to take advantage of the platoon's massed fires.

Mobility, Countermobility, and Survivability

Obstacle emplacement in delay operations should be planned so as to force the enemy to deploy repeatedly as it maneuvers through the sector. Point obstacles will be used to close routes of egress. Close-in protective obstacles will be planned to prevent the enemy from closing with the force.

The mobility of the force on routes to subsequent positions must be maintained throughout the battle. It is essential that the delaying force be able to retain its mobility advantage. Therefore, what the obstacle plan fails to do in slowing the enemy, the mobility plan must accomplish in allowing the force freedom of maneuver.

Survivability must be incorporated into each BP. The ability of the force to maintain its fighting strength will further complicate the enemy's attempts to break through the sector. Initially, the commander will designate the level of preparation for each BP however, as time allows, each BP will be prepared to the same standard as those deemed primary. Therefore, engineer assets must be prepared to continue their work in depth even though the delay may have already begun.

Air Defense

The battalion air defense plan will center on protecting the force; all other ADA considerations for protection will be secondary. C2 facilities may receive some protection, but the most critical air defense role in the delay is to maintain the force's freedom to maneuver. Due to the fluid nature of the delay and the likelihood of receiving enemy artillery suppression, air defense assets must be placed under armor. Delay considerations with respect to early warning are the same as in battalion defensive operations.

Combat Service Support

CSS will be accomplished in a manner similar to defend in sector missions. The significant difference is that the commander knows exactly when he will evacuate a specific portion of the battlefield and move to subsequent positions. This information, if held to in execution, will allow the support units to better forecast the location of ammunition and fuel resupply and to determine which LRP to use during each stage of the operation. Because operations seldom go according to plan, a certain amount of flexibility must be required.

Command and Control

The most significant aspect of the delay is selection of the times by which the force must delay forward of specified lines. A thorough discussion of the techniques involved in this planning is found in brigade delay planning. The same process holds true at battalion and company levels. The commander must also carefully determine when and where to commit the reserve. There are many possible missions for a task force reserve, but the most effective is the counterattack to destroy enemy forces and assist in the disengagement of the battalion from delay positions. This mission accomplishes the aim of inflicting the greatest number of casualties while maintaining the force's freedom of maneuver. In developing his decision support template, the commander must ensure that the reserve arrives at the most opportune point in the battle.

The commander should plan to position himself where the greatest enemy threat is likely to occur. Due to the wide frontage of the battalion sector, the S3 may be required to position himself in a different area.

Preparation

Intelligence

The S2 prepares for the delay by role-playing the enemy during the battalion orders group backbrief rehearsal. As the company team commanders discuss their maneuver to the battalion commander, the S2 will portray the likely enemy actions as a result of the delay. These enemy actions should reinforce the actions of the company team and identify weaknesses within the plan. While this rehearsal occurs, the battalion commander should check his decision support template and synchronization matrix, ensuring they are appropriate for the operation.

Maneuver

If time allows, an actual dry run of the delay will be extremely beneficial. Companies will be able to confirm that trigger lines are effective. Disengagement criteria and the move to the next set of BPs can be confirmed. The battalion commander will pay special attention that his elements are not exposed to fire from the EA as they move. Also, he will time the companies to check that his disengagement criteria allow them enough time to occupy their new positions.

Fire Support

During the rehearsal, the FS plan will also be exercised. Once the enemy enters the EA, indirect fires should be called simultaneously with direct fires so that the commander can verify the accuracy of his synchronization planning. Units will practice calling for fires, in particular battalion priority targets.

As the enemy nears the break line, the companies should begin to call for linear sheaths of smoke and, if appropriate, FPF to assist in breaking contact and covering the move. As the companies evacuate the positions, fires should be called on the BPs and along the routes to their new defensive position. This will discourage a persistent enemy who is reluctant to lose contact.

The mortar platoon should practice shooting and displacing all the way to the rear of the sector. It should check that it has enough smoke rounds on hand to meet requests of the company teams. The mortar platoon should coordinate with the S4 and support platoon leader to prestock ammunition at firing points located on subsequent positions.

Mobility, Countermobility, and Survivability

The commander should examine the obstacle plan to ensure that it effectively channelizes the enemy as the enemy maneuvers toward the defensive positions. He will ensure that close-in protective obstacles are able to effectively break the enemy's momentum, forcing it to lose contact with

the delaying force. Continuing through the sector, he will check target turnover to ensure no lane is left open for enemy use. All obstacles should be reinforced by direct and indirect fire. This process should be repeated throughout the depth of the sector. The commander will note any problems with the plan and adjust the tactical plan to correct mistakes.

Air Defense

Air defense assets will locate themselves with each supported unit and move under armor with the supported force. They will practice issuing enemy aircraft attack warnings to the battalion over the command net and identifying weaknesses in the task force maneuver which may make it vulnerable to air attack. These weaknesses will be reported to the commander for corrective action.

Combat Service Support

The CSS plan, like the maneuver, FS, and obstacle plans, will be rehearsed. In particular, the CSS assets must be prepared to displace in anticipation of the task force's movement so as not to clog the withdrawal routes and slow down the maneuver. LOGPAC operations, identification of critical logistics points, and evacuation and recovery operations should be rehearsed to ensure they can be accomplished while on the move. Arrangements must be made to destroy equipment that cannot be evacuated in time.

Command and Control

The commander could drive the enemy's axis of advance and take note of each of the company plans to ensure they are properly integrated and achieve the required synchronous effect. Further, he will ensure that his control measures are properly placed and adequate for the operation. During the rehearsal, he should commit the reserve to check its timing and ensure that it can occupy a position to the flank and rear of the unsuspecting enemy. The commander's most important task, however, is to ensure that the battalion will be able to maintain its freedom of maneuver throughout the duration of the operation. Therefore, the break line, obstacles, and indirect fires which support disengagement must be carefully checked to ensure effectiveness.

Execution

Intelligence

As the enemy approaches the battalion sector, GSRs and the scout platoon will issue spot reports. Indirect fire will be adjusted against the enemy reconnaissance forces. If available, COLT teams will destroy these vehicles in lieu of other artillery-fired munitions. Counterreconnaissance forces will complete the destruction of enemy reconnaissance. Once the enemy's first echelon begins to draw near to the sector, the scout platoon, and GSRs will withdraw and displace to a flank where it will continue to screen.

Maneuver

After the screen has withdrawn, the enemy will begin to move into the battalion sector and EA. Direct and indirect fires will begin to engage once the enemy reaches the trigger line. If the enemy has detected the delaying force, it may begin its artillery preparation of the area in support of the assault. That is why it is important that every vehicle commander understands how long he is to fight from each BP. Fires from the battalion should be controlled in the same manner as in any defensive operation; however, as the time or physical requirements are met to withdraw, the force will call for the necessary indirect fires to cover the move.

As the companies displace, other companies will change orientations to cover the move. Each company will travel along its designated route, executing reserve demolitions as required and calling for additional fires if the enemy is able to maintain contact. At the next set of BPs, the process will continue. As stated earlier, the objective of the delay is to trade space for time. The more damage the delaying force is able to inflict upon the enemy the longer the delaying force will be able to stay in position. If decisive engagement appears inevitable, however, the commander must be able to displace the force early and attempt to make up the difference on the next set of positions.

Fire Support

The artillery will be used initially to destroy enemy reconnaissance assets as they begin to probe the battalion sector. As the first echelon begins to deploy, the FS will be directed to shatter the enemy's formation as it encounters the obstacle system. Together with the direct fires of the company teams, the fires should be significant enough to inflict severe losses on the initial formations.

Once the battalion reaches the point where they choose to displace to their next positions, the artillery will again engage the remnants of the enemy force. If the enemy is able to maintain contact, an FPF will be shot in support of the company requiring assistance. Mortars will provide smoke as required to further mask the movement from enemy observation. For those elements which are in danger of becoming decisively engaged, artillery fire may be called on the position once it has been evacuated.

Mobility, Countermobility, and Survivability

The effectiveness of the obstacle plan will be a function of how well it is covered by direct and indirect fire, in addition to its actual siting. There will be little opportunity to reinforce or repair obstacles unless there is sufficient time between the arrival of echelons. The battalion may be able to reinforce a critical obstacle by firing FASCAM.

As the companies displace to their subsequent BPs, reserve demolitions will be executed to deny use of the routes to the oncoming enemy force. It is imperative that each demolition is reported to the battalion headquarters so that the commander can be sure that the enemy will be unable to find an open mobility corridor into the next defensive line. Mobility assets will be used to keep routes of withdrawal and supply open. Blade assets may continue to improve the fighting positions of those BPs located in depth.

Air Defense

The battalion's air defense will be accomplished by Stinger teams under armor and Vulcans protecting the force as it conducts the delay. ADA assets will provide early warning of impending air attack over the battalion command net.

Combat Service Support

During the delay, CSS assets will support the battalion as they would in any defensive operation. Damaged vehicles will be removed from contact and evacuated as necessary to maintenance support. Wounded will be transferred by ambulance to the battalion aid station for triage and treatment. Emergency requisitions of ammunition will be handled as for the defense, with push packages being brought forward to the receiving unit. If possible, prestocks of expendable supplies should alleviate part of this problem. CSS will jump in anticipation of the battalion displacement. This will allow the support to remain effective throughout the operation. The aid station and other support organizations may operate from alternating locations to keep pace with the operation and provide continual support.

Command and Control

The commander should monitor the battle from an area which allows him to observe the enemy's main effort. The S3, in turn, may cover the supporting effort. As the enemy attacks, the commander will want to avoid decisive engagement. If decisive engagement occurs, the battalion may lose freedom to maneuver and perhaps its ability to delay, and it may be forced to fight the battle to conclusion.

As an example of the most lethal counterattack, the commander may commit the reserve as the enemy begins to mass in the EA and when he appears vulnerable. If the counterattack is executed as planned, the enemy, fixed upon the delaying force, will be suddenly struck in the flank and rear by the counterattack force. After inflicting severe damage, the battalion will displace to subsequent positions, where the delay mission will continue.

Withdrawal

A withdrawal is an operation in which all or part of the battalion frees itself for a new mission. A withdrawal is conducted to break contact with the enemy when the task force commander finds it necessary to reposition all or part of his force. The withdrawal may be assisted or unassisted and may or may not be under pressure from the enemy.

Planning

Intelligence

The battalion S2 will plan for the withdrawal in the same manner as the delay. Specifically, he must analyze enemy forces to determine whether or not the operation will be conducted under enemy pressure. A complete situation template and most probable enemy course of action should be prepared. He will use the event template to prepare a R&S plan. This will allow him to continue to monitor the situation and confirm his findings.

Maneuver

The brigade commander will determine if the withdrawal will be assisted or unassisted. If the withdrawal will be conducted under pressure, the battalion is normally assisted by a covering force (see Figure 5-10). The covering force could be provided by brigade or higher headquarters. If the withdrawal will not be conducted under enemy pressure, a covering force may not be provided (see Figure 5-11). In this case, the battalion usually will form a DLIC.

Generally, one company team will become the DLIC to ease C2. This company may also be augmented by scouts and mortars. When this is not possible, the DLIC could be formed by platoon-size elements from each of the forward companies. The DLIC may be commanded by the battalion S3 and augmented with the scout and mortar platoons. In any case, there may be a DLIC, a covering force, or both.

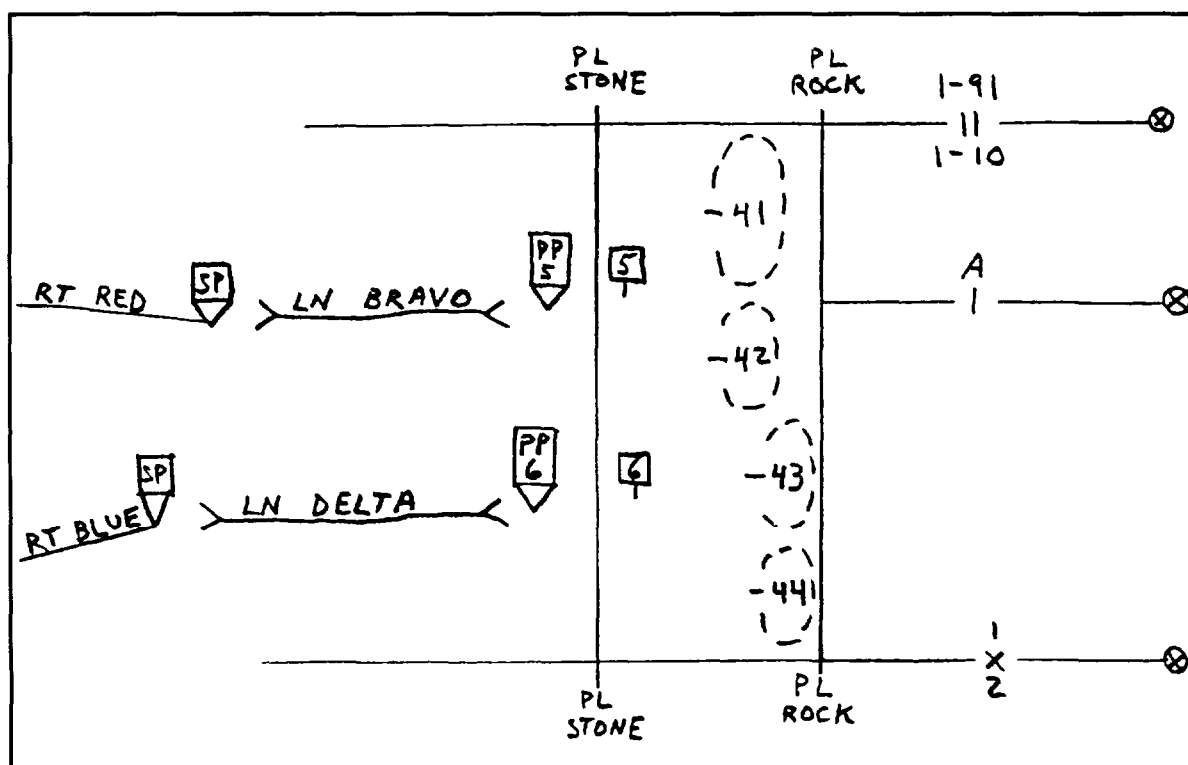


Figure 5-10. Battalion withdrawal under pressure.

Whenever possible, a withdrawal, which requires a force to disengage from contact with the enemy, should be conducted under limited visibility conditions. The DLIC will remain in position while the remainder of the battalion moves to the rear. The scout platoon will maintain contact with the enemy while the remaining DLIC units occupy their former companies' positions. The DLIC should maintain contact with the enemy. It should deceive the enemy as to the true activities of the battalion. The DLIC must, however, be prepared to fight to maintain the security of the main body.

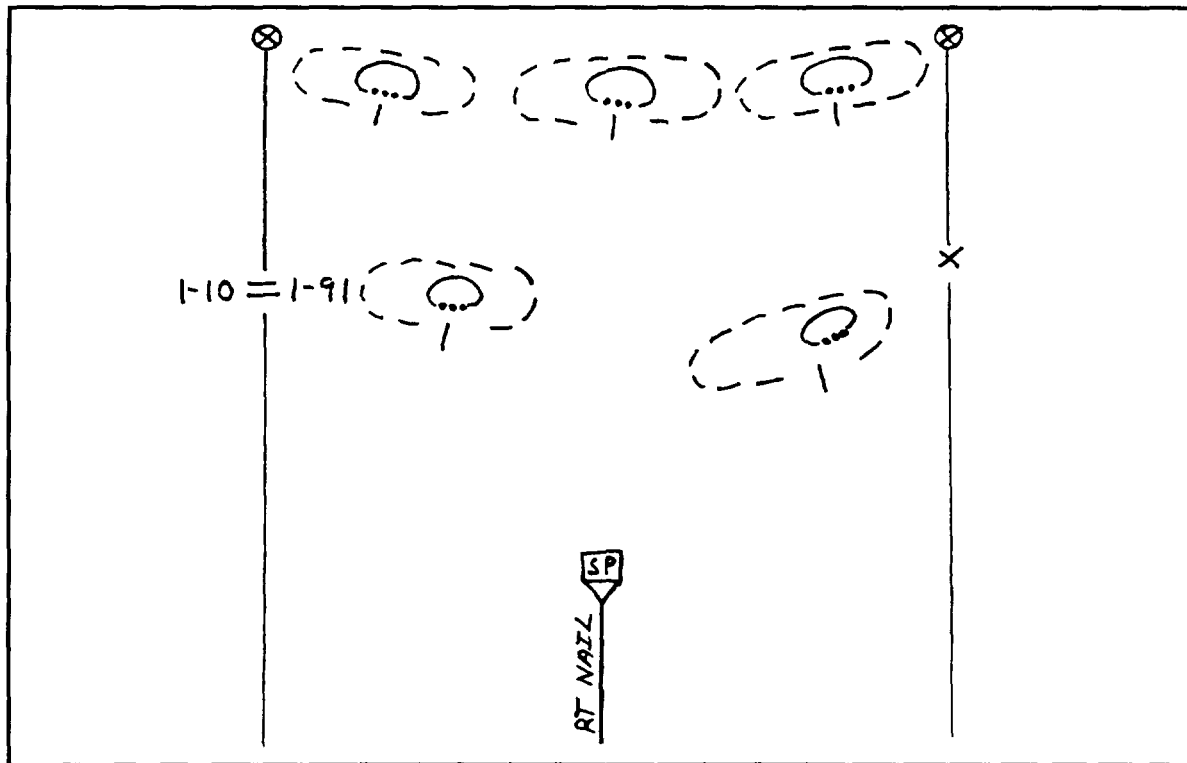


Figure 5-11. Battalion withdrawal not under pressure.

Fire Support

The FSO will develop an FS plan to protect the battalion task force as it withdraws from position. The FS plan must take advantage of the natural and man-made obstacles within the sector. Choke points and other identified areas of possible enemy Vulnerability should be targeted as well as potential EAs. The FS plan should help the withdrawing units and the DLIC maintain a mobility advantage over the enemy. FPF and smoke screens should be planned to keep the force obscured from enemy observation and separate from the enemy.

Mobility, Countermobility, and Survivability

Unless the enemy is not in contact, there will be little opportunity to construct obstacles forward of the main defensive line. Therefore, obstacle planning will be oriented toward slowing enemy momentum throughout the depth of the sector. Because the bulk of the battalion's support assets are moved to the rear in preparation for the withdrawal, barrier materials and mine availability may be limited to what is on hand. The same considerations used in siting obstacles for the defense in sector will be used for the withdrawal. As in any obstacle plan, the obstacles must be completely integrated with the direct- and indirect-fire plans. Reserve demolitions should be sited to take advantage of choke points and to close routes of egress.

Air Defense

The battalion air defense plan will be constructed with three considerations in mind: the protection of the main body as it withdraws, the protection of the battalion's security force or DLIC, and route protection as the battalion moves to its AA. To safeguard the main body and the security force during the initial stages of the withdrawal, Stinger teams will accompany those forces providing security from designated positions throughout the depth of the sector. Once the battalion begins its passage of lines and subsequent road movement, the Stinger teams may revert to a route security role unless that is already being accomplished by a higher headquarters air defense element. In that case, the Stinger teams will remain with the maneuver elements.

Combat Service Support

CSS of the withdrawal is divided into four area missions: support of the main body as it withdraws, support of the security force or DLIC, support of the road movement to the AA, and support of the battalion task force upon reaching the AA. In addition to these requirements, the bulk of CSS assets will be evacuated early to ease the rearward movement of the force. Therefore, the battalion S4 must carefully determine the minimum amount of support required for each of these elements and apportion them accordingly.

The most significant support concern will be the security force or DLIC. Because this force must be prepared to quickly revert to a delay mission, ammunition, fuel, and medical and maintenance support must be on hand at all times. Some prestocking of ammunition on BPs in depth may be considered; however, it is probably best if the supplies remain on the prime movers so that they can be evacuated rather than destroyed if not used.

All other AOs will require] mobility support and perhaps emergency refueling. Therefore, maintenance and evacuation support will be located along the route to assist damaged vehicles. UMCP locations may also have fuel trucks for those few vehicles which were unable to top off before the start of the operation.

Command and control

In a withdrawal, the commander moves with the main body, leaving the battalion S3 in command of the DLIC. Usually, the S3 will also be given a representative from each staff section so he can fight a delay should the enemy press the attack.

Because the delay precedes a new mission, the commander must be able to maximize his planning time. Also, he will want to orient his attention to the bulk of the battalion rather than only one of its maneuver elements. This is the type of operation in which the commander gives as much assistance and support to the S3 as he deems appropriate.

Preparation

Intelligence

The battalion S2 prepares for the operation by briefing the orders group on the overall enemy situation. This includes the likelihood of enemy attack during the operation and level of threat expected during the road movement.

The S2 war-games with the orders group the enemy's probable course of action. He role-plays the enemy as the key players rehearse the conduct of the operation. The commander watches the rehearsal to ensure that the force has everything it needs to operate effectively and that key players will operate within the commander's intent.

Maneuver

The battalion orders group will begin with an overall rehearsal of the operation. The commander will verify that each element understands its tasks. Usually, a withdrawal includes a rearward passage of lines through a stationary force. Therefore, coordination for the passage must be complete, including recognition signals and contact points and lanes. Each company commander must understand his responsibility in the rearward passage of his element. If possible, members of the stationary force should be present during the rehearsal to ensure that everything will be executed according to their interpretation of the plan.

If there will be a DLIC, the DLIC's mission will be rehearsed. The S3 will begin by exercising the R&S plan, with the S2 simulating the enemy force. The DLIC will simulate the battalion, continuing to occupy defensive positions as the remainder of the battalion withdraws. Withdrawals take place during periods of limited visibility to make it more difficult for the enemy to detect them. If the enemy detects the withdrawal, however, the S3 will determine when to bring in the screen and order the force to begin the delay. He should report the situation to the commander so the commander can have the battalion ready to take action. During the rehearsal, the commander and S3 should verify each delaying PL and agree on a simple way to designate the time required to delay to each one.

Fire Support

The FS plan will be exercised concurrently with the maneuver rehearsal. The battalion FSO should ensure that the mortar platoon is used to advantage, particularly in terms of its ability to fire smoke missions. Other fires should be rehearsed. Artillery groups should force the enemy to deploy repeatedly, and FPF should prevent decisive engagement.

Mobility, Countermobility, and Survivability

The mobility plan will be checked during the rehearsal. Mobility assets should be positioned where they can respond effectively to potential choke point congestion (such as loss of a bridge because of an air strike). Countermobility operations will be rehearsed. Company teams should rehearse direct- and indirect-fire engagement of the enemy as they approach each obstacle. Also, as the companies move to the rear, reserve demolition execution should be rehearsed to ensure that the units comply with the target turnover requirements. This includes promptly reporting their execution to the battalion S3.

Air Defense

The air defense plan will be rehearsed to ensure that the air defense assets can provide protection to the forces throughout each stage of the operation. The commander will ensure that during displacement, when moving vehicles are especially vulnerable, the air defense assets are positioned to effectively engage attacking aircraft. He will verify the security of the force as it conducts its road movement.

Combat Service Support

The CSS plan is rehearsed at the same time as the maneuver plan. Evacuation routes will be driven to confirm accessibility to each maneuver element. Similarly, the battalion supply route and access to the combat trains and UMCP will be checked.

Once the mounted rehearsal is complete, LOGPACs will refuel and upload each vehicle in preparation for the operation. Special attention will be devoted to maintenance to ensure that each vehicle is able to make the trip to the AA under its own power. Prestocks of ammunition and other expendable supplies will be positioned on subsequent BPs, with the drivers remaining with the materiel as a guard.

Command and Control

The commander ensures all subordinate commanders understand their responsibilities and his intent for the mission. Next, he ensures that his position within the battalion is the best for C2. He will coordinate with the headquarters responsible for the control of the rearward passage of lines. Finally, he will supervise subordinate unit preparations to ensure they comply with his intent.

Execution***Intelligence***

Once the command has been given, the battalion will move out of its positions and begin the withdrawal. Usually, the higher headquarters will execute a deception plan to mask the movement, such as firing artillery and moving at night. The enemy's degraded night fighting capability can be used to advantage in this case. The reconnaissance screen will monitor enemy activity during this early phase of the operation to see if the enemy has detected the move.

As the main body moves to the rear, the DLIC will initially remain in place, maintaining contact with the enemy, deceiving the enemy, and serving in the capacity essentially of a rear guard. Should enemy reconnaissance activities increase and movement of the battalion be detected, the DLIC will be prepared to delay to guard the rear of the battalion as it withdraws.

Maneuver

The main body will displace along each company's designated route while the security force remains in place. As the companies approach each contact point, they will be met by guides from the covering force and proceed as directed along passage lanes to the rear of the stationary force.

Meanwhile, the battalion S3 will continually assess the situation to determine if the DLIC will be required to conduct a delay. Should this become necessary, he should inform the battalion task force commander immediately to warn him of the danger.

The S3 will control the DLIC. He must ensure that the force does not become decisively engaged. Direct and indirect fires will be oriented on the obstacles to maximize destruction and force the enemy to deploy. The S3 should receive periodic updates from the headquarters so he can judge how long he must conduct his guard mission. Once the main body completes passage of lines, he will break contact with the enemy to rejoin the battalion main body. If the enemy has not yet detected the withdrawal, a gradual withdrawal of vehicles should be conducted along with the firing of artillery and smoke to cover the movement. If the enemy has detected the withdrawal and has attacked, the DLIC must delay and conduct battle handover and rearward passage of lines.

Fire Support

FS may be used initially in the deception role, masking the movement of the main body while suppressing known and suspected enemy locations. If the enemy chooses to attack during the withdrawal, the FS plan will be executed to support the delay operation. Indirect fires will be used in conjunction with direct fires and the obstacle system to break up the enemy's formations, force it to deploy, and inflict as much damage as possible. This is done before the security force's move to subsequent BPs is exposed. The mortar platoon will provide timely and accurate smoke missions, which will assist the DLIC's disengagement.

Mobility, Countermobility, and Survivability

The engineers will ensure that the force is able to travel on their assigned routes, even if damaged by artillery or aircraft. If a route cannot be opened, an alternate will be used to avoid traffic congestion. The obstacle plan will be effective because it is covered by direct and indirect fire. Some FASCAM may be fired to seal potential penetrations in obstacles. Reserve demolitions will be executed as the force displaces to its next position, further impeding enemy movement along avenues of approach.

Air Defense

Air defense units will remain with the units they are protecting. Those assets attached to the security force will maneuver so they always have weapon systems on the ground, ready to engage hostile aircraft. Some assets may move to subsequent positions early in anticipation of the security force's displacement, while others remain with the force. Early warning of enemy air attack will be transmitted on the battalion's command net.

Combat Service Support

CSS operations will be similar to those in delay, with support oriented toward the sustainment of the DLIC. Evacuation of wounded personnel and damaged equipment should be all the way to the rear of the battalion task force sector. Casualties will be stabilized for transport to the stationary force's aid station, with which the moving force's aid station may temporarily collocate. Damaged vehicles which cannot be repaired quickly will be evacuated, so as not to have more vehicles in the UMCP than can be transported on order.

Once the battalion has actually conducted the withdrawal, CSS will shift to supporting the road movement and AA operations. A complete discussion of movement support is found in Appendix A, *Movement*. AA operations are found in Chapter 2, *Preparation for Combat*.

Command and Control

The commander will monitor the progress of the withdrawal and the situation of the DLIC. As the rearward passage of lines begins, he moves to the CP (collocated with the covering force's CP) to ensure that passage occurs smoothly. If the enemy attacks, the DLIC must provide enough time for the battalion to complete its rearward passage. Coordination must be constant, and the DLIC's mission to delay for a prescribed amount of time must be made clear. In the face a strong enemy attack, the commander must ensure that the security force is given all the CS needed. The stationary force may provide assistance.

SECTION III. COMPANY TEAM RETROGRADE OPERATIONS

Delay in Sector

A delay operation trades space for time while avoiding decisive engagement and retaining freedom to maneuver. The delay incorporates all the dynamics of defense, but emphasizes the preservation of the force and the maintenance of a mobility advantage over the enemy. The battalion task force may be given a delay mission as part of a covering force or economy of force operation or to control an enemy penetration in preparation for a counterattack. Due to its difficulty, delay is one of the most difficult missions a company can receive.

Planning

Intelligence

The company commander will plan for the delay in the same manner as the defense in sector, with one major difference in mind; the delay does not necessarily mean the complete destruction of the enemy. Rather, the delay is designed to establish conditions for some other future operation. The enemy is forced to deploy repeatedly against a force which will not commit to dedicated combat. With this in mind, the terrain analysis takes on greater significance. The company team commander must use the terrain to its maximum advantage. He must plan the use of every available piece of terrain which lends itself to the delay. He must identify the enemy's avenues of approach and most likely course of action. In particular, he will attempt to identify any area in which the enemy would be vulnerable such as choke points, restrictive terrain, and other natural obstacles which can be used to advantage.

Maneuver

At the company team level, the delay can take many different forms. A delay at the battalion task force level does not necessarily imply that the same type of operation is conducted at the company team level. The battalion, for example, may delay from a series of BPs. At the company level, this may translate to the defense of a BP, with one difference: the defense will be regulated so as not to result in decisive engagement.

For the purposes of this section, the conditions and terrain are such that the company team is given a sector delay mission to set the conditions for the battalion reserve to counterattack. Therefore, the company will delay in sector, then finally occupy a BP at the rear of the sector to support the counterattack.

A delay mission could be high or low in risk. If the company is required to delay forward of a specified line for a specified time, the mission is high in risk. The company commander would then determine the length of time necessary to delay from each position or FL. (A complete discussion of this type of planning is found in Section I, the brigade delay).

In the other case, the company may be given the mission to delay in sector for as long as possible without becoming decisively engaged. This would be a lower risk delay because the mission is not tied to a completion time. In both cases, the company commander must plan to use the terrain to its optimum advantage.

There are three general options for a company team delay: three platoon sectors, a series of platoon BPs, or a combination of both. When the terrain is so close or compartmentalized that two platoons cannot be positioned to mass fires, sectors may be the best method. A combination of sectors and BPs suggests that a portion of the sector contains close terrain, while the remainder is more open.

In relatively open terrain, the use of BPs is usually the preferred technique. For a delay mission, however, the sector is normally wider than for a defend mission. For this reason, the company commander will position his platoon BPs abreast to adequately cover the wide frontage. In this case, the company will have to delay from successive positions. When the company is given a narrower sector, the commander can stagger his platoons and delay from alternating positions. The terrain, battalion concept for the operation, and the size of the sector will affect the company concept for the delay. The company commander will select the BPs and the associated direct-fire control measures.

Having identified where the enemy will be vulnerable and selected the locations of BPs, the commander will establish the direct-fire control measures. He will prepare the delay just as he would the defense, with one difference. Knowing that the company will displace rather than become decisively engaged, the commander must establish on order orientations for the platoons to cover one another as they withdraw to the next set of BPs. Also, he must select routes to the next positions which avoid engagement by the enemy. By calculating the time-distance factors to move from position to position, the commander should determine where to place his break line and establish his obstacles. This process will be repeated throughout the depth of the sector until the platoons reach their last BPs.

Fire Support

The FS plan will be prepared as it would for the defense in sector. Artillery and mortar fires will be planned to exploit the restrictive nature of the terrain and the obstacle plan. Fires will also be planned on BPs to help the platoons break contact and move to their next BPs without being taken under fire. Smoke missions and FPF will be planned for each set of BPs. Additionally, the commander will also determine when the platoons should use self smoke to further heighten the effect.

Mobility, Countermobility, and Survivability

The obstacle plan should slow or stop enemy movement. The commander will ensure that obstacles are planned so that they take advantage of the terrain and both direct and indirect fires. This is the point in the company delay plan where the commander brings the maximum combat power to bear upon the enemy.

In addition to the obstacles sited within the EA, the commander will plan for a series of obstacles between BPs. These are designed with a reserve demolition included at the point where the route of egress crosses the obstacle. The intent for this type of obstacle to deny the enemy the use of the same route, ensuring a mobility advantage over the enemy.

Air Defense

The Stinger teams will be placed under armor for the entire operation. If the time and resources allow, Stinger firing positions may be prepared on each position, in proximity to the armored vehicle designated as their primary transportation. Whenever possible, however, Stinger teams should have access to the air defense early warning net. If the company has Vulcans, Stinger gunners can ride on those vehicles. As in any other tactical operation, the air defenders must have the capability to forewarn the company team of impending air attack, usually over the company command net.

Combat Service Support

Because the battalion attempts to reduce the number of CSS assets forward during the operation, company trains may not have the level of support they would have for defensive operations. Company combat trains must remain flexible throughout the operation. They must be prepared to move repeatedly. For this reason, they will not be able to engage in maintenance activities which require more than a few minutes. Generally, both vehicles and wounded will be evacuated expeditiously to the battalion combat trains, rather than receiving attention at the company trains location.

Command and Control

The commander must plan to position himself where he can see the battle and assess both the enemy situation and the effectiveness of the delay plan. Because the enemy will attempt to find a gap in the delaying forces, the commander must plan to maintain flank coordination throughout the operation. Also, he must assess whether the defenses are strong enough to make the enemy deploy. The commander must have a series of preplanned and redundant signals to have the platoons displace to their next set of BPs.

Preparation

Intelligence

The commander prepares for the delay mission by conducting a rehearsal. He will ensure that company OPs are positioned where they can observe the enemy's primary and secondary avenues of approach into the company sector.

One technique for the rehearsal is for the commander to drive the sector, placing himself in the shoes of the enemy. He should look for dead space that may not be covered or perhaps a mobility corridor which may have been overlooked. Also, he will attempt to find weakness in the locations and camouflage of fighting positions. Each discrepancy will be corrected prior to execution.

Maneuver

The commander will rehearse the maneuver first by ensuring the platoons are able to execute the direct-fire plan as he (playing the enemy) enters the EA. Platoons will practice engaging and moving to alternate positions. Next, as the commander reaches the break line, the platoons will displace. The commander will see that they do so in the designated order and that the platoon covering the move reorients his weapons to cover the company sector.

He will then observe the area to identify any vehicles which may become exposed as they conduct the move and to ensure that they displace using the proper lanes. The commander should attempt to approach the position at a speed commensurate with enemy doctrine to find out if the enemy has an opportunity to close with the delaying forces or to engage them as they displace. He will continue the rehearsal all the way to the final positions. He will then adjust his plan as necessary.

Fire Support

The FS plan will be rehearsed concurrently with the maneuver plan. The company FSO will rehearse engaging the enemy simultaneously with the platoon leaders and their direct-fire engagement. Calls for fire should be rehearsed as well, especially priority targets. As the platoons displace, the FSO should ensure that smoke missions are called in anticipation of the move. This will allow the smoke screen time to develop. Similarly, FPF should be shot as the commander approaches a platoon which may still be in position (for example, the overwatch platoon). As the platoons displace, other fires on the position and along the route of egress should be rehearsed to assist the force in breaking contact with a particularly determined enemy.

Mobility, Countermobility, and Survivability

The obstacle plan will be checked as the commander drives the sector. He should ensure obstacles are covered by direct and indirect fire. Dead space should be made unavailable to the enemy by minefields and any other countermobility assets. During the move to subsequent BPs, platoons should practice executing reserve targets and reporting the execution to the commander.

Air Defense

The Stinger teams should physically practice setting up on each BP to verify the effectiveness of their firing position. Likewise, they should practice issuing an aircraft attack warning over the company command net.

Combat Service Support

The M88 and ambulance should drive the route to each platoon on each set of BPs. They should also drive routes to LRPs and the battalion combat trains. By the end of the rehearsal, they should be completely familiar with how to render assistance to any element within the company. Likewise, they should always displace ahead of the company so that the maneuver platoons will not be impeded on their moves to subsequent positions.

Command and Control

Once the commander has completed driving the sector and rehearsing the company in the delay, he will make whatever adjustments are necessary to rectify identifiable weaknesses in the delay plan. These changes should be as minor as possible to avoid creating confusion in the company and subsequently degrading the execution. The commander will review the conduct of the rehearsal with his XO and ensure that his second in command will be prepared to take over the operation if necessary.

Execution

Intelligence

The battalion scout platoon and GSRs will begin to report the activities of enemy reconnaissance elements as they approach the battalion sector. The commander will monitor scout platoon spot reports and in turn

transfer the information to his platoons. He may give instructions to pay close attention to a particular avenue of approach which the enemy appears to be using. Once the battalion screen has been withdrawn, the commander will warn the platoons that the enemy will be arriving in the area shortly. With this heads-up warning, the platoons will be prepared to move from their hide positions to their fighting positions. OPs will continue to scan their designated areas and report enemy sightings upon contact. Initial enemy elements may be engaged with artillery if they have not come into direct-fire range. The delay time to artillery impact must be taken into account so the enemy drives into the impact area. It is important that the enemy force not be able to identify the location of the delaying force until the last possible moment. That would degrade the effectiveness of enemy artillery suppression.

Maneuver

As the enemy first echelon enters the EA, the company team will engage in the same manner as for a defense in sector. Massed direct and indirect fires initiated at a trigger line will inflict severe casualties as the enemy is placed in a vulnerable posture by an effectively placed obstacle system. The platoons should fire with the same sustained rate as for a BP defense, moving to alternate positions to further exploit enemy weakness. However, once the enemy appears to make progress through the EA by reaching the break line and meeting the disengagement criteria, the company will begin its displacement to subsequent positions.

The disengagement and withdrawal to subsequent positions is the most dangerous part of the operation. If the commander waits too long for the enemy to break out of the EA, the enemy could decisively engage the delaying force. It is imperative that the commander begin the displacement before the enemy can close with the company. Massed artillery fires and smoke screens should further assist the delaying force in disengaging.

As the displacement occurs, the covering platoons will shift direct fire orientation to cover the majority of the EA. Once the other platoons are out of danger, the covering platoon will displace under the overwatch of the other platoons. Along the egress route to the next defensive positions, artillery fire and reserve demolitions, combined with overmatching fires, will reinforce the delaying force's ability to avoid decisive engagement. Once in position, the delaying force will repeat the process, attempting to cause the enemy to deploy as often as possible and destroying as much enemy equipment as possible.

Fire Support

Indirect fires will be used initially to engage enemy reconnaissance forces as they enter the company sector. Once the enemy's first echelon reaches the EA, artillery groups and priority fires will be fired in conjunction with the obstacle system to destroy enemy formations. As the company begins its displacement to its next BP, artillery and smoke missions will be fired to assist the withdrawal. FPF may be called if a particular platoon appears to be becoming decisively engaged by the enemy.

As the force displaces, indirect fires may be called upon recently evacuated BPs and on routes to the next set of BPs. These fires should also be linked to obstacles along the routes of egress to gain the fullest effect. On-board smoke may be required to achieve the masking effect needed to obscure the move. Once the force is in position, the process will repeat itself, keeping the enemy suppressed throughout the depth of the sector and degrading his C2.

Mobility, Countermobility, and Survivability

As described earlier, the obstacle plan will be fully integrated with the direct and indirect fires of the company team. The obstacle system may be reinforced during periods between the arrival of echelons if time and resources allow. Countermobility assets will work on obstacles in depth. Blade assets in particular may be used to improve the effectiveness of fighting positions throughout the sector. Meanwhile, target turnover will be accomplished by the delaying forces as they move to their subsequent positions, further degrading the enemy's ability to maintain contact.

Air Defense

The Stinger teams will ensure the protection of the force throughout the battle, setting up firing positions in support of each BP. If an enemy air strike appears imminent, the Stinger teams will warn the company over the command net.

Combat Service Support

CSS of the delay will be accomplished as in the defense in sector. Combat elements will evacuate damaged vehicles to platoon support points, where they will be met by elements of the company trains. Evacuation rather than repair will be the rule. The trains will displace in anticipation of the company's move so they will always be in a position to support the force.

Command and Control

The commander will ensure that he is positioned to see the battle. He will determine when the force should disengage and ensure that direct and indirect fires are oriented to cover enemy avenues of approach. He will ensure lateral coordination between platoons and between units on the company's flanks is maintained so no gaps can be exploited by the enemy. He must demand timely reporting by all units.

Withdrawal

Withdrawal is an operation in which a force in contact frees itself for a new mission. Inherent in the withdrawal is disengagement from the enemy and moving to a point where the enemy can neither observe nor engage the unit by direct fire. Withdrawals may be assisted or unassisted and may or may not be under pressure from the enemy.

The company team could conduct a withdrawal under a number of situations. The battalion task force could be conducting a defense, a delay, or a withdrawal. The company team is always prepared to disengage, withdraw, and fight from a subsequent position or to counterattack. This section will discuss the company's role during the withdrawal of a battalion task force.

Planning***Intelligence***

Regardless of the conditions under which the withdrawal is conducted, the commander must still ensure that security is maintained throughout the operation. He must analyze the terrain and the enemy in the same way he would for the delay or defense. A complete discussion of this planning is in Chapter 4, *Defensive Operations*.

Maneuver

If the enemy chooses to press an attack (withdrawal under pressure), whether the withdrawal is assisted or unassisted, the maneuver is executed as a delay. The only significant difference between the two operations is whether or not the withdrawal is assisted by a covering force.

If the withdrawal is assisted, the commander must know the location of the covering force (provided by higher headquarters) and plan the rearward passage of lines. Also, the BHL (usually established by higher headquarters) will be checked to ensure that the withdrawing company understands where the battle handover will take place. Final BPs, recognition signals, contact points, and passage lanes must be established in the planning process.

If the withdrawal is unassisted, the company may delay as part of the battalion delay. In case the enemy attacks, the commander should plan BPs from which alternate or subsequent bounds may safeguard the rearward movement of the force. This maneuver would end in disengagement from the enemy and road movement to another location.

If the withdrawal is not under pressure by the enemy, the company may have to provide a platoon to become part of the battalion DLIC. OPSEC is important in this case so the enemy does not detect the withdrawal. The DLIC will remain in position to simulate the company while remaining platoons withdraw. The withdrawal should be conducted under limited visibility when possible. It should be covered by artillery fire or some other noisy distraction so the enemy cannot detect the sound of the movement. Once the company is out of enemy contact, it conducts a road movement to its destination. Following this, the DLIC will withdraw quickly before the enemy has time to react and maintain contact.

NOTE: The discussion of the battalion delay in Section II addresses execution of withdrawal under pressure.

Fire Support

The FS plan will suppress the enemy so he cannot detect the withdrawal. It will be planned by the battalion or brigade FSO. At the company, the commander and FSO will ensure fires are planned where needed throughout the depth of the sector. Fire planning will be prepared as discussed in Chapter 4.

Mobility, Countermobility, and Survivability

Engineers supporting the company can dig survivability positions, in depth if necessary. Engineers can contribute to the deception plan by constructing dummy vehicles and other items to simulate the company remaining in position. The engineers should also assist in the mobility of the force by improving routes.

Air Defense

Conducting the withdrawal at night will reduce the enemy air threat. Nevertheless, the Stinger team should position itself with the DLIC in case the DLIC is unable to move before sunrise. Other ADA assets, if available, should protect the rest of the company.

Combat Service Support

The company combat trains should be the first to move, usually to the next position to be occupied by the company. The DLIC should receive all the ammunition, fuel, and other supplies it may need in the event of contact. Vehicle recovery will have to be conducted internally by the DLIC platoon. The ambulance may remain with the DLIC to ensure the prompt treatment of wounded.

Command and Control

The commander will plan to move with the main body. He may attach the FSO to the DLIC to ensure that it will receive indirect FS. The conditions should be that an enemy attack is unlikely and such precautions will be the exception rather than the rule. The DLIC platoon leader will establish communications with the DLIC commander at the time designated for the battalion DLIC to take responsibility for the sector.

Preparation

Intelligence

The commander prepare for the withdrawal not under pressure by monitoring the enemy situation in his sector and in the sectors of the units on the flanks of the company. The DLIC platoon leader ensures the security of the force by checking that the OPs are properly sited and are able to observe the enemy mounted and dismounted avenues of approach into the sector. Also, he will check that the platoon's flanks are coordinated with flank platoons.

Maneuver

As with the deception plan, the company must do everything possible to ensure that company activities appear normal while preparing to withdraw. Radio transmissions, eating schedules, maintenance, and virtually all normal defensive activities must appear to be conducted as in the current mission. Vehicle movement may be necessary to position the DLIC for its new mission, as well as to prepare the company to move to the rear. The shifting of vehicles to new locations must be done gradually and as quietly as possible.

The commander will quietly rehearse the withdrawal with his subordinate leaders. A mounted rehearsal would defeat the purpose of the operation as it would give away the company's intentions to the enemy. The commander must ensure that the platoon leaders understand the sequence of withdrawal and which routes they are to take. If at some point the platoons will be required to overwatch the displacement of the DLIC, the positioning of the platoons and their direct fire control measures would be established as in the delay. This type of rehearsal is best conducted at night to retain secrecy and to give the members of the rehearsal a feeling for the conditions under which they will be operating.

If the DLIC platoon will remain under command of the company commander, the commander will review, with the DLIC platoon leader, the conditions and timing of DLIC displacement, ensuring that signals used by the commander will be both effective and redundant. If the DLIC will be overwatched during its movement recognition signals will be established just as in a rearward passage of lines. This will prevent the possibility of fratricide.

Fire Support

The company FS plan will be rehearsed by the DLIC commander to ensure that he will be able to call for fires at any point in the operation to assist in disengagement from the enemy. FPF, fires along obstacles positioned in depth, and smoke screens should be practiced.

Mobility, Countermobility, and Survivability

Along with the FS plan and the maneuver plan, the obstacle plan will be exercised during the rehearsal, particularly the reserve demolition targets that the DLIC will execute during movement to subsequent positions. Mobility along the route will be essential to the success of the operation. Therefore, any area which may be made impassable along the route should be reconnoitered for bypass routes.

Air Defense

The Stinger team will position itself to protect the DLIC. The team must remain mobile. During reconnaissance, it must identify on order firing locations in case the DLIC is engaged by hostile aircraft during its move to the rear. Early warning to the DLIC must be made possible over the command net.

Combat Service Support

Except for those vehicles assigned to the DLIC for support, the remainder of the company combat trains will move to the rear AA or their next support position. This will free the routes of egress from possible clutter during the operation. Also, the ISG will ensure that the company has completed all SOP and precombat checks and that it is prepared and supplied for the impending mission.

Command and Control

During the rehearsal, the commander will ensure that each member of the orders group understands his responsibilities with respect to the mission. In particular, he will rehearse with the DLIC commander to verify that the DLIC will be prepared to conduct a delay in the event of an enemy attack and warn the main body of the company. The commander must identify locations along the route where he can monitor the progress of the movement. If a rearward passage with a covering force is part of the operation, the XO will finalize coordination with that force.

Execution

Intelligence

Upon receiving the signal, the company will begin its withdrawal. Artillery fired by the higher headquarters, combined with night movement, should mask the movement from enemy detection. The DLIC will scan its sector to monitor enemy activities.

Maneuver

The platoons will move to positions of relative safety, where they will conduct a road movement to their destination. If the DLIC remains under the company's control, the commander will signal to the DLIC commander to execute his displacement. Close-in artillery fires and smoke will mask the movement from enemy observation. At this time, however, the enemy may attempt to reestablish contact with the DLIC. Therefore, it is imperative that the DLIC move quickly, stopping only long enough to execute reserve demolitions. The DLIC maybe assisted in disengaging by an overwatch element.

Fire Support

The artillery will be used initially as part of the deception plan. It will then cover the displacement of the DLIC, assisting in its disengagement from the enemy. FPF and smoke, targeted on obstacles, will effectively

prevent the enemy from engaging or maintaining contact with the withdrawing force. The combination of smoke and dust will make night-sight detection impossible.

Mobility, Countermobility, and Survivability

Well-sited obstacles will help prevent the enemy from maintaining contact with the withdrawing force. This will give the withdrawing force a mobility advantage over the enemy, allowing the company to disengage. Reserve demolition guards may be positioned along the route. As the last vehicle crosses over the unexecuted target, the target is fired and the unit continues the withdrawal.

Air Defense

The Stinger team will remain in position until the DLIC displaces. While on the move, the team will continue to observe the air for approaching hostile aircraft. Monitoring the air defense early warning net, it will have early warning of approaching enemy aircraft and will be able to warn the company. Because he will have to dismount to engage, the Stinger gunner must engage enemy aircraft when he is not vulnerable to direct fire.

Combat Service Support

The combat trains will already be either moving to the rear or located at the next position before the start of the withdrawal. They will be ready to receive wounded personnel and damaged equipment. An ambulance from the battalion combat trains may be brought forward in support if the company medics accompany the DLIC. The ISG will ensure that all necessary resupply is executed.

Command and Control

The company commander will divide his attention between the execution of the main body's withdrawal and the movement of the DLIC. Specifically, he will ensure that the DLIC does not remain forward any longer than it has to, due to its limited combat power. The commander will position himself where he can overwatch both the withdrawal of the main body and the DLIC. If a rearward passage of lines must be conducted at the end of the operation, he will report when all of the company elements have completed passage, handing the battle over to the stationary force. From there, he will join the force in preparation for its new mission.

Chapter 6

OTHER TACTICAL OPERATIONS

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SECTION I. BRIGADE TACTICAL OPERATIONS**Battle Handover and Passage of Lines**

A battle handover is a coordinated operation between two units in the close-in battle which transfers responsibility for fighting an enemy force—from one unit to the other. It is designed to sustain continuity of the combined arms fight and protect the combat potential of both forces involved. Battle handover is usually associated with conducting a passage of lines. Battle handover and passage of lines are inherent aspects of transferring responsibility for the battle between commanders while maintaining continuity of the fight.

Battle handover may occur during both offensive and defensive operations. During defensive operations, it is normally coordinated in advance so it requires minimum coordination when ordered to occur. In the offense, it is often initiated by a FRAGO based on the situation. Clear TSOPs allow units to quickly establish necessary coordination to preclude a loss of momentum in the attack. Control measures used are simple and standardized. (Specific control measures are discussed beginning on page 6-52.)

There are three key players involved: the stationary commander, the passing commander, and their higher commander. In short, a battle handover is between commanders. Each commander has certain responsibilities. The common commander defines the location and time for the handover and any specified tasks, receives briefbacks from both commanders, and monitors the execution during the handover. The passing and stationary commanders coordinate according to the TSOP and execute the handover. Until the handover is complete and acknowledged by the two commanders, the commander in contact is responsible for the fight. The common commander specifies where the handover occurs and defines the resulting responsibility for the zone or sector.

Handover occurs along a line defined as the battle handover line (BHL). This line is a phase line forward of the stationary force recognizable on the ground. The line is established by the common commander in consultation with both commanders. The stationary commander has the major determination in the BHL location. This line is forward of the FEBA in the defense or the FLOT in the offense. It is drawn where elements of the passing unit can be effectively overmatched by direct fires of the forward combat elements of the stationary unit until the battle handover is complete. The area between the BHL and the stationary force belongs to the stationary force commander. He may employ security forces, obstacles, and fires in the area.

While a line defines the battle handover, seldom do events allow this to happen cleanly. Battle handover is a physical and a command process. Physical handover should be viewed as a transition that occurs in the zone of BHL. Events may dictate that a force break contact forward of or behind the BHL, as in the gap between echelons of the attacking enemy force. Close coordination, physical and by radio, between the two units involved in the handover allows them to coordinate and execute this process at the small unit level. The stationary unit is just as active as the passing unit.

Battle handover begins on order of the common commander of both units involved. Defensive handover is complete when the passing unit is clear and the stationary unit is ready to engage the enemy. Offensive handover is complete when the passing unit has deployed and crossed the BHL. The BHL is normally considered the LD for the attacking unit.

Coordination for the battle handover normally flows from the commander out of contact to the commander in contact. The coordination for a battle handover overlaps with the coordination for a passage of lines; the coordination for both should be done simultaneously. This coordination is best established as a TSOP to facilitate rapid accomplishment. Coordination includes-

- Establishing communication.
- Providing updates on troop friendly and enemy situations.
- Coordinating passage.
- Collocating command and control.
- Dispatching representatives to contact points.
- Establishing recognition signals.
- Determining status of obstacles and routes.
- Determining CS and CSS requirements.

A passage of lines is an operation in which one unit is passed through the positions of another, as when elements of a covering force withdraw through the forward edge of the MBA or when an exploitation force moves through the elements that conducted the initial attack. A passage of lines may be designated as a forward or rearward passage of lines (see Figures 6-1 and 6-2). The primary purpose of a passage of lines is to maintain the movement or maneuver of units. This operation is necessary when the factors of METT-T do

not permit one unit the freedom of bypassing another friendly unit and therefore must pass through it. A passage of lines maybe conducted—

- To continue an attack or counterattack.
- To envelop an enemy force.
- To pursue a fleeing enemy.
- To withdraw covering forces or MBA forces.

Planning

Intelligence

The passing brigade's S2 will begin planning for the passage of lines by coordinating with the stationary brigade's S2 to receive the latest information concerning the enemy situation and disposition. With this information, the passing brigade's S2 will develop situation and event templates in preparation for the brigade's tactical operation. Specifically, the brigade S2 will ensure that the contact points established by higher headquarters are not within enemy direct-fire range or observation.

Maneuver

One of the most critical aspects of a passage of lines is terrain management. The passing brigade's S3 will coordinate with the stationary brigade's S3 to receive information concerning the disposition of friendly forces within the stationary brigade's AO. Unoccupied areas may represent possible locations to station future units of the passing brigade. With the IPB complete and a thorough understanding of the restrictions presented by location of the stationary brigade, the S3 will prepare his tentative plan within the parameters established by the brigade commander. Within this planning, the S3 will also examine the location of the contact points to determine whether or not they are compatible with the scheme of maneuver. Once the contact points have been finalized, the S3 will coordinate with the stationary force's S3 to negotiate the location of the passage lanes. It is important to remember that the physical characteristics and number of the

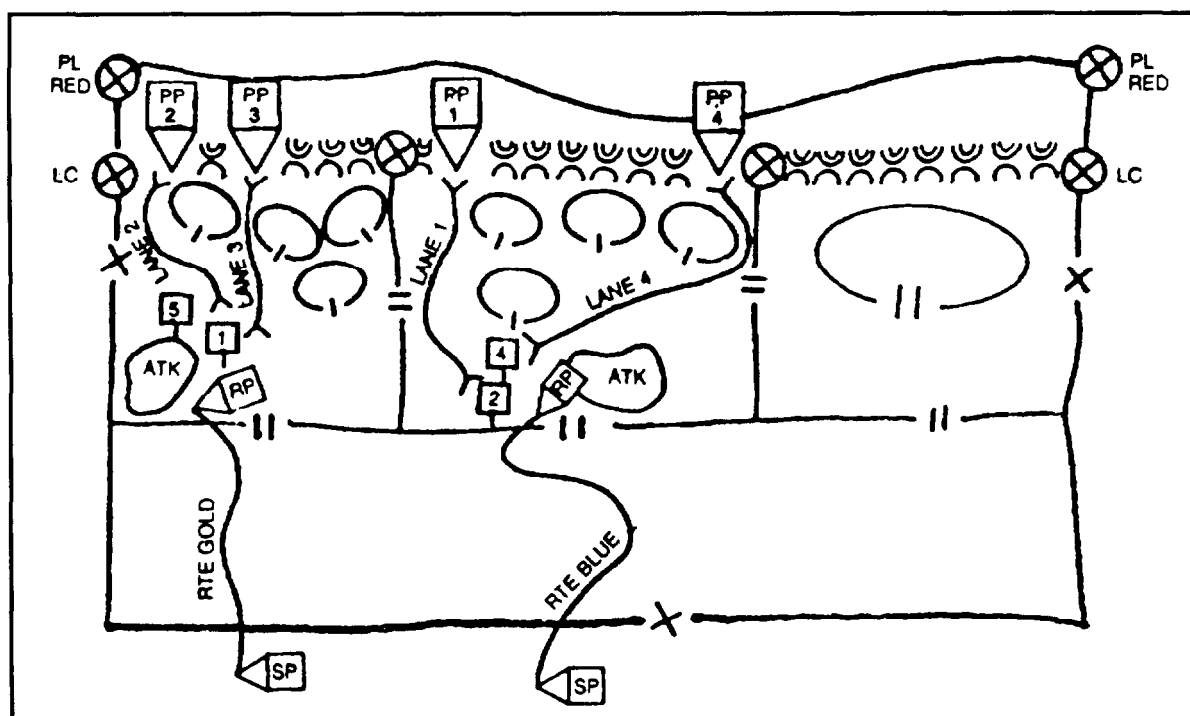


Figure 6-1. Forward passage of lines (deliberate attack).

passage lanes will determine the speed and disposition of the passing force as it crosses the LD. Therefore, when conducting a forward passage in preparation for a deliberate attack, it may be important to create passage lanes with sufficient width to allow the passing force to move in a tactical formation appropriate to the operation, such as company columns or a platoon wedge.

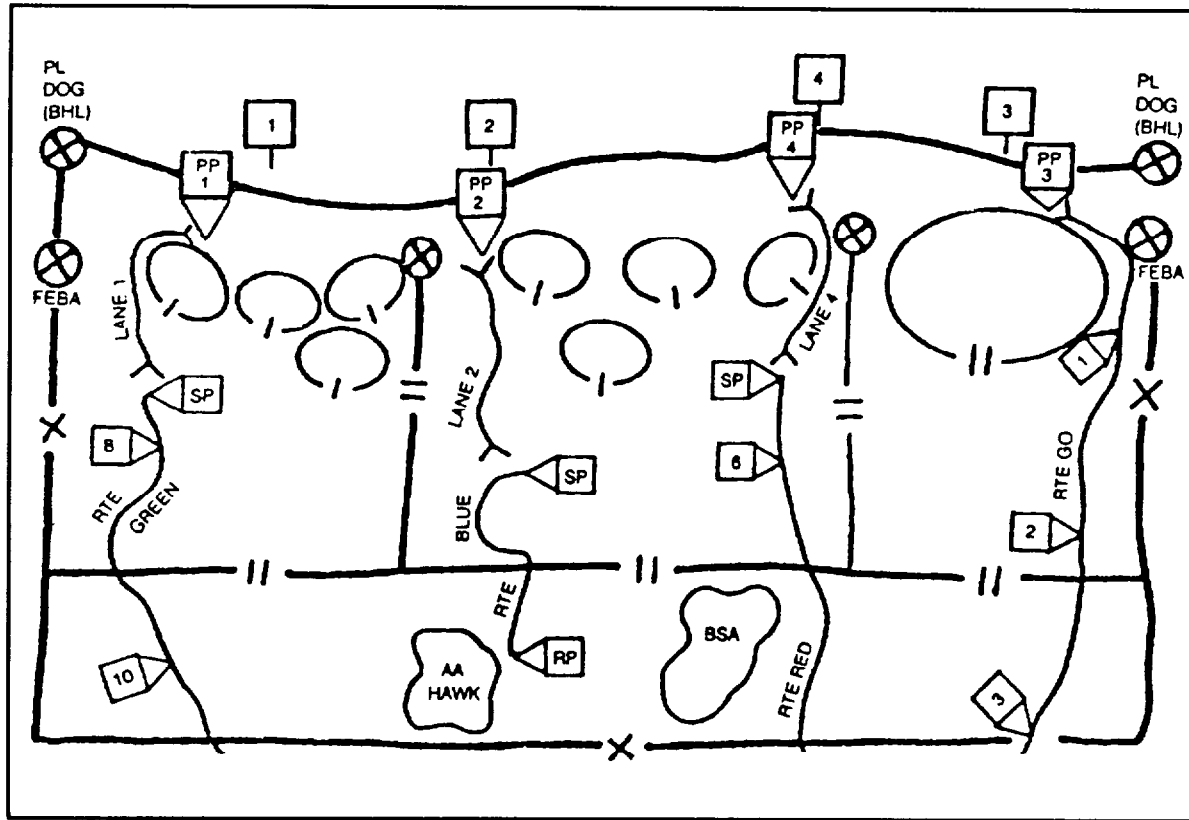


Figure 6-2. Rearward passage of lines.

Fire Support

The brigade FSO will begin by examining the FS plan of the stationary brigade. Because the FS plan covers dead space, obstacles, and enemy avenues of approach and also protects units with FPFs, the passing force FSO will want to initially use the targets of the stationary force. This serves two functions. The FSO will be able to call for fires using the stationary brigade's FS plan, and the augmentation of an existing plan facilitates the integration of fires between the stationary and passing brigade's supporting artillery.

As noted earlier, terrain management becomes especially important because of possible requirements to plan space for additional artillery batteries and their support assets. Coordination with the stationary brigade's S3 will be especially important to ensure that the artillery will be able to position itself properly to support the attack.

Mobility, Countermobility and Survivability

The passing brigade engineer will coordinate with the stationary brigade engineer and S3 early in the planning phase to acquire the most current information regarding obstacle emplacement within the stationary brigade's AO. The selection of passage lanes must take into consideration the location of existing obstacles. If the tactical plan requires the movement of forces in formation (a wide passage lane), some obstacles may have to be moved or prepared for demolition prior to the movement of the passing unit. In this regard, coordination for the opening of the lane must be made at the contact points.

Air Defense

In planning a passage of lines, air defense is absolutely essential. Whether passing forward or to the rear, the moving unit will be forced to move slower and often in some type of column formation during the passage. Congestion in AAs either before or after the passage and the linear nature of the movement present a lucrative target to hostile aircraft. As a result, air defense must be coordinated with the stationary unit. In many cases, the stationary brigade will be able to protect the passing force, allowing the passing force's supporting air defense assets to move with them. However, if the passing force requires static air defense, the terrain will have to be coordinated with the stationary brigade's S3. Coordination should also be made to incorporate the moving force's ADA assets into the stationary force's air defense early warning net.

Combat Service Support

The CSS plan is an essential part of the passage of lines. Regardless of the direction of the passage, it is important that it occur as quickly as possible and if possible, without incident. Nevertheless, CSS assets should be positioned to support the passage. UMCPs and emergency refueling points should be positioned where they can best keep the lane open and vehicles moving.

In the rearward passage, the FSB should move in preparation of the passage, establishing the required support agencies and a tentative location for the BSA. (See Figure 6-3.) The support assets of the stationary unit should be used to advantage to free up some of the passing force's support operations in a depth

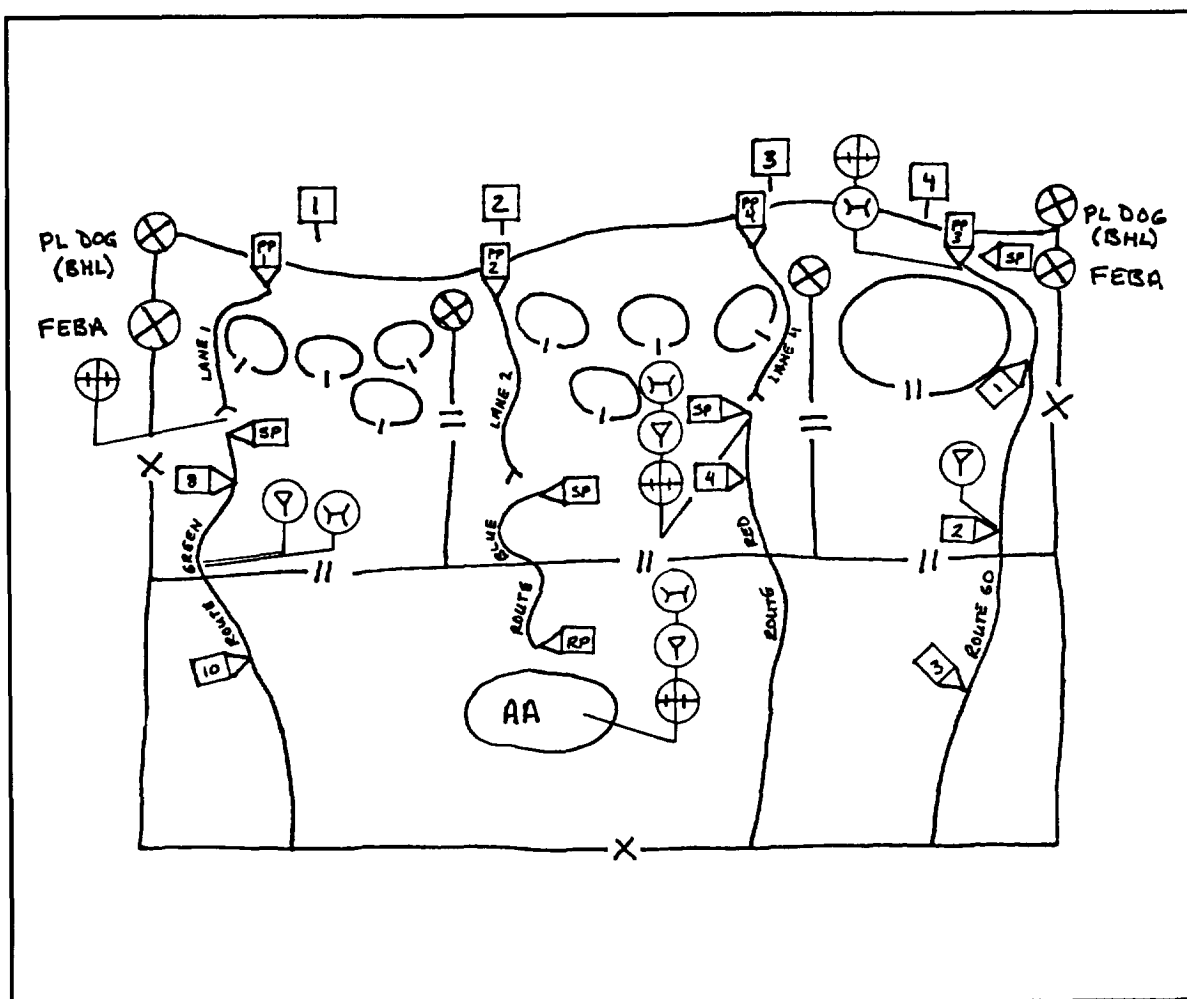


Figure 6-3. Combat service support plan for rearward passage of lines.

location. A forward passage of lines is similar in that the stationary force should be used to advantage; however, the passing force's support should be kept as mobile as possible to be better prepared to react to the fluid nature of offensive operations.

Command and Control

The collocation of headquarters in preparation for the passage of lines may be accomplished in several ways. The situation and terrain will determine for the most part which type of collocation is best. Figures 6-4, 6-5, and 6-6 illustrate three types of collocation. The first is the collocation of the two brigade main CPs. While this perhaps best facilitates information exchange, it also presents a lucrative target for air or missile

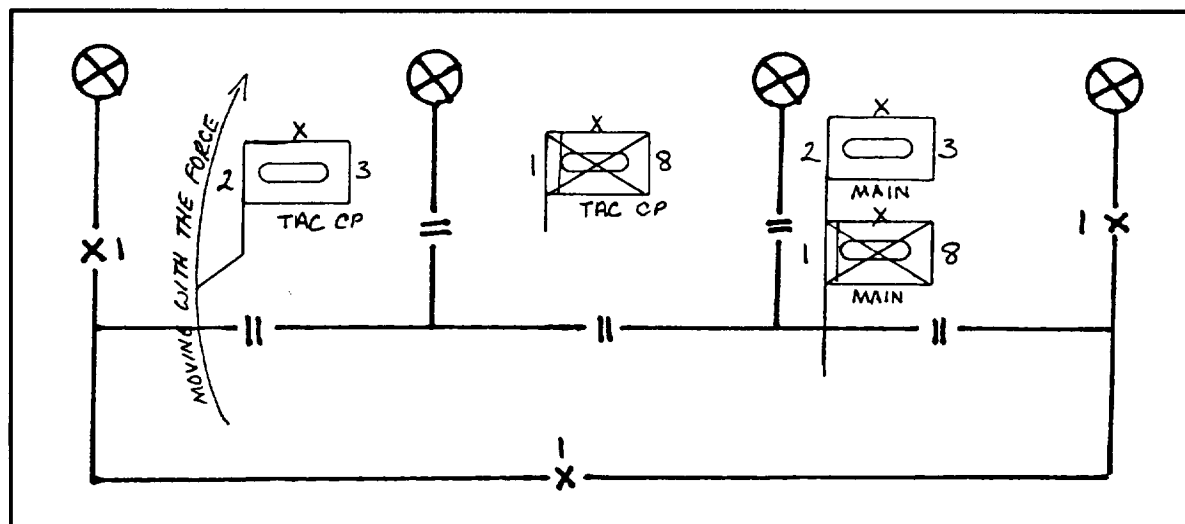


Figure 6-4. Collocation of brigade main command posts.

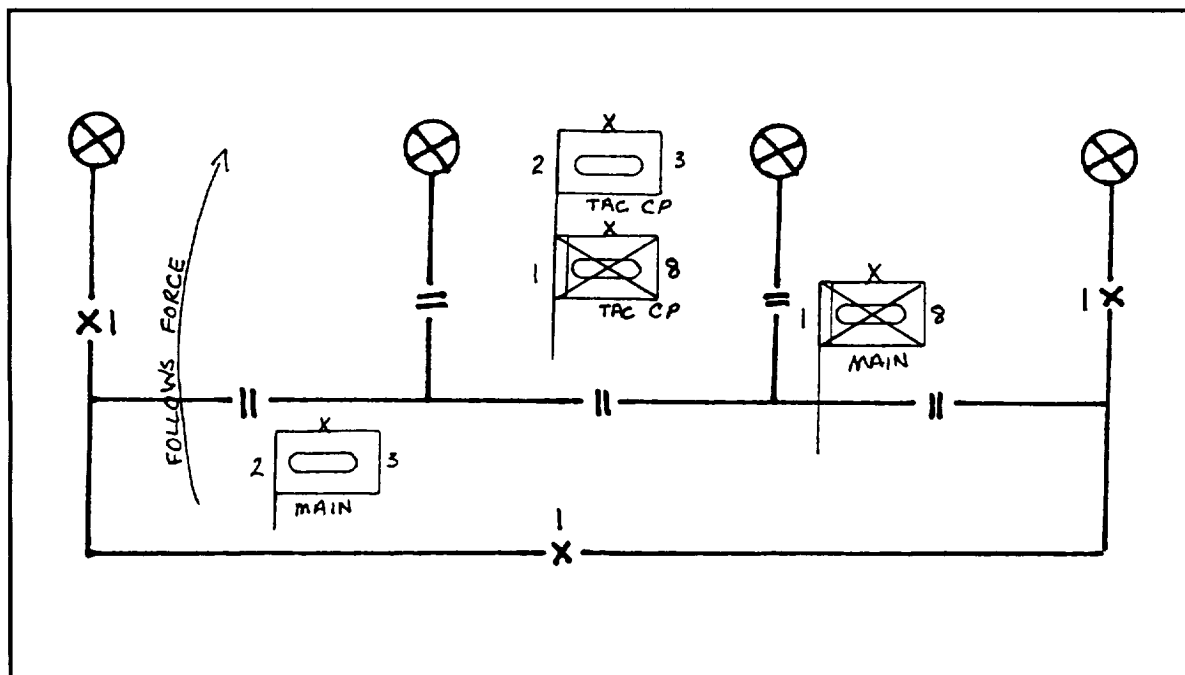


Figure 6-5. Collocation of passing brigade tactical command post with stationary brigade main command post.

strikes. The second option is to locate the passing brigade's TAC CP or TOC with the stationary brigade's main CP. This option provides more flexibility to the passing brigade in terms of its own C2. The last option is for the passing brigade to send an LO to the stationary brigade's main CP. This technique is used only when the situation does not permit the first two options generally because the location of the stationary main CP does not support the C2 of the passing force.

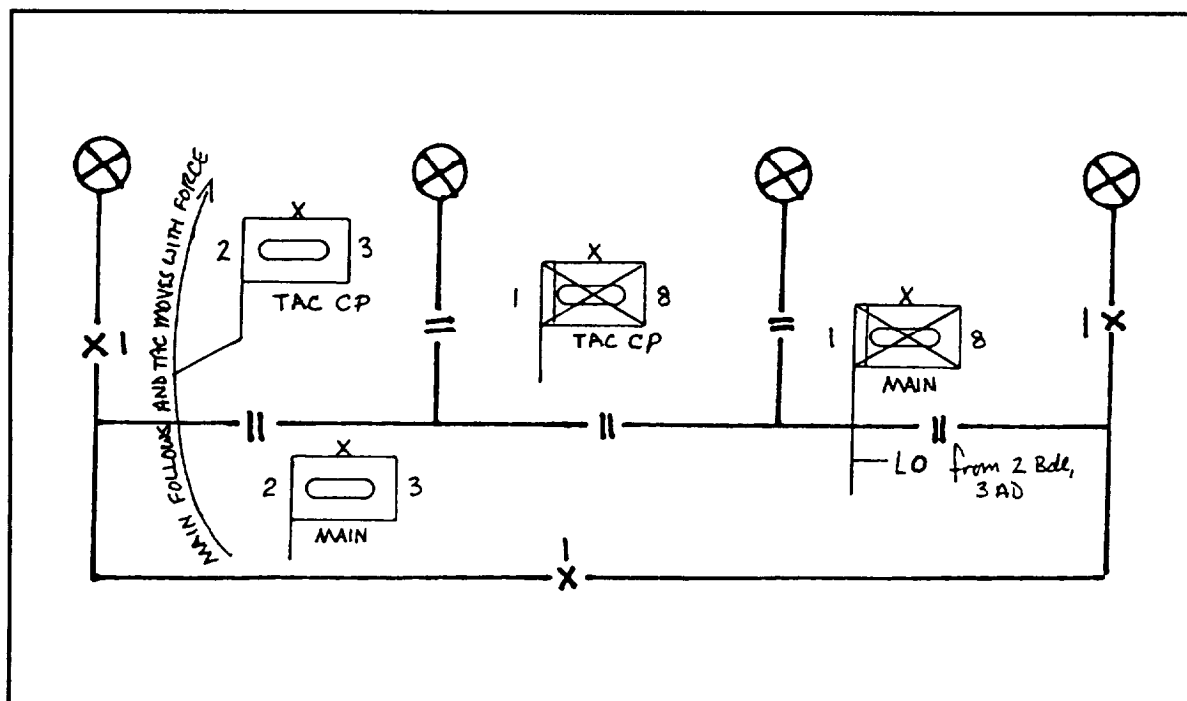


Figure 6-6. Collocation of passing brigade liaison officer with stationary brigade main command post.

Preparation

Intelligence

Once the brigade commander has issued the order to conduct a passage of lines, the S2 will continue the IPB process. If conducting a forward passage of lines, he will monitor the OI net of the stationary brigade and update his enemy situation template. Additionally, the stationary unit should issue periodic INTSUMs to the passing unit as it will for higher headquarters. If conducting a rearward passage of lines, the inverse is true. The S2 should war-game with the brigade commander to ensure he has considered contingencies in the event of enemy contact during the passage of lines.

Maneuver

The brigade prepares for the passage of lines by conducting a rehearsal. Generally, forward passages of lines may be incorporated into the offensive maneuver rehearsal. In a rearward passage of lines, however, (particularly following combat) there may not be time to conduct a complete level three rehearsal. In this case, the passage must be "rehearsed" as part of the orders backbrief.

Fire Support

The FS plan will be rehearsed along with the passage rehearsal. In particular, the FSO must know when he may rely on the supporting fires of those batteries that are supporting the stationary force. The location of each battery in support of the passing brigade should be checked again with the stationary brigade's S3 to avoid any conflict during execution.

Mobility, Countermobility, and Survivability

The most important aspect of the obstacle rehearsal is the preparation of those obstacles that may impede movement during the actual passage of lines. To this end, the plan to clear the passage lane of existing obstacles must be checked to ensure that it is completely integrated into the tactical plan and that backup plans have also been identified in the event of an unforeseen circumstance.

Air Defense

The air defense plan should be exercised during the passage rehearsal. Specifically, communications between the passing and stationary units should be checked to ensure that both are operating on the air defense early warning net.

Combat Service Support

The CSS plan should be rehearsed to ensure that the required support assets are properly positioned to assist in the passage. Moreover, the rehearsal should exercise the support system to identify any possible weaknesses in the responsiveness of the support plan. Movement of the BSA and other support assets will occur as necessary before actual execution of the passage.

Command and Control

During the rehearsal, the commander ensures that each organization knows when and where to move as well as how to execute the required coordination. The TAC CP or TOC (or other designated headquarters element) collocates with the stationary brigade's main CP and conducts communications checks. Quarters parties from subordinate elements also move in preparation of the rearward passage.

Execution***Intelligence***

After having made initial coordination with the stationary brigade's S2 and ensuring the TOCs have been collocated the passing brigade's S2 will monitor the OI net of the stationary brigade. As new information concerning the enemy is received, the S2 will incorporate it into the situation template. In particular, the passing brigade S2 will be on the lookout for any information that may influence the future operations of the brigade or even the passage itself.

Maneuver

The commander will monitor the operation from the initial actions at the contact point to the last element's final passage. The actual coordination at the contact points will be handled by the battalion task force. Whether conducting a forward or rearward passage of lines, the key aspect of the passage will be when to transfer control of the sector/zone. In a rearward passage, this will be controlled via a BHL established by division; in a forward passage, the control will be designated by the crossing of a PL established by the two brigade commanders.

Fire Support

Until transfer of responsibility of the zone or sector occurs, all indirect fire missions will be coordinated and approved by the FSO who initially controls that area. Therefore, it is absolutely essential that the two brigade FSOs ensure that their FS nets are linked prior to execution. Having doubled the amount of artillery will greatly augment the combat power of the passing force and enhance the chance of mission success.

Mobility, Countermobility, and Survivability

The engineers will ensure the passage lanes are clear of obstacles before the actual passage begins. Under conditions of close-in enemy pressure, prepared demolitions to clear the lanes will be detonated on order and should be linked to the actions at the contact point. However, the lanes will still need to be proofed before the passing unit begins to use them. Some demolitions may also be used as part of a deception plan; however, to be effective, the detonation must also be linked to maneuver. Providing these forces may be a way for the stationary brigade to assist the passing brigade.

Air Defense

The actual conduct of the passage of lines air defense mission will occur as discussed in the previous paragraphs.

Combat Service Support

As described earlier, the CSS system should be emplaced during the preparation phase of the operation. The primary mission of the CSS assets will be to ensure unimpeded movement of the passing force. Maintenance assets will be on call to remove and repair any vehicle disabled during the movement. Additionally, emergency resupply of POL will be on standby to support as required. The stationary unit should provide the bulk of the support at the PP; however, the passing unit must be prepared to augment these assets as required.

Command and Control

The collocation of the TOCs will ensure that the necessary information exchange occurs during the passage of lines. In particular, the passing brigade commander will position himself where he can best observe the conduct of the passage while retaining the ability to quickly join the force for future operations.

As each element reaches the contact point the information will be relayed to the collocated headquarters. The location of each element must be closely watched to ensure that delays by passing units will not have a negative impact on other forces. The most dangerous circumstance would involve a bottleneck of passing forces and an enemy ground and air attack. To avoid this, the commander must ensure that each moving element maintains its integrity and an appropriate distance from the other elements. Should the passage occur slower than planned, FRAGOs will be issued to the units waiting to pass, simply pushing back their time of execution. Units should remain in their AAs until it is time to move, rather than move to the contact point and wait in line.

Relief Operations

A relief in place is an operation in which a unit is replaced in combat by another unit. The responsibilities for the combat mission and the assigned sector or zone of action of the replaced unit are assumed by the incoming unit. A relief in place may be conducted during offensive or defensive operations and during all weather and light conditions. The primary purpose for a relief in place is to maintain the combat effectiveness of committed elements and should be conducted during a lull in combat if possible. A relief in place may be conducted—

- To introduce a new unit into combat.
- To reconstitute a unit.
- To allow a unit to rest.
- To decontaminate a unit.
- To change the mission of a unit.

Planning

Intelligence

The outgoing unit transfers to the incoming unit all information and intelligence concerning the enemy and the AO. If the incoming unit requires any additional information, it should be collected and issued by the outgoing unit before the change of command.

Maneuver

Considerations for relief. Considerations for a relief in place are listed below:

- Relief operations must be executed in an expeditious and orderly manner.
- Units are normally relieved at night or during periods of limited visibility.

Ž Very close cooperation and coordination of plans are necessary between the commanders and subordinates of both the incoming and outgoing units. This normally requires collocation of the TAC CPs and ToCs.

- Detailed prior reconnaissance by the incoming unit is essential.

Ž The incoming unit must fit into and accept the general defense plan of the outgoing unit until passage of command

- Every effort must be made to conduct the relief without weakening the tactical security of the position and to offer the least profitable target for attack by nuclear weapons.
- Units of the supporting arms normally should not be relieved at the same time as the units they support.
- To support all the above considerations the relieving unit should have the same equipment and organizational structure as the relieved unit when possible.

When a unit relieves another unit in place, the WO to the incoming unit must specify, as a minimum, the time for commencing and completing the relief and the priorities for use of routes involved. The WO normally will direct that the relief be carried out under the cover of darkness or other conditions of reduced visibility. Upon receipt of the WO, the incoming unit commander and staff analyze the mission, issue their own WOs, establish liaison, and visit the unit to be relieved. The incoming unit will normally establish its CP in the vicinity of the CP of the unit being relieved. Conferences are held between the commanders and staffs of the two units concerned to work out the details of the relief.

The two units conducting the relief must agree on procedures for accomplishing the following items.

Exchange of plans and liaison personnel. The incoming unit commanders and staffs must be briefed and made thoroughly familiar with the existing defensive plans, including fire plans, barrier plans, and counterattack plans. To make the most efficient transfer of information concerning the plans, dispositions, and AO, the outgoing unit leaves liaison personnel with the incoming unit. How many personnel and the duration of their stay with the incoming unit varies with the situation. Normally, they remain with each combat and CS headquarters of the incoming unit from company level up. Liaison personnel usually remain until the incoming unit becomes familiar with the situation.

Sequence of relief (if not specified by the readquarters ordering the relief). To establish the strongest defense during the relief, the relief in place is executed by stages, either to the front or from front to rear. In determining the sequence of the relief, both commanders should consider

Ž The subsequent mission of the unit conducting the relief.

Ž The strength and combat efficiency of the unit presently in the forward defensive area.

- The capability of the enemy to detect and react against the relief.
- The characteristics of the AO.

Ž The need to vary the pattern of relief.

Ž The size and type elements involved in the relief.

When command is to pass. The time or circumstances under which the incoming commander will assume responsibility for the area must be clearly established. Until command passes, the outgoing commander retains responsibility for the area and mission and exercises OPCON over all subordinate elements of the incoming units that have completed their portion of the relief. During this period, the incoming units must fit into and accept the general defense plans of the outgoing unit. Normally, command passes to the incoming commander when the units in the forward defense area have been relieved by his subordinate units and when adequate communications means have been established. When command passes, the incoming commander assumes OPCON of all elements of the outgoing unit that have not been relieved.

Reconnaissance. Arrangements must be made for a thorough daylight reconnaissance by commanders and staff officers of all echelons of the incoming unit. Reconnaissance should include an inspection of terrain to the front, defensive installations, relief routes, AAs, weapon positions, and CSS installations.

A relieving unit reconnaissance element should include the brigade commander, the S3, S2, an LO, the FSO, battalion commanders the S1/S4 party and at least a tank or mechanized platoon for a security force. The relieved force commander should initially select at least two routes and contact points for the relieving unit. Relieving elements scheduled to move along these routes use them to travel to the linkup point or contact points. The relieving unit's reconnaissance and liaison element with the TOC and trains must move to the relieved unit's location immediately upon receiving the order from higher headquarters.

Security. Every effort must be made by all echelons of the incoming and the outgoing units to prevent the enemy from learning that a relief is taking place. In addition to conducting the relief during periods of reduced visibility, the following security measures should be taken:

- Ž Every form of normal activity in the AO must be maintained during the relief. The incoming unit should assume the normal pattern of harassing and interdicting fires, patrols, communications traffic and movement previously employed by the outgoing unit.
- Ž Restriction on the size of advance parties and reconnaissance parties must be enforced. These parties should move to an AO by infiltration.
- If applicable, aerial reconnaissance by members of the incoming unit should be made in the aircraft of the outgoing unit.
- Communications during the relief are conducted on the command frequency of the outgoing unit at all levels. Radio nets of the incoming unit should not be used in the new area until after the relief is complete.
- An integrated tactical cover and deception plan should be executed by both the incoming and outgoing units.

Movement control Arrangements must be made between the incoming and outgoing units for control of units moving into and out of the area. Coordination must include—

Ž Routes to be used and priorities for their use.

- Responsibility for traffic control.
- Location of AAs.
- Common use of transportation if necessary.

If terrain and road network allow, relieving and relieved units should be assigned separate routes and AAs to reduce congestion and to minimize massing of combat power. AAs provide a location for quick coordination and preparation prior to execution of subsequent missions and should be vacated as soon as possible. See Figure 6-7 for relief in place overlay techniques.

Fire Support

The method of relieving FS units must be clearly established. Normally, the FS units of the outgoing unit remain in position until the units in the forward defense have been relieved. By using this procedure, FS units that are familiar with the FS plans and the area are in position to fire during the critical period of the relief of forward units.

TF organic FS elements may elect not to take over the firing positions of outgoing units if sufficient firing positions are available from which the same fire mission can be accomplished. In this case, the incoming FS units move into position by platoons or sections. When the lack of firing positions dictates, FS units may be relieved in place. In this case, it may be necessary to relieve by squad or section to avoid congestion.

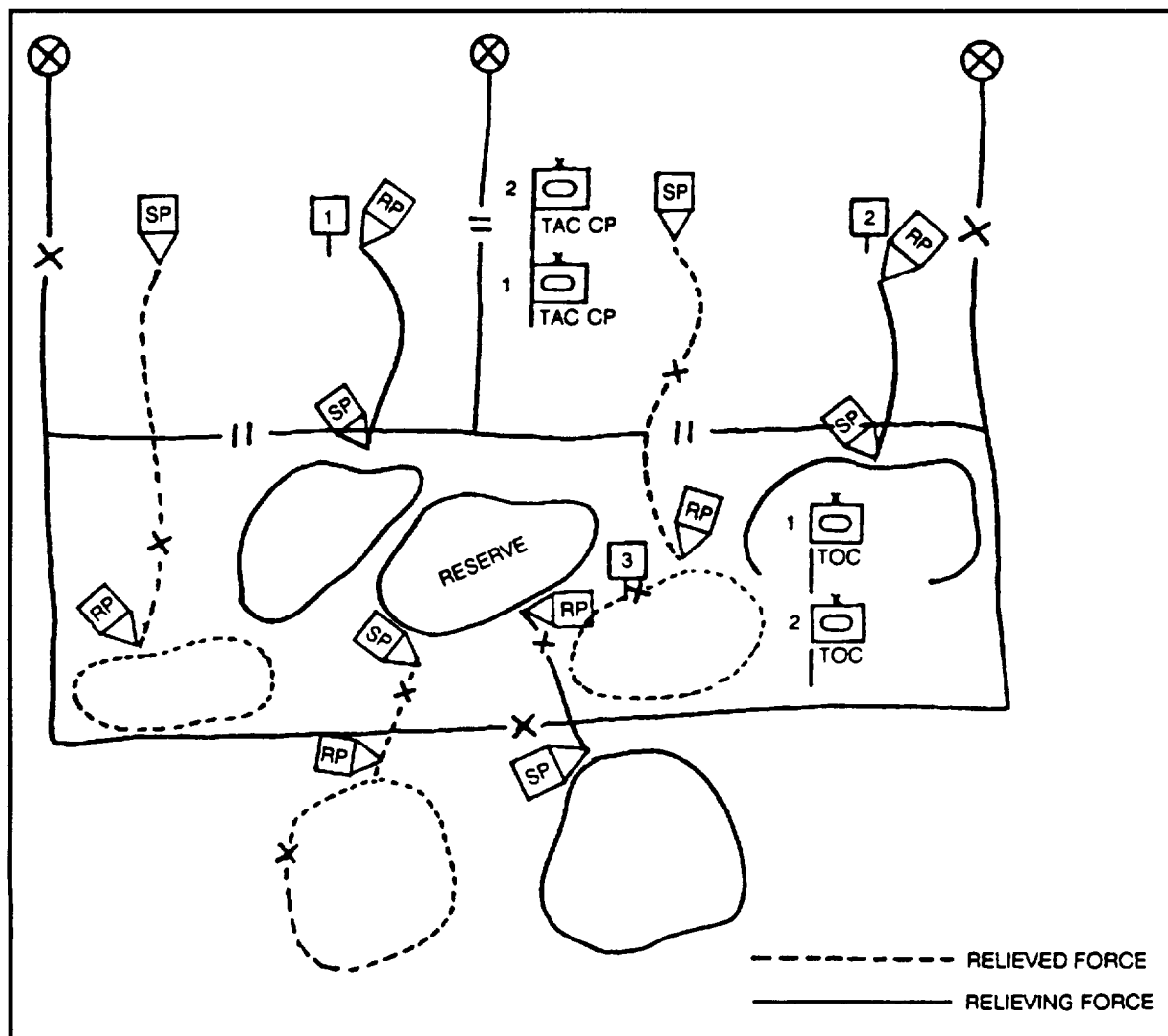


Figure 6-7. Brigade relief in place overlay.

Mobility, Countermobility, and Survivability

Units must exchange reserve target folders, status of obstacles, locations of hasty and scatterable minefield, or reports of enemy minefield emplacement in accordance with STANAG 2036.

A report of transfer is written transferring responsibility for a minefield from one command to another. The report of transfer must be signed by both the relieved and relieving commanders and must include a certificate stating that the relieving unit commander has been shown, on the ground or otherwise informed of all mines within his zone of responsibility and that he assumes full responsibility for such mines. The report of transfer is forwarded to the next higher commander having authority over both the relieved and relieving unit commanders. This transfer includes hasty protective minefield as well as minefields directed by higher headquarters.

Air Defense

In addition to conducting the relief of air defense assets in sector, the primary mission of ADA units is to provide increased coverage over all primary relief routes in sector. These tasks are accomplished jointly, and actual relief of ADA units is not scheduled until the relief of all maneuver units has been accomplished.

Combat Service Support

CSS relief is just as complicated as the tactical relief and requires the same degree of detailed planning; however, CSS relief will probably occur before the combat units execute to allow the relieved unit's FSB an opportunity to establish operations in preparation for the relieved unit's recovery. Therefore, the same considerations and operations apply to the brigade's CSS. Rear CPs and FSB CPs of each unit will collocate as will the CPs for each battalion's field trains. Some supplies will be transferred to the relieving FSB (such as ATP stocks [main gun ammunition], engineer material, and possibly Class I (T-rations) METT-T will be examined to determine if the relieving FSB can occupy an adjacent position or must use the existing support locations. Separate routes will be planned for the relieving and relieved units to avoid two-way traffic.

Command and Control

The division or higher headquarters' order should specify the location of the relieved unit's CP or designate a contact point where the two commanders must meet. If this is not provided, the relieving commander should request this information from the commander to be relieved. In the absence of instruction and if coordination between the two commanders is not possible, the relieved commander establishes control measures for the relieving unit.

Preparation

Intelligence

The brigade S2 prepares for the relief in place by coordinating with the relieved force's S2. Having already exchanged information, he will now evaluate that information to identify any areas about which he may be unsure. Also, he will carefully examine weather conditions and provide as accurate a forecast as possible. This information is critical to the relief plan, as much of the operation should occur during darkness and limited visibility as conditions allow.

Maneuver

A relief is executed in stages to ensure the most effective defense during the relief. As an example, reserves may be relieved first, followed by relief of forward elements. Normally, when minimum forces are employed on the FLOT, the relief is conducted from rear to front; when maximum forces are employed on the FLOT, the relief is conducted from front to rear. In determining the sequence of the relief, commanders should also consider—

- Strength and condition of elements in the relief.
- Subsequent missions of relieved and relieving units.
- Ž The enemy situation and the capability of the enemy to detect and react against the relief.
- Ž Characteristics of the AO.
- The need to vary the pattern of relief.

When sequence of relief has been determined, the commander then selects the method of relief for forward units. His choices include—

- Relief of the first of two forward TFs, to be completed before relief of the third TF, begins when two TFs are employed forward.
- Ž Relief of two flank TFs simultaneously followed by the center TF when three TFs are employed forward.
- Ž Relief of the center TF followed by the simultaneous relief of the TFs when three TFs are employed forward.
- Ž Relief of all forward TFs simultaneously.

In analyzing these methods, the commander should consider—

- The enemy situation and capability of the enemy to detect and react against the relief.
- Ž The characteristics of the AO.
- The time available for accomplishing the relief.
- Ž The acceptable degree of concentration of forces.

Generally, simultaneous relief of all elements is the fastest option; however, it is also the least secure and the most difficult to control. Sequential reliefs involve only one element at a time; they are the slowest and most secure method and also the easiest to control. When relieving an element in a hide position, the incoming unit should occupy an adjacent position, if possible.

Because of the difficulty in accurately laying weapons at night, commanders of the incoming and outgoing units mangle for the mutual exchange of crew-served weapons that cannot be easily moved or that can, when necessary, ensure the effective delivery of fires. The exchange is on a weapon-for-weapon basis. The authority for this exchange is included in the relief order of the next higher commander.

Fire Support

Counterintelligence measures employed to avoid disclosure of relief operations include continuation of normal activities such as supporting fires, radio traffic, vehicular traffic, and radar employment. Maximum FS from outgoing and incoming units should be available to ensure the success of the operation and to neutralize enemy reaction in the event the operation is discovered. The FS will be under the control of the relieved force until the actual change of command has recurred. Smoke missions may be fired locally or on enemy OPs to conceal the operation. If possible, the relieved force's artillery will remain in position until all the front line and reserve forces have been relieved.

Air Defense

The air defense assets will position themselves early in preparation for the relief, with the relieving force's ADA assets in OPCON to the relieved force's ADA command. Both organizations will operate off the relieved force's ADA early warning net.

Combat Service Support

As mentioned earlier, the CSS units will conduct their own relief operation in preparation for the brigade's maneuver battalions being relieved. If possible the BSA will be relieved and prepared to support the brigade before the maneuver units begin their relief. Generally, this means that the CSS relief must occur either the night before or during daylight hours. This may not be a problem, however, due to the BSA's distance from the FEBA.

Command and Control

The commanders will collocate in preparation for the relief. At a specified time or on receipt of the order, the relieving unit minimizes radio traffic. The brigade commander, XO, and S3 switch to the relieved force's frequency and enter their net. Battalion command groups will do likewise; however, company teams will maintain their original nets. Figure 6-8 depicts radio nets employed during the relief.

Execution

Intelligence

Once the relief begins, the two brigade S2s continue to exchange information. It is important to remember that despite the best OPSEC and deception plans, the enemy may still discover the relief and attempt to attack during its execution. For this reason it is essential that all reconnaissance activity continue throughout the operation and that both S2s be completely familiar with the situation. Either officer must be prepared to make an assessment and advise his commander as required.

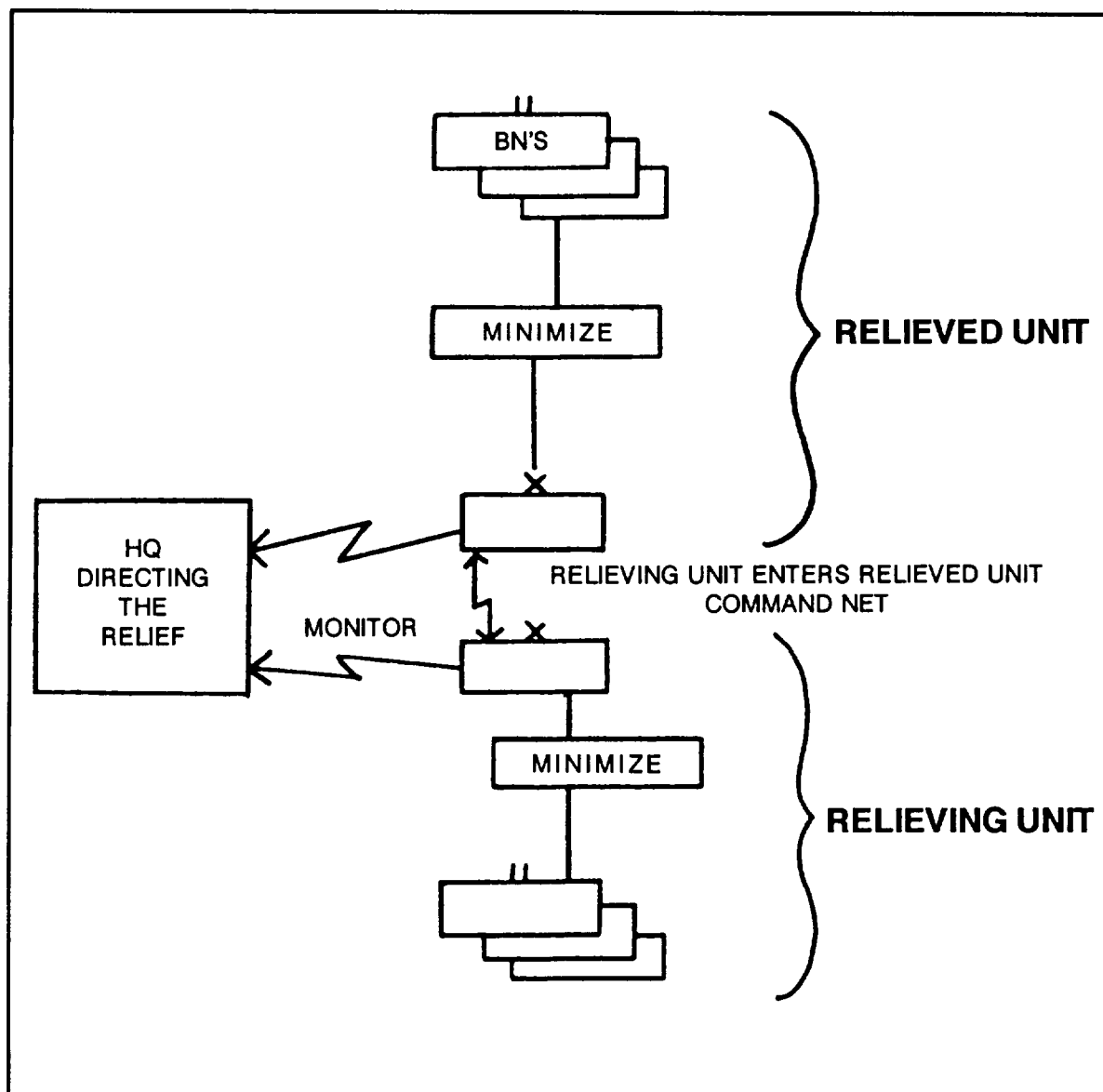


Figure 6-8. Radio net for a relief in place.

Maneuver

To limit confusion inherent in a relief and to avoid excessive massing, adjacent teams of TFs are not normally relieved at the same time. Elements of the outgoing battalions leave the area as soon as they are relieved and control is established.

Generally, the brigade will not permit battalions to designate AAs for units larger than company size. These company AAs are, in turn, separated as much as possible to minimize vulnerability to enemy fires. Delays within AAs are avoided by precise planning, timing, and execution.

In the conduct of the relief, mechanized infantry will dismount far enough to the rear to avoid compromising the relief and move forward to effect the relief on foot. The carriers will move forward after completion of the relief by dismounted troops. Outgoing mechanized units will exfiltrate carriers prior to relief, providing such action will not compromise the relief: otherwise, the carriers of the outgoing units will not move until the relief is completed.

At the brigade level, the relief will be managed through the reports of the battalion task forces. Specifically, the main CP will monitor the progress of each battalion task force, recording when each battalion has transferred command and when the relief is complete.

During the conduct of the relief, enemy contact is possible. If a relieved or relieving unit gains contact with an enemy force, it immediately notifies the other unit and the higher headquarters directing the relief. If command has not passed, the relieving unit will come under OPCON of the relieved unit, be absorbed into the relieving unit's positions, and continue normal radio traffic.

Fire Support

The brigade FSO will monitor both the enemy situation, to which he may be required to respond with indirect fire, and the relief of the artillery units. Generally, the FS assets are one of the first elements to collocate and the last to leave. Both relieving units and those being relieved will fire in support of the operation. The relieving FA reinforces the fire of the artillery unit being relieved.

Mobility, Countermobility, and Survivability

The brigade engineer will monitor the exchange of targets and ensure that all known obstacles have been identified by the relieving force, that each obstacle's status has been verified, and that the transfer of records is complete.

Air Defense

Air defense assets will operate as discussed in earlier sections.

Combat Service Support

Having already conducted the relief of the BSA, the CSS should be the same as for any defensive operation. However, due to the possibility of enemy contact, the BSA must be prepared to initially support a force that may also include a significant portion of the relieved brigade. It is important for the relieved BSA to leave behind ATP stocks, engineer supplies, and Class I.

Command and Control

During the relief, commanders at each echelon are together at the CP or OP of the outgoing unit. The incoming unit commander assumes responsibility for the defense when the majority of his unit is in position (or as agreed upon by the two brigade commanders) and C2 systems are established, at a time previously designated by the next higher commander. All units in position, regardless of their parent organization, come under the OPCON of the present commander if the sector comes under attack.

Breakout from Encirclement

A brigade is encircled when all ground routes of evacuation and reinforcement have been cut by enemy action. A force may become encircled when it is ordered to remain in a strong position on key terrain to deny the enemy passage through a vital choke point following an enemy breakthrough or left to hold the shoulder of a penetration. A unit might also be left in position behind the enemy by design or be given a mission with a high risk of being encircled. When this happens, the encircled commander must have a clear understanding of the higher commander's plan so the unit can continue to contribute to the mission.

Planning

Intelligence

Once the brigade commander realizes that the force has become encircled, he will turn to the S2 for a quick assessment of the enemy situation. This information will be furnished by the S2s of all units within the encircled area and contained in reports from the encircled forces in contact. In particular, the S2 should attempt to identify the strengths weaknesses, and vulnerability points of the encircling forces, and determine whether or not the enemy realized it has encircled the brigade. These two pieces of information will drive much of the commander's decision making.

Maneuver

The success of the operation will depend considerably upon the senior commander's understanding of his higher commander's plan and intent. Specifically, if he is to contribute to the mission, he must attempt to plan his operation in concert with the higher commander's operation. Once the force realizes that it has been encircled, the senior commander will assume control of all forces. He informs his superior of the situation and simultaneously begins to accomplish the following tasks regardless of his subsequent mission.

Reestablish a chain of command. Unity of command must be assured. Fragmented units are reorganized and troops separated from their parent unit are placed under another unit's supervision. A clear chain of command must be established throughout the forces.

Establish a viable defense. The command quickly establishes all-around defense. It may be necessary to attack and seize ground that favors an all-around defense. Fighting positions are improved rapidly and continuously. Enemy forces may attempt to split an encircled force by penetrating its perimeter with armor-heavy forces. An energetic defense, rapid reaction by reserves, and employment of antitank weapons in depth within the encirclement can defeat such attempts. As forces are weakened in the defensive battle, a reduction in the size of the perimeter may be necessary. The coherence of the defense must be maintained at all costs.

Establish a reserve. If armor-heavy units are available, they are used as a reserve and positioned centrally to take advantage of interior lines. If only mechanized infantry forces are present, small dismounted local reserves are designated to react to potential penetrations, while the IFVs may serve in a similar capacity as the tanks. The difference in employment, however, is in respect to the survivability of the vehicle.

Establish security. Security elements are positioned as far forward as possible to provide early warning. Vigorous patrolling is initiated immediately. Local security is established throughout the force, and passive security measures must be strictly enforced.

Maintain morale. Soldiers in an encirclement must not see their situation as desperate or hopeless. Commanders and leaders at all levels maintain the confidence of soldiers by resolute action and a positive attitude. They keep soldiers informed to suppress rumors.

Fire Support

All artillery in the encirclement is reorganized and brought under centralized control. Fire nets and coordination measures are reestablished rapidly. Available mortars mass their fires in dangerous areas. Artillery and mortars are distributed throughout the enclave to limit their vulnerability to counterfires. The available FS from outside the encirclement is coordinated.

Mobility, Countermobility, and Survivability

Engineer assets are reorganized and given missions commensurate with the situation. Some assets will be tasked to create obstacles and to lay minefield to deny enemy penetration; other assets will continually improve the survivability of the force by preparing fighting positions. The latter is especially important due to the brigade's vulnerability to accurate artillery and missile strikes. Remaining engineer equipment will be organized into mobility units in preparation for offensive operations.

Air Defense

The air defense assets will be quickly reorganized to provide coverage for the encircled area. The static nature of the brigade and its known perimeter make it a lucrative air target, especially if it has not had time to prepare adequate defenses. If possible the air defense units will maintain contact with the main force in an effort to receive early warning reports.

Combat Service Support

An early assessment is made of the logistical posture of the encircled command. All supplies come under centralized control. Strict rationing and supply economy is practiced. Attempts are made to resupply the encircled forces from the outside by parachute drop or helicopter lift, if local air superiority can be maintained for the operation. A centrally located medical facility should be established and wounded troops evacuated if an air supply line is open. If the force must break out without taking all of its wounded, the commander leaves adequate supplies and medical personnel behind to care for them. Wounded personnel who can move with the breakout force without hindering its chances for success are evacuated.

Command and Control

Communications with higher headquarters and lateral communications with adjacent units are rapidly re-established. It is important to receive instruction and to remain informed about the battle outside the encirclement. Encircled units can be important sources of information on the enemy's rear area and can perform important roles in defensive counterstrokes. Communications are essential when relief and linkup are imminent.

Preparation

Intelligence

The brigade S2 will continue to plan, monitor, and conduct intelligence-gathering activities throughout all phases of the operation. The information concerning enemy strength, intent and future operations will be essential to the commander. Additionally, the S2 must attempt to determine if the enemy considers the area significant enough to seize or if it will merely fix and continue to bypass. The latter option may include the enemy's use of chemical weapons.

Maneuver

Although there are several options available to the commander once encircled, this section will only address the breakout in the direction of the friendly force. If the breakout is chosen, it is important that it take place as soon after the encirclement as possible. The enemy force may not realize that it has encircled the brigade. The longer the commander waits to conduct the attack, the more organized the enemy forces are likely to become. The difficulty lies in the fact that it will take time for the commander to organize his force properly to conduct the breakout therefore the commander must weigh the level of preparation against the time available.

The attack to break out of an encirclement differs from other attacks in that defensive operations are occurring simultaneously in other areas of the perimeter. The following tasks should be accomplished in both the planning and preparation for the breakout:

Deceive the enemy as to time and place of the breakout. If it is not possible to break out immediately, the commander attempts to deceive the enemy by conceding his preparations and redispersions. He must also make it appear that the force will make a resolute stand and await relief. Use of dummy radio traffic for the enemy to monitor or landlines that might be tapped are good means of conveying false information to the enemy. The direction for the breakout should not be the obvious route toward friendly lines unless there is no other alternative.

Exploit gaps or weaknesses in the encircling force. Early in the encirclement there will be gaps or weaknesses in the encircling force. Patrolling or probing action will reveal these weaknesses. The attack should capitalize on them. Although the resulting attack may be along a less direct route or may be over less favorable terrain, such an attack is the best course of action because it avoids enemy strength and increases the chance for surprise.

Exploit darkness and limited visibility. The cover of darkness fog, or severe weather conditions favors the breakout because the weapons of the encircling force are less effective in these conditions. It is difficult for the enemy to follow the movements of the breakout force during conditions of limited visibility. However, waiting for darkness or limited visibility may result in the consolidation of the enemy containment.

Organize the forces for the breakout. The forces are reorganized so that available tank-heavy forces lead the attack if the terrain permits. The remainder of the forces fight a delaying action or defend the perimeter during the initial stage of the breakout. After the penetration, the main body moves out of the encircled area preceded by the attacking force and covered by a rear guard. CSS elements are integrated into the formation for the breakout. If the commander has sufficient forces, he may organize a diversionary attack just prior to the real breakout in an attempt to draw off enemy forces.

Coordinate with supporting attacks. The breakout attack is assisted when a supporting attack by a nearby friendly force or by the reserve diverts enemy attention and assets from the breakout effort. The breakout attempt should be timed to occur just after the enemy reacts to the supporting attack.

Fire Support

Combat power must be concentrated at the breakout point. Every effort is made to produce overwhelming combat power and to generate momentum at the breakout point. The rear guard or forces left in contact fight a vigorous delaying action on the perimeter so no portion of the force is cut off. Supporting fires are concentrated at the breakout point. Risks are taken on other parts of the perimeter to ensure success of the breakout. Once the breakout is achieved priority of fires may be shifted to the rear guard action. However, above all else, the momentum of the attack is maintained or the force will be more vulnerable to destruction than it was prior to the breakout attempt.

Mobility, Countermobility, and Survivability

Engineers prepare prebreaches of obstacles that may block their axis of attack. It is vital that obstacles not be breached prematurely; it may alert the enemy to the nature and location of the future operation. Additionally, obstacles in depth are prepared to prevent the rear guard and perimeter defense forces from becoming decisively engaged, particularly once the operation has begun. If possible, the obstacles in depth should allow forces to separate and the breakout force to make a clean break.

Air Defense

In preparation for the breakout, the air defense assets will be assigned elements to accompany and protect throughout the operation. The switch from an area to unit defense will occur simultaneously with the commencement of operations. If this requires significant repositioning, the ADA assets should attempt to link up early with their assigned unit in anticipation of the operation. Care should be taken so the enemy does not detect the reorganization.

Combat Service Support

As noted earlier, in preparation for the breakout, CSS elements will be organized into a single movement formation under control of a senior officer, such as the brigade S4. The trains should be organized to transport as many of the wounded and as much equipment as possible without causing the brigade excessive delays.

Command and Control

The brigade commander will direct the operation using FRAGOs to save as much time as possible. The brigade S3 will assist the commander by coordinating with those units the commander does not have time to check. This should correspond to their positions during the execution of the operation as well.

Execution

Intelligence

During the execution of the breakout, the brigade S2 will closely monitor the reports of all the units in contact. If possible, he will have planned for the infiltration of reconnaissance assets along the axis of attack to provide early warning to the force. The S2 will relay any pertinent information to the brigade commander, particularly with respect to enemy counterattack forces.

Maneuver

The forces for a breakout operation are divided into five distinct tactical groups.

Rupture force. The rupture force attacks, creates a gap in the enemy's weak point (if it has been identified), and holds the shoulders for the remaining forces to pass through. The rupture force will consist of a TF or reinforced TF. The rupture force must be of sufficient strength to penetrate the enemy line. A favorable combat power ratio must be achieved at the point of attack by means of surprise, troop strength, mobility, and firepower.

Initially, this force will be the brigade main effort. The TF commander will probably have additional assets attached to his unit if he is the rupture force commander. These assets might include air defense assets or additional engineer personnel from the engineer company. The TF commander should integrate these assets properly for maximum combat power to achieve the rupture. Antitank systems could initially overwatch the rupture force and, after the gap has been opened, could secure the flanks from the shoulders.

Reserve force. The reserve force follows the rupture attack to maintain attack momentum and to secure objectives past the rupture. After the rupture force secures the gap, the reserve force normally becomes the brigade's lead element. When a TF is given the mission of the reserve force, the commander must coordinate closely with the rupture force commander on the location of the gap, the enemy situation at the rupture point, and the enemy situation (if known) along the direction of attack past the rupture point.

Initially, the reserve force will pass through the gap created by the rupture force. It is essential that the reserve force continues a rapid movement from the encircled area toward the final objective (probably a linkup point). If the reserve force is making secondary attacks, it is important that it does not become bogged down. Artillery preparation of these objectives may assist the reserve force in maintaining momentum out of the encircled area.

Main body. The main body, which contains the CP elements, casualties, and CS and CSS elements, moves as a single group. It usually follows the reserve force through the gap created by the rupture force. The commander should be given C2 of this element to ensure orderly movement.

Rear guard. The rear guard consists of the personnel and equipment left on the perimeter to provide protection for the rupture and diversionary attacks (if a diversionary attack force exists). In addition to providing security, they deceive the enemy as to the encircled force's intentions. The rear guard must be of sufficient strength to maintain the integrity of the defense. Once the breakout commences, the rear guard and diversionary force disengage or delay toward the rupture.

If a TF is assigned the mission of rear guard, the commander must make sure he provides a viable defense on the entire perimeter. As other units (rupture force, reserve force, diversionary force) pull off the perimeter, the rear guard commander must spread his forces over an extended area. This will require flexibility and mobility by the rear guard. The perimeter must withstand enemy pressure. If it does not, the enemy force will simply follow the breakout forces through the gap and destroy them along the direction of attack.

Diversionary force. Enemy attention must be diverted from the location of the rupture by a show of force elsewhere. The diversionary attack should be as mobile as available vehicles and trafficability allow. Mobile weapon systems and tanks are ideally suited to the diversionary force. The diversionary attack should be directed at a point where the enemy might expect a breakout.

Success of the diversionary force is imperative for a successful breakout operation. If the force fails to deceive the enemy as to the brigade's intention, the full combat power of the enemy can be directed at the rupture point. This could lead to a failure of the entire breakout operation. To achieve deception, the TF should—

- Use smoke-producing assets to deceive the enemy as to the size of the diversionary force.
 - Increase radio traffic for size deception and as an indicator of an important operation.
 - Use any available FS to indicate a false rupture point.
- Use mobility and firepower of the diversionary force to maximum effect to deceive the enemy as to the size and strength of the diversionary force.

The diversionary force may achieve a rupture of enemy lines. If a rupture occurs, the diversionary force commander must know the intent of the brigade commander. He may exploit this success, or he may disengage to follow the reserve force through the planned rupture point along the direction of attack.

Fire Support

The brigade FSO will direct fires initially in support of the diversionary force as part of the deception plan; however, once the rupture force begins to move, the artillery shifts and concentrates on the rupture point. For example, if the brigade has one artillery battalion with it, one battery will accompany the reserve force and the remaining two batteries will move with the main body. Firing on the move is accomplished through hasty occupation. In this way, the guns are protected yet able to support both the attack and rear guard actions.

Mobility, Countermobility, and Survivability

Mobility operations will be essential to the success of the operation as the rupture force begins its movement. If engineer assets are limited, they may initially travel with the rupture force, then move in support of the reserve force. The important point is to keep them as far forward as possible, but not to the point they became unnecessarily exposed. Concurrently, countermobility operations will be conducted by the rear guard to slow the enemy and avoid decisive engagement.

Air Defense

Air defense assets will be attached to each of the tactical forces. Priority for protection will go initially to the rupture force as its effectiveness is essential to operational success.

Combat Service Support

CSS assets will move with the main body. Those items that cannot be transported will be destroyed. Some prestocks may be left for the rear guard however they must be accompanied by some kind of detonation device. Control of CSS assets will be difficult due to the lack of radios on the supply vehicles. Therefore, each driver must understand the mission and direction of attack. Visual signals should be agreed upon in advance, especially if special signals are required beyond the SOP. Air guards and flank protection will be especially important to the soft-skinned vehicles. As a result, some combat forces should accompany the main body to provide that protection. Figure 6-9 contains a graphic depiction of a breakout.

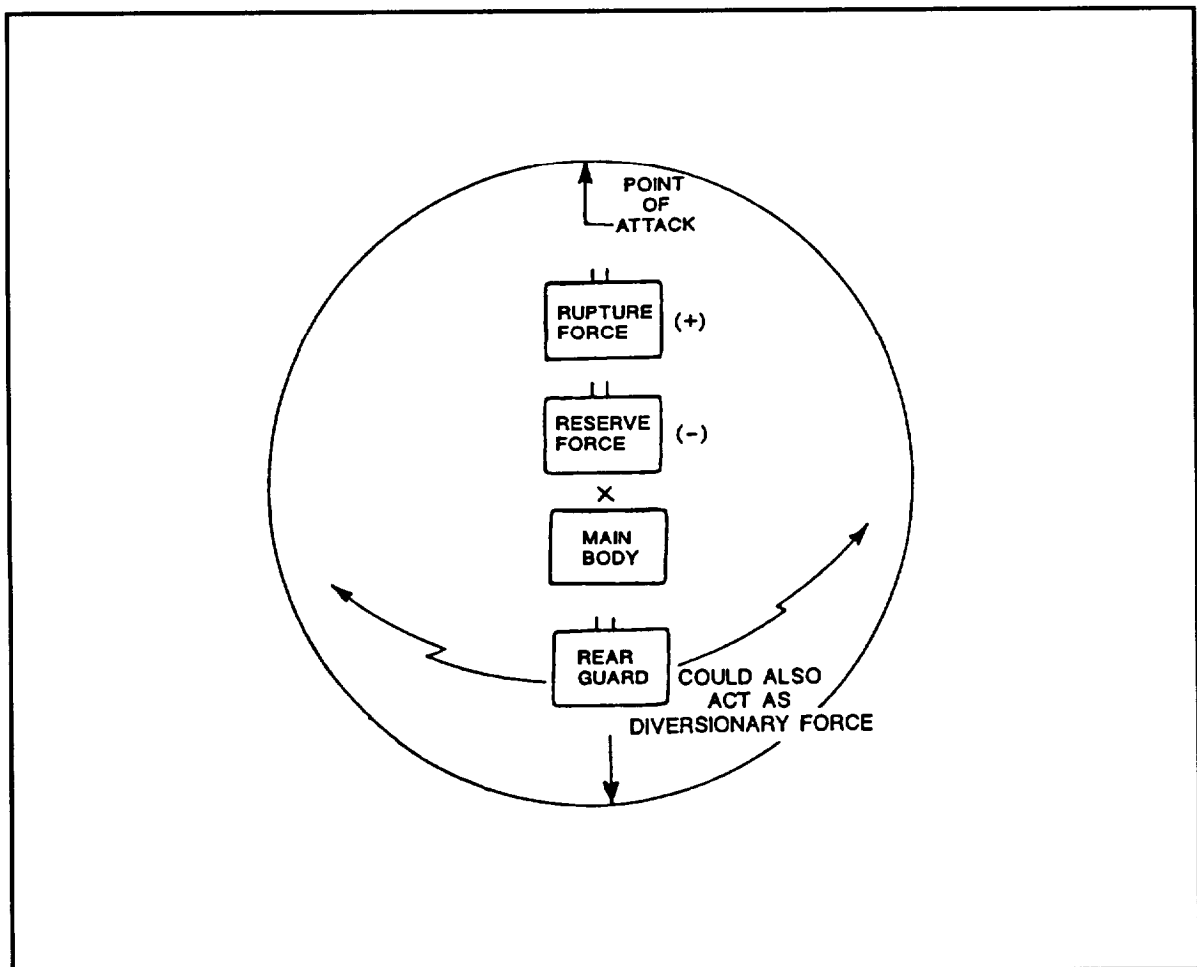


Figure 6-9. Brigade breakout from encirclement.

Command and Control

The commander should position himself where he can watch the rupture force conduct its attack. He will determine the tempo of the operation while the S3 will observe the actions of the rear guard. The two must remain in communication so that each understands the overall condition of the battlefield and can synchronize their activities. Usually, the rear guard will be given PLs from which to delay, corresponding to the forward movement of the rupture and reserve forces; therefore, close coordination and communication are essential.

Linkup Operations

Linkup operations to join two or more friendly forces are conducted—

- To complete the encirclement of an enemy force.
- To assist breakout of an encircled friendly force.
- To join an attacking force with a force operating in the enemy's rear area.

Regardless of the purpose of the linkup, in execution, the operation will take on one of two forms:

- Linkup of a moving force with a stationary force.
- Linkup of two moving forces.

Planning

Intelligence

The S2 of the linkup force will begin the IPB process in preparation for the operation essentially as he would for any offensive operation. The significant difference will be that he will have to consider the location and effect of other friendly forces on the enemy forces within the AO. For example, if the linkup is designed to assist the breakout of an encircled force, the IPB must address the enemy's possible attempt to consolidate gains around the encircled force as well as establish defensive positions in anticipation of the linkup operation. As a result the situation template, event template, and probable enemy course of action must include the two orientations and dual nature of the operation.

Maneuver

Planning the linkup. The linkup is a complex operation that requires detailed planning and coordination. The following considerations are important in planning the linkup

Plans for a linkup are coordinated as far in advance as possible. The two forces carefully define and coordinate their schemes of maneuver, with particular attention given to graphic control measures and the subsequent mission to be performed by each force after linkup is complete. Alternate linkup points are planned to provide needed flexibility.

Liaison is normally established during planning and continues throughout the operation. As the distance closes between the forces, the requirement to maintain close liaison increases. Aircraft can improve and expedite this coordination.

Linkup operations frequently will require a passage of lines. Once through the friendly lines, the brigade moves out as in an exploitation to effect the linkup. The action is characterized by speed aggressiveness, and boldness. Enemy forces that threaten the successful accomplishment of the mission are destroyed. Others are bypassed and reported. Insofar as possible, the linkup force avoids interference with its mission and concentrates its efforts on completing the linkup. (For a complete discussion of passages of lines, see Section I of this chapter.)

Linkup of a moving force with a stationary force. (See Figure 6-10.) To ensure the forces join without engaging one another, linkup points are selected at locations where the axis of advance of the linkup force

intersects the security elements of the stationary force. These points must be readily recognizable to both forces. Alternate points are chosen in the event enemy activities cause linkup at places other than those planned. The number of linkup points selected depends on the terrain and number of routes used by the linkup force. Personnel in the linkup force must be thoroughly familiar with mutual identification procedures and plans for rapid passage of lines. Stationary forces assist in the linkup; they open lanes in minefield, breach or remove selected obstacles, furnish guides, and design AAs. Use of a common radio frequency enhances coordination and responsiveness between executing forces.

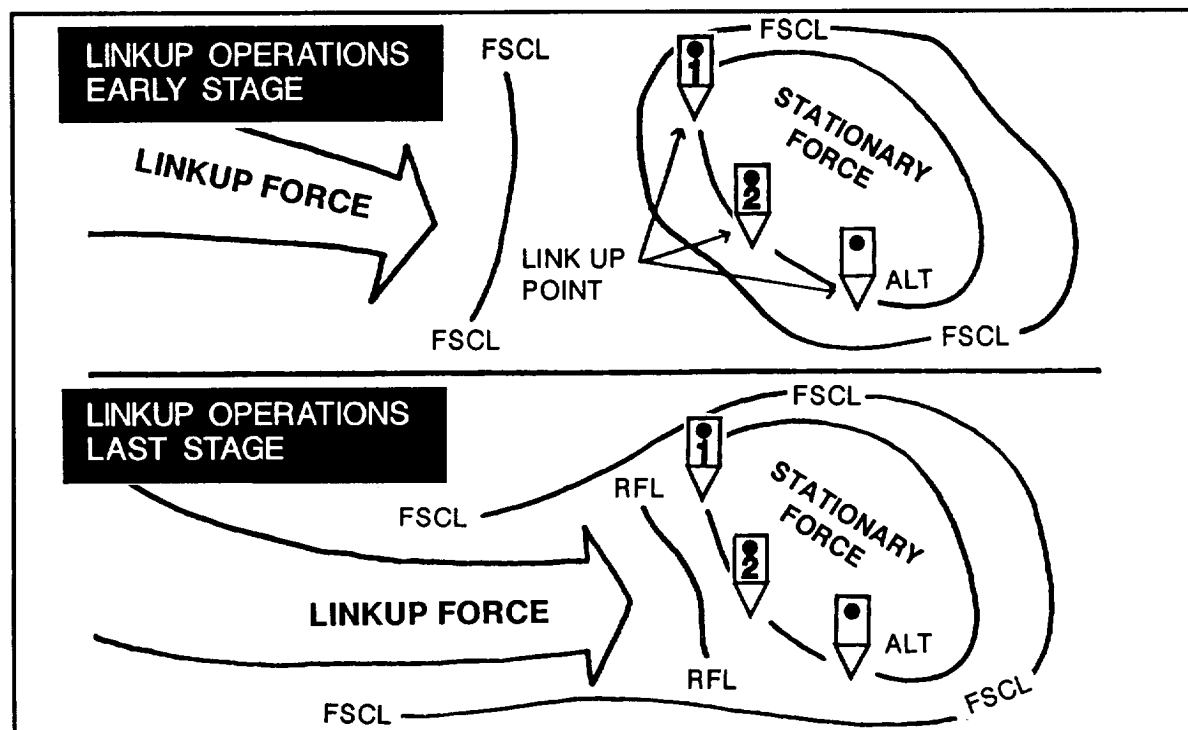


Figure 6-10. Linkup of a moving force and a stationary force.

Linkup of two moving units. (See Figure 6-11.) Linkup between two moving units is one of the most difficult operations. It is normally conducted to complete the encirclement of an enemy force. Primary and alternate linkup points for two moving forces are established on boundaries where the two forces are expected to converge. As linking units move closer, positive control must be coordinated to ensure they avoid firing on one another and to ensure the enemy does not escape between the two forces. Leading elements of each force should monitor a common radio net.

Actions following linkup. When the linkup is made, the linkup force may join the stationary force or may pass through or around to continue the attack. If the linkup force is to continue operations in conjunction with the stationary force, a single commander for the overall force should be designated. Plans for these operations must be made in advance. If the linkup is made under conditions of nuclear warfare, objectives for the linkup must provide for dispersion in relation to the stationary force. The linkup force may immediately pass through the perimeter of the stationary forces, be assigned objectives within the perimeter, or be assigned objectives outside the perimeter, depending on its mission.

Fire Support

When a division directs a linkup operation, it normally establishes an FSCL for both forces. FSCLs are adjusted as one force moves toward the other until one FSCL is used for both forces. An RFL is established between the forces when necessary, usually at the point where the two forces plan to establish contact.

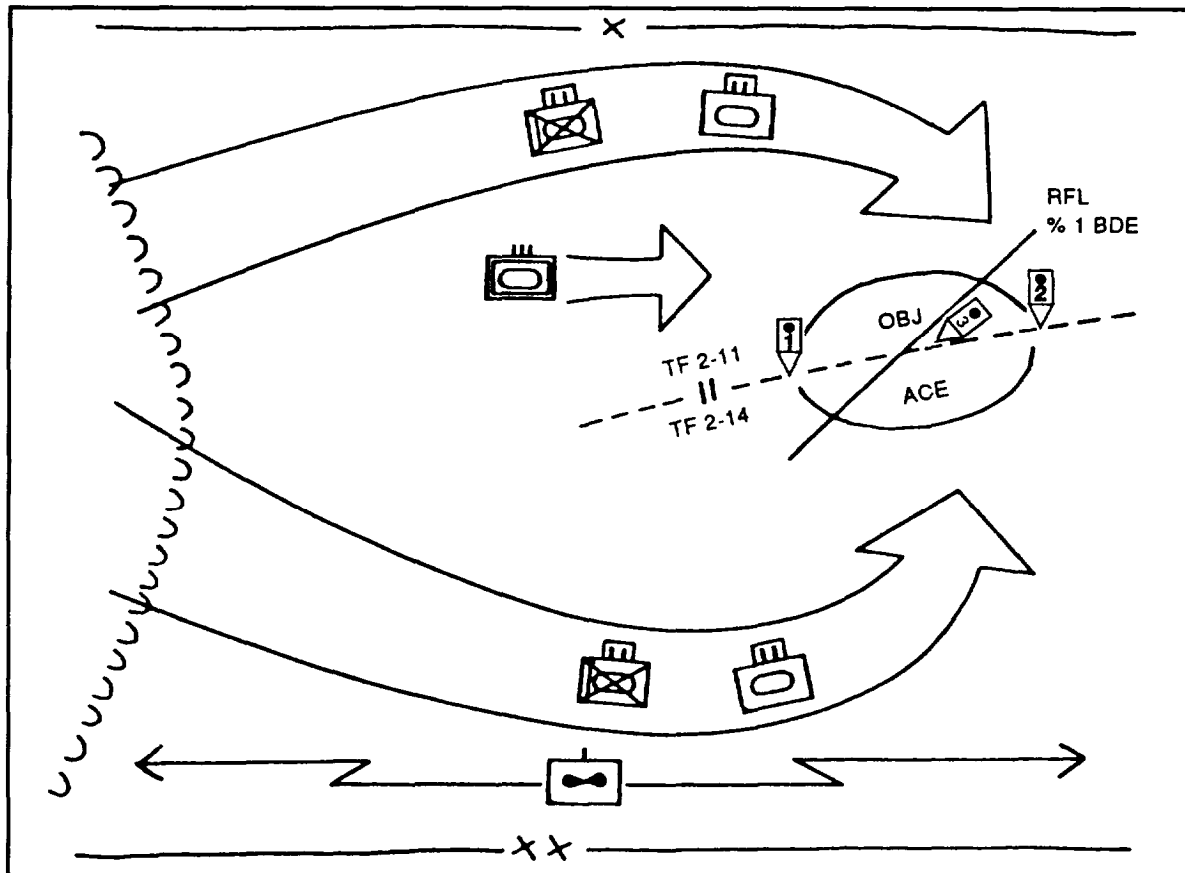


Figure 6-11. Linkup of two moving forces.

The artillery will move and fire in support of the operation as it would for any offensive operation. However, some artillery assets may be dedicated to fire in support of an encircled force that does not have its own assets. Of course, this must be carefully managed due to long-range fires the DS artillery unit may be called upon to fire. An exact front-line trace of the encircled unit will assist the linkup force in establishing an effective CFL.

Mobility, Countermobility, and Survivability

The engineers will be task organized to conduct mobility operations. Speed of the operation will be essential, whether it is designed to link up with an encircled force or to complete the encirclement of the enemy.

Air Defense

During linkup operations, particularly with airborne or airmobile units, the rules for engagement become extremely important. The brigade A2C2 element must ensure timely dissemination of information and coordination so that ADA units do not engage friendly aircraft that may be supporting the airborne or airmobile units.

Combat Service Support

Logistical support. Logistical support requirements may be greater during linkup operations than during other offensive actions. Additional considerations for planning logistical support in linkup operations include-

- Distance to the objective area.
- Time the objective area is to be held.

Ž Planned operations or movement out of the objective area.

- Resupply of the stationary unit.
- Movement of land tails of airborne or air assault units involved in the linkup.
- Whether brigade lines of communication will be secured by follow-on units.

Supply requirements. Supply requirements for a linkup operation may exceed the transportation capability of the brigade. The brigade may have to request additional vehicles or resupply by air.

In linkup operations with airborne and air assault units, priority for supply by air is given to the units assaulting the objective area. Supplies for the linkup forces normally move by land transportation. However, when the objective area is to be defended jointly by the linkup and airborne or air assault force, supplies for the linkup force maybe flown into the objective area and stockpiled.

Evacuation of equipment and wounded may create major problems for the linkup force. If supply routes are open, the normal evacuation procedures apply. When ground routes are not secure, helicopters may be used for evacuation of wounded while damaged equipment may be moved forward with the linkup forces until a suitable opportunity for evacuation is available.

Command and Control

The headquarters directing the linkup operation must establish command relationships and responsibilities of the forces involved. Both the linkup force and the force with which linkup is to be made can remain under control of the directing headquarters.

The communication plan includes the channels for radio communication between the two forces. It must prescribe day and night identification procedures, including primary and alternate means. Aircraft can be used to extend communications range. Visual signals such as flares or panels may be used during daylight, and flashlights or infrared devices may be employed during darkness.

To prevent friendly troops from exchanging fires, recognition signals must be established. They may be pyrotechnics, arm bands, vehicle markings, panels, colored smoke, distinctive light patterns, and passwords.

Preparation

Intelligence

The brigade S2 will prepare for the linkup by war-gaming the operation with the brigade commander. He will want to ensure that the commander is prepared for the enemy's likely actions, which will be to prevent the linkup from occurring. Also, he will want to practice the conduct of the linkup and subsequent operations within the context of the enemy situation.

Maneuver

There will probably be little time to conduct a level three rehearsal, especially due to the time-sensitive nature of the operation. With this in mind, the commander will issue his order and attempt to at least walk the battalion task force commanders through the operation. He will particularly stress the linkup and the coordination required to effect the linkup without confusion. Moreover, he will ensure that each battalion commander is prepared to respond to an enemy meeting battle or attack coincidental to the linkup. The brigade commander's major concern is that his subordinate commanders do not lose sight of their objective the linkup.

Fire Support

The brigade FSCOORD will ensure that the counterpart force in the linkup operation, whether moving or stationary, has the FS plan. Specifically, he will want to ensure that fire control measures, CFLs and RFLs, for example, are completely understood by both forces. Further, if these control measures are moved during the operation, the conditions and signals under which the change takes place must also be coordinated.

Mobility, Countermobility, and Survivability

The brigade engineer will check with the attached engineer unit, specifically those elements assigned to support the main effort, to ensure that they have all the material and assets needed for their mission. Also, he will confer with the maneuver commander to verify that the engineers are placed where they can quickly respond to the needs of that battalion task force.

Air Defense

The brigade air defense representative will ensure that the brigade's ADA assets are positioned to support the brigade as in a movement to contact or deliberate attack. In particular, he will want to ensure that air defense will be prepared to protect the forces at the linkup point, where the two forces potentially could collide and become congested.

Combat Service Support

The trains will organize as for any offensive operation; however, as mentioned earlier, they will carry additional supplies and material if the force with which they are conducting the linkup has been encircled. Generally, this will include Classes I, III, V, and VIII items. The brigade S4 will also ensure that each battalion task force understands the MSR and alternate MSR plan, to include traffic control. In particular, he will want to push as much material forward as possible during the operation. This is because the brigade will not only expend supplies as it attacks, but once having conducted the linkup, it can expect to continue the mission (even if it is to remain in place and defend), which will require even more supplies.

Command and Control

The commander will walk the battalion task force commanders through a rehearsal of the operation. While this occurs, he will ensure that the control measures established for the operation are effective. Specifically, he will want to monitor the progress of the TFs as they maneuver along the axis of advance; at the same time, he will be prepared to issue a FRAGO for a hasty defense or attack, depending on the situation. Actions on contact and operating within the commander's guidance are aspects of the operation that the commander will want to ensure are completely understood. Moreover, in the absence of guidance, he will want to ensure that the battalion task force commanders continue to operate as a team.

Execution***Intelligence***

As the brigade begins its maneuver, the S2 will monitor the enemy situation. In particular, he will also monitor the situation facing the corresponding friendly force. Together, this information will portray an overall enemy disposition which will greatly assist the S2 in predicting the enemy's most probable course of action. In particular, the S2 will want to identify as far in advance as possible the direction, strength, and time of the enemy counterattack. Likewise, he will also advise the commander of any identifiable weaknesses within the counterattack.

Maneuver

The initial conduct of the linkup will be identical to a movement to contact or deliberate attack, depending on the enemy situation. As the brigade begins its maneuver, it will attempt to establish and maintain contact with its corresponding friendly force. Each force will monitor the progress of the other, making adjustments to the plan as necessary. For example, if the linkup force is unable to travel at a speed commensurate with the plan, yet the breakout force is making a very rapid advance, the location of the linkup point may be moved closer to the linkup force. Similarly, the fire control measure will also be moved.

As the two forces draw closer, the battalion task forces will be advised by the brigade. If possible, the battalion task forces in tom will also attempt to establish contact on a predesignated frequency to control the actual linkup. At this point, the momentum of the operation will slow to help prevent fratricide. The tradeoff may be that some enemy forces may slip between the two closing forces. Coordination signals will then be used to identify each force as they approach the linkup point.

Fire Support

The FS plan will be executed in the same manner as in an attack. The fire control measures will be changed or emplaced based on the progress of the forces and the enemy situation. Specifically, the CFLs, which will initially protect each force as it maneuvers, will be changed to protect the two forces as they begin to meet. An RFL will also be placed into effect to prevent fratricide between the converging forces. Once the linkup has occurred, the FS for the brigade and its linkup force will be organized as per the higher headquarter's plan for future operations.

Mobility, Countermobility, and Survivability

The engineers will provide mobility support to the brigade, probably as attached elements of the lead battalions. Once the linkup is complete, they may be called upon to assist in countermobility or survivability operations depending on the overall plan. Another task organization may be required on the objective to accomplish the new missions.

Air Defense

The brigade's air defense will initially be organized for maneuver. If possible, the air defense elements in both linkup forces should monitor the same ADA early warning net. This is particularly important if the linkup is attempting to reach an encircled force. This unity of air defense effort will ensure the most appropriate use of weapon systems and reduce unnecessary redundancy. Once the linkup is complete, ADA assets may be reorganized to support the next operation.

Combat Service Support

CSS operations will be geared to the forward movement of the force. Evacuation will be forward to LRPs to reduce the turnaround time for recovery assets. As the linkup forces begin to close, CSS assets must be as far forward as possible, prepared to address the immediate needs of the encircled force or to stockpile ammunition or other stores if the brigade should revert to a defensive posture. Because time is essential to the success of this operation, CSS assets must be prepared to keep pace with extremely fast operations.

Command and Control

The commander will position himself to observe the progress of the operation. Generally, this means that he will follow the lead battalion task force. If a particular flank is of concern during the operation or a supporting attack is required to penetrate the enemy's lines, then the brigade S3 will place himself where he can observe the brigade's secondary action. The commander and S3 must remain in communication throughout the battle, using the main CP if necessary to relay messages. In particular, the commander must maintain the tempo of the operation, because once the force becomes stalled, it will be very difficult to get it moving again. Therefore, he must have the ability to move forward from time to time to spur on his lead element.

The commander also monitors the action to ensure control measures that he established in planning the operation are still valid. He will issue a FRAGO for changes as necessary. He will attempt to remain in communication with his counterpart commander throughout the operation.

Hasty Water Crossings

A hasty water crossing is a decentralized operation to cross an inland body of water using organic, existing, or expedient crossing means. This operation is conducted in stride as a continuation of an operation with little or no loss of momentum by the force. Hasty water crossings are characterized by the following:

- Speed surprise, and minimum loss of momentum.
- Decentralized operation with organic, existing, or expedient resources.
- Weak or no enemy defenses on both banks.
- Minimum concentration of forces.
- Quick continuation of the operation.

NOTE: In organizing defense of a river line from one bank, Soviet-style armies normally designate the water's edge of the friendly side as the FEBA. The regiment and division normally send reconnaissance and combat security forces to the far bank. Islands in the river are occupied and fortified to prevent surprise enemy crossings and to provide flanking fires. Fords and trussing sites on the far bank are mined with obstacles placed in the water and the far bank scraped. AT and artillery fires are tied into the obstacle plan. Dams and other installations that could be used to flood the river are guarded and destroyed on order of the regimental commander. As part of the regiment's first-echelon defenses, the MRB has the mission of preventing the enemy from establishing a bridgehead. Organization and conduct of the defense is similar to that already described in Chapter 4, *Offensive Operations*, Section I. Figure 6-12 shows an example of an MRB defense of a river crossing.

Planning

Intelligence

Intelligence of the enemy and terrain determine tactical and material requirements for the crossing and the command echelon capable of accomplishment. The division, in its mission statement to the brigade, may specify the requirement to conduct a river crossing or, in assigning a mission, imply the task of crossing a river. Accordingly, the S2 will attempt to collect as much information as possible about the enemy and the water obstacle. Together with the brigade engineer, the S2 will examine—

- River width, depth, and velocity.
- Locations of possible entry and exit routes.
- Obstacles.
- Cover and concealment.
- Soil and weather conditions.
- Enemy composition and disposition.

Maneuver

General. Brigades conduct river crossings as part of the division or corps scheme of maneuver. Once given the mission to conduct a river crossing, the brigade commander starts planning for synchronization of all of his assets. He must ensure that he does not give up the initiative to the enemy by allowing a water obstacle to have a disproportionate impact on his scheme of maneuver. Whenever possible, brigades cross all obstacles in stride, using local material and organic assets.

Considering the elements of speed and surprise and the division's vulnerability to enemy artillery fire and air attacks, the commander should also specify whether the crossing is to be conducted at night or under reduced visibility. At the same time and for the same reasons, the commander also states whether the crossing will be over a broad or narrow front. A broad front permits a more rapid crossing of the entire force and reduces overall vulnerability of the attacking force.

In division operations, brigades are the assault forces. If the assault is conducted with two brigades forward, two brigade zones are designated within the crossing front. These zones coincide with crossing areas with one designated for each assault bridge. The brigade commander normally provides his XO and a small staff to act as the crossing area commander to ensure all organic brigade assets are prepared for the crossing. Synchronization of organic assets and supporting combat multiplying assets are critical to the success of the crossing.

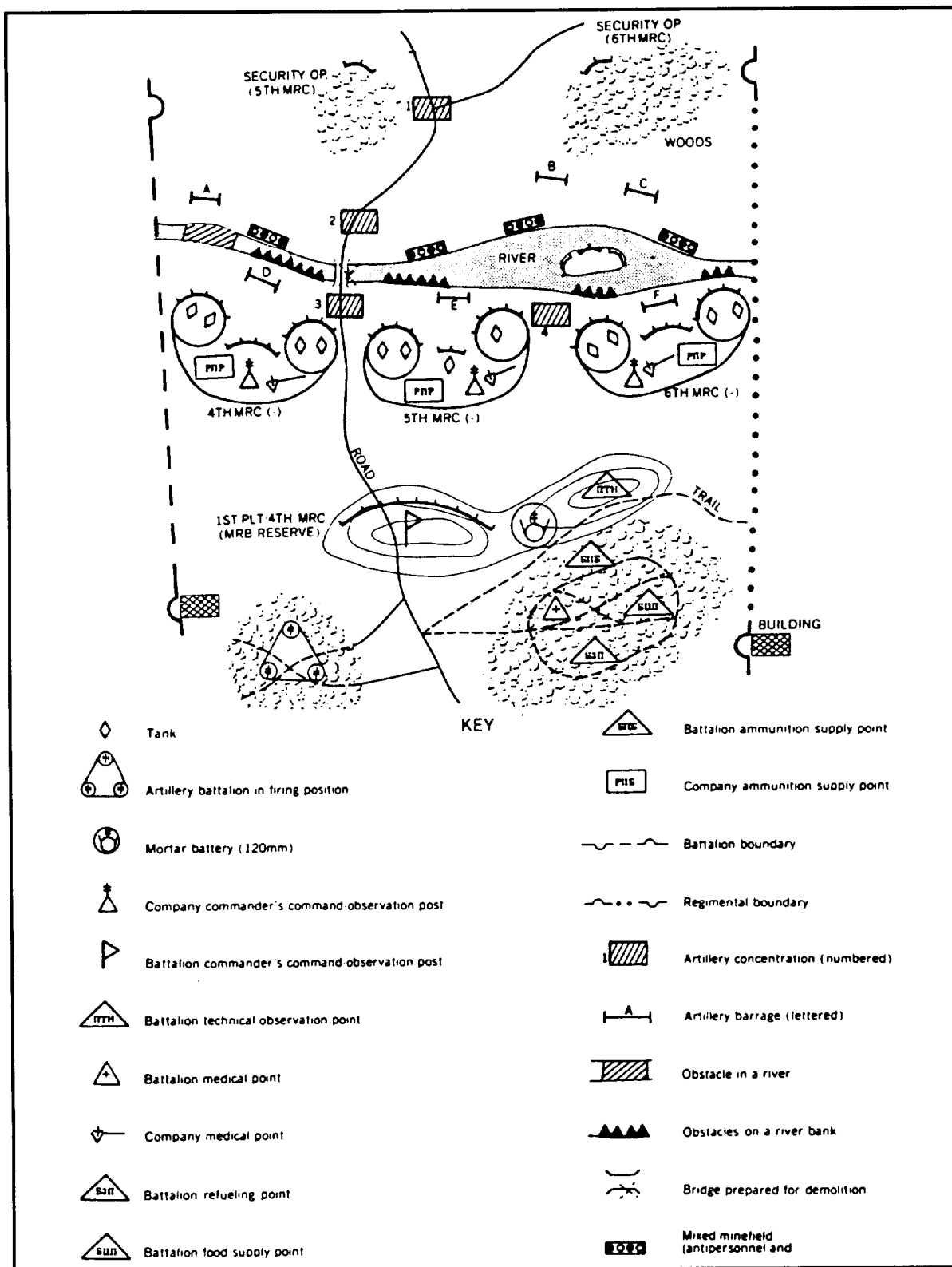


Figure 6-12. Reinforced Soviet-style motorized rifle battalion defending a river line.

The planning sequence is considered in reverse order of occurrence; the last task of securing the bridgehead is examined first. However, the river is examined before plans for securing a bridgehead and advancing from the exit bank are completed. General planning requirements for river crossings vary little from routine offensive planning:

- Objectives are selected and assigned.
- Areas or zones for forces are determined.

Ž Control measures are designated, forces are allocated, and missions are assigned.

Assault crossing plans may be completed at crossing force headquarters level or delegated to the assault force and crossing area commanders once attack zones and crossing areas have been specified. To maintain the speed of the advance without loss of momentum, plans for hasty crossings are often accomplished at the brigade or assault force level. On the other hand, plans for deliberate crossings require more time, and the buildup of combat power is normally a division or corps responsibility. Complete plans prepared at division and corps require detailed coordination with brigades to make sure the sequencing of units at the crossing sites complements the brigade's assault concept.

When the crossing force headquarters delegates planning for the assault crossing to the brigade, it provides guidance and support to the assault force and crossing commanders. Guidance may include—

- Time of attack and/or assault crossing.
- Specific crossing sites.
- Times that bridges are scheduled for use by forces other than the assaulting brigade.
- Available crossing support forces (engineer and MP).

Securing the bridgehead. The planning headquarters first reviews the objective area. Unless a bridgehead has been specified by higher headquarters, the crossing force decides what objectives must be controlled to ensure security and to facilitate future operations to defeat the enemy. Usually, terrain or communication center objectives are assigned, or the crossing force is simply tasked to secure a bridgehead over a specific river. The crossing force selects the bridgehead.

Securing the bridgehead requires control of an area on the exit bank large enough to accommodate the assault and essential support elements of the crossing force. In addition to accommodating the crossing force and facilitating future operations the size of the bridgehead may be determined by defensive characteristics of the terrain. Not only must the enemy be defeated at the bridgehead, but it must also be prevented from effectively counterattacking the crossing force and/or destroying crossing sites once the bridgehead is secured. Thus, defensible terrain and space within the bridgehead are required in a defense against an enemy counterattacking to regain control of the river bank.

After selection by the crossing force, the bridgehead is graphically depicted by a bridgehead line that defines the outer limit of the area. Normally this line is located along identifiable terrain features, including crossing force objectives, and is connected to the river bank on the left and right flank of the crossing front. This arc orients the crossing force to the flanks as well as to the front. Usually, terrain or communications center objectives assigned by higher headquarters are within the bridgehead. If not, the attack proceeds from the bridgehead to secure these objectives. In either case, once the bridgehead is secured, the river-crossing operation is completed. Figure 6-13 shows a typical organization for securing a bridgehead.

Objectives. To secure the bridgehead, objectives within this area are assigned to assault forces. Considerations for selection of objectives and the relative size of the forces needed to secure them do not vary from usual offensive operations. Ideally, objectives are attainable by the assault forces in one continuous attack from the river. The crossing force commander specifies only those objectives that must be controlled to secure the bridgehead. When terrain or enemy conditions warrant intermediate objectives are assigned; however, judgment is required to avoid unnecessary slowing of assault forces. Plans must provide for a rate of crossing and buildup of combat, CS, and CSS forces on the exit bank that exceeds the rate at which the enemy can concentrate against the crossing force.

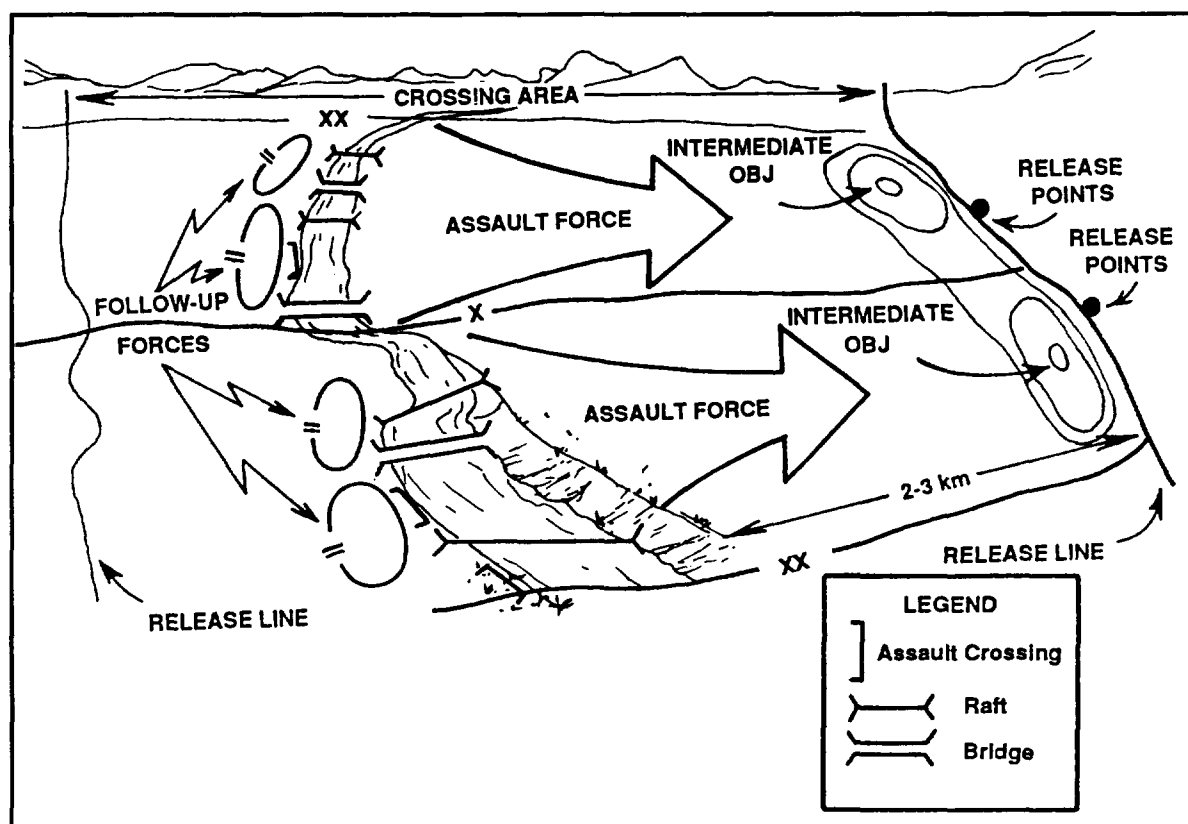


Figure 6-13. Bridgehead organization.

Whenever possible, assault forces advance directly from the exit bank to bridgehead objectives. When intermediate objectives have been assigned, they are secured with minimum delay en route to final or bridgehead objectives. At brigade level, assignment of intermediate objectives is appropriate. For example, it is difficult for the lead battalion or company of an assault force to attack continuously without securing intermediate objectives, except when advancing against weak enemy forces. Intermediate objectives serve several purposes:

- They orient the direction of attack toward final objectives
- They provide centralized control of the advance.
- They facilitate changes in lead companies and battalions of the assault.
- They gain an initial foothold on the exit bank when stubborn enemy resistance is expected.

Selection of intermediate objectives is dependent on terrain and enemy defensive dispositions. In areas of relatively open or unrestrictive terrain or against a weak enemy, few intermediate objectives are needed. Where terrain is rugged or when enemy defensive positions have been prepared in depth, more objectives are appropriate. Possible objectives include hills, enemy positions, or control measures such as PLs.

Forces. The division's crossing force commander and his staff plan the river-crossing operation with the following tactical concepts in mind:

- The assault forces lead, making the initial assault of the river and continuing the advance from the exit bank to the final objectives.
- Follow-on forces provide overmatching direct and indirect support, crossing site security, and follow and support assistance to the assault force.

- Support forces develop crossing sites, emplace crossing means, control units moving into and away from the crossing sites, and assist the assault force to the objectives.
- CSS elements sustain the assault and subsequent advance to the bridgehead objectives.

Assault forces close on the water obstacle and cross rapidly by any means available. Infantry elements establish local security on the exit bank to permit development of the crossing sites. Initial crossings may be limited to pneumatic assault boats and amphibious vehicles while tanks provide support from overmatching positions. Army aviation assets may lift the assault force over the obstacle in conjunction with the assault across the water. Tactical air and ADA protect the crossing units and sites. Artillery fires and air strikes are effective in softening enemy resistance and may precede the assault with preparatory fires and/or a rolling barrage. Divisional engineers advance with lead elements to breach obstacles and open or improve trails to keep units moving. Tanks, using bridges or rafts installed by support forces, cross later in the assault.

Support forces accompany the assault force and provide the necessary support to the crossing area commander. Engineers improve crossing sites and ingress and egress routes at crossing sites as rapidly as time and security permit. Rafts and bridges are installed to transport heavy loads. MPs and other designated crossing unit personnel control the flow of traffic to and away from crossing locations.

Follow-on forces move close behind assault forces to add their combat power where needed. Using rafts and bridges, they cross quickly behind assault elements to overwatch, conduct follow and support tasks, or assume the mission of lead assault units. Artillery provides counterfires to protect the site, smoke to conceal the crossing, and fires in support of the lead assault elements. ADA protects the sites and provides an umbrella for Army aviation elements in the crossing area. Engineers develop overmatching and fining positions, then advance with the follow-on forces to reduce obstacles, improve bypasses, and install flank obstacles. Necessary maneuver, FS, and air defense elements secure crossing sites from guerillas or local enemy counterattacks.

CSS sustains the attack. Decentralized and prepackaged support accompanies the lead elements when possible. Rearming, refueling, and maintenance points are established along advance routes to speed up servicing. The remainder of the BSA positions itself beyond the range of enemy artillery if possible, and crosses after the follow-on forces. Adequate Class I, III, V, and IX supplies must initially accompany combat forces across the river to ensure sustainability of lead elements, even if crossing operations are temporarily suspended due to enemy activity.

Advance from the exit bank. Assault forces advance quickly, without extensive reorganization, from crossing areas to objectives within the bridgehead. The enemy, given time, will attempt to halt the advance with strongpoint defenses, heavy artillery fires, and counterattacks. Therefore, comprehensive SOPs, detailed planning, and rapid execution enhance the probability of success.

The advance from the exit bank extends from the RP/line to the bridgehead objectives. At the RP/line, the crossing area commander relinquishes control of units to the assault force commander for continuation of the attack. The location of the RP/line is a function of terrain and expected battle and is mutually determined by the commanders.

RPs/lines may be located 2 to 3 kilometers from the exit bank. This distance allows the assault force commanders to assemble their forces for continuation of the attack. Further, the clearance of this distance by follow-on and support forces, supported by tank and artillery fire under control of the crossing area commander, precludes direct fire on assault forces while they are still in the water. RPs/lines are therefore located to facilitate the operation, control, and security of forces moving through the crossing area. (See Figure 6-14.)

Types of attacks. Offensive river crossings are not an objective in themselves, but a part of the scheme of maneuver and overall offensive action to defeat the enemy. The commander has two basic attack options to secure the near and far side of the water obstacles. Based on the assessment of the enemy, terrain, and water obstacle, he may conduct either a hasty or deliberate attack. (See Chapter 3, *Offensive Operations*, Section I.)

The major concerns of the crossing and assault force commanders during any attack that includes a water obstacle are vulnerability of forces on the exit bank and a rapid advance to secure objectives. The latter is the overriding consideration; hence planning commences at the objectives and projects back toward the river. An

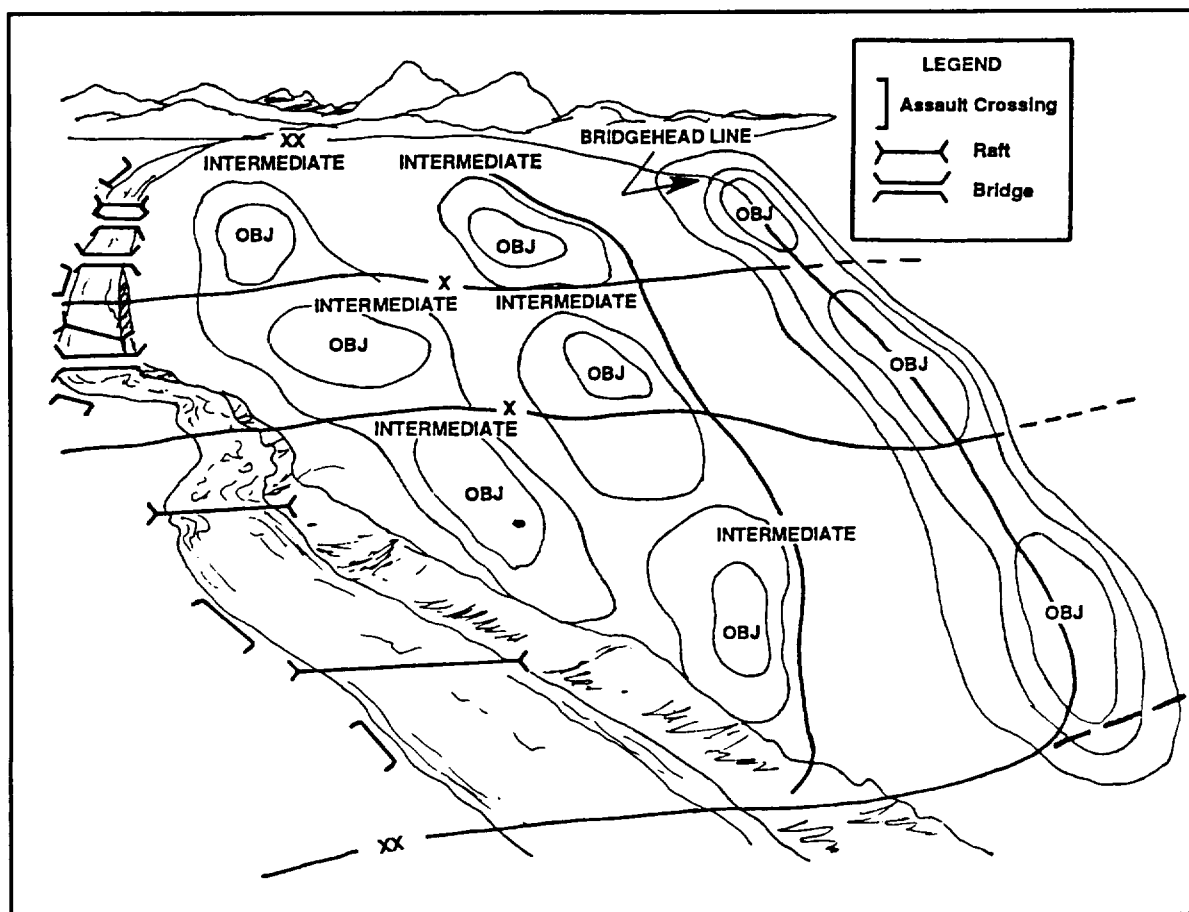


Figure 6-14. Crossing area boundaries.

accurate assessment of the enemy's expected counterattacks and indirect fire barrages is integrated into planning. This is particularly significant during early stages of the advance because the assault force is temporarily divided by the river, thus diminishing its combat power potential. To counter probable enemy reaction, counterfires and aerial attacks augment other planned fires to ensure the necessary rapid advance to overwhelm the enemy.

Fire Support

Once the S2 has constructed an enemy situation template and the engineer has identified possible crossing sites, the brigade FSCOORD will begin to develop the FS plan. This plan must accomplish several missions simultaneously. In the initial stages of the operation, the artillery should suppress enemy positions that have observation and fields of fire over the crossing sites of the assault force. Smoke missions should also be fired to further add to the obscurity.

After the assault force gains a foothold, the indirect fires should assist the force in maintaining its position while the support force begins construction of rafts and bridges. It will be essential that FOs be included with the assault force, so that they can rapidly adjust fire on enemy locations. The FS plan at this point should include FPFs, in case the enemy launches a counterattack against the bridgehead.

As the force moves to the RP/line to begin the attack, the FS plan will support the maneuver as it would for any offensive operation. The artillery must provide close and continuous support to the leading assault units. Fires should be planned on enemy strongpoints and likely counterattack positions. Suppressive fires will degrade enemy air defenses, and FASCAM (if the situation permits) will protect the flanks and block enemy movement.

Mobility, Countermobility, and Survivability

The brigade engineer has an absolutely critical role in this operation in that the commander will rely on his expertise to properly identify the appropriate crossing sites. Desirable physical characteristics of the crossing site will depend on—

- The method of crossing.
- Specific crossing means.

Ž Types of vehicles involved in the crossing.

The overakk crossing operation will involve virtually every type of engineer activity breaching operations, bridge construction, raft construction and control, mobility operations along the routes to the crossing sites and at the sites themselves, countermobility operations to prevent the enemy from reaching the bridgehead, plus survivability operations at the bridgehead. The brigade engineer will have a “full plate” of missions and therefore must have a clear picture of the sequence and conduct of the operation from the onset. A step-by-step discussion is in the execution portion of hasty water crossing in this section.

In planning for the operation, the brigade engineer may consult the following information sources:

Ž Maps.

- Local inhabitants.
- Aerial photographs.
- Aerial visual reconnaissance.

Ž Prisoners.

- Strategic studies.

Ž Hydrographic studies.

- Ground reconnaissance

Ž Division direct support terrain team (G-2).

Air Defense

The brigade air defense officer will have several concerns in planning protection for the brigade. During initial stages of the operation, the brigade will be concentrated near the river line. This includes maneuver elements as well as stockpiles of equipment needed for the actual crossing. Such highly congested areas are lucrative air targets and must be protected if the river crossing is to succeed.

Once the brigade begins the actual assault and construction of the bridges and rafts, enemy aircraft can be expected to zero in on these positions. For a pilot, the river is easy to identify and the location of the bridgehead all the more so, due to the amphibious traffic and artillery fire. Again, ADA assets must be positioned to protect these resources. Some assets maybe placed directly on the bridge, for example.

Finally, the force must be protected as it moves to the RP/line and into the attack. In this regard, some assets will be dedicated to protect the force as in any offensive operation, while others remain behind to protect the bridgehead and the crossing sites.

Combat Service Support

As mentioned earlier in this section, CSS assets are essential to sustaining the attack. The brigade S4 must ensure that adequate supplies are pushed forward to the crossing sites, particularly any expedient materials that may assist the operation. Suppression of enemy positions on the far side of the river will expend large amounts of ammunition. Likewise, the assault force must hold the bridgehead until reinforcements can deploy; it must be given additional ammunition to sustain operations. With this in mind, the S4 must plan with the engineer, S2, and S3 to ensure supply vehicles are integrated into the crossing order as early as possible.

Command and Control

Assault force commanders usually brigade commanders command the assault forces from the brigade TAC CP. When the brigade enters the crossing area, control, not command, is then passed to the crossing area commander. Control then reverts to the assault force commander as the assault force leaves the crossing area.

The designated crossing area commanders may be division or brigade staff officers. Since the assault force is normally a brigade, the brigade XO is usually designated as crossing area commander and operates from the brigade TOC. This allows the brigade (assault force) commander to focus his attention on the battle and serves to bind the assault crossing and tactical concept. Subordinate battalion XOs or LOs may collocate with the crossing area commander to provide detailed movement instruction for their units per the crossing area commander while leaving the brigade command net free to fight the battle on the far shore. Each crossing commander controls—

- Crossing units of the assault force while in the crossing area.
- Tactical elements that secure the crossing sites.
- Support force engineers who develop and maintain crossing sites and traffic.
- Control elements (primarily MPs) that direct and control crossing units in the crossing area.

Figure 6-15 depicts the organization of river crossing command and control.

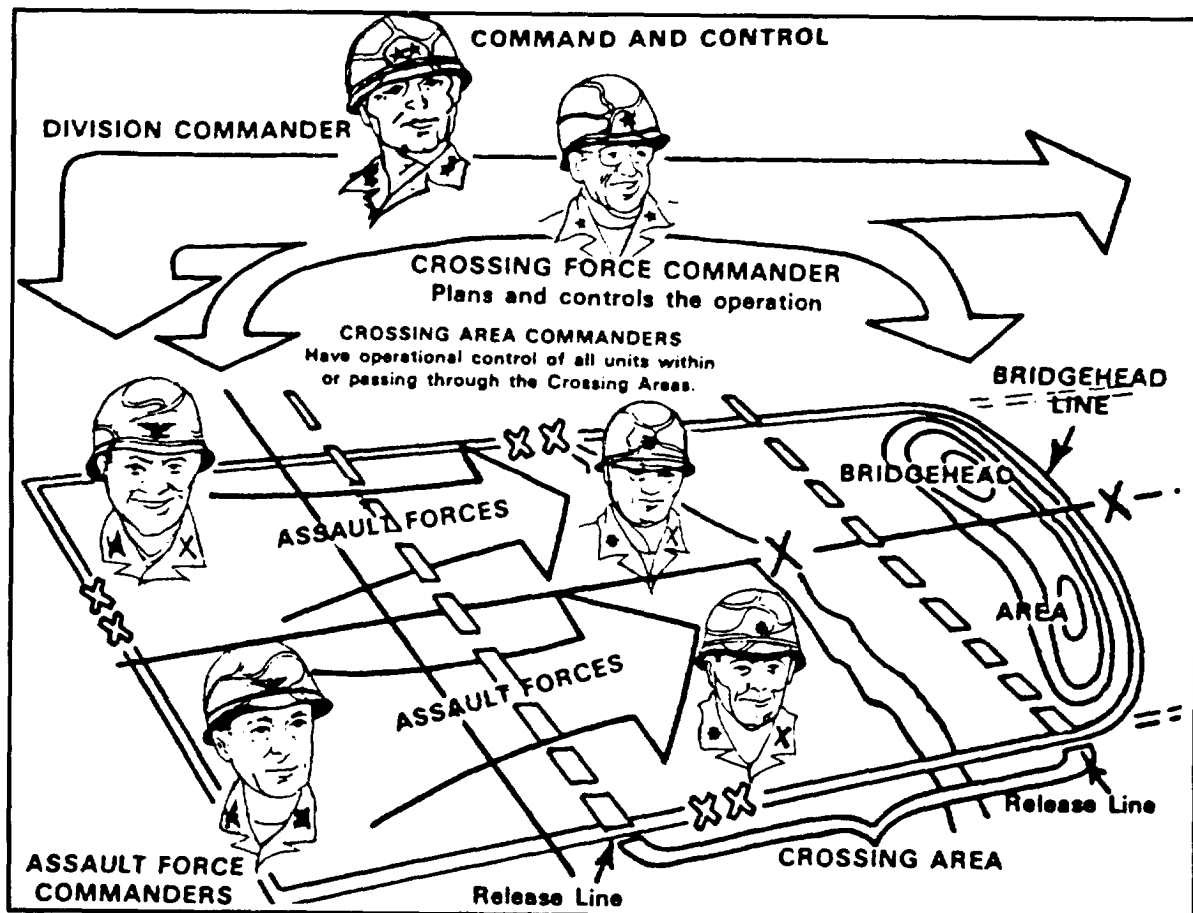


Figure 6-15. River crossing command and control.

The crossing force commander facilitates planning by dividing the operation into distinct and manageable segments:

- Advance to the river.
- Assault crossing of the river.
- Advance from the exit bank.
- Securing the bridgehead.

Preparation

Intelligence

The S2 will prepare for the operation by confirming through reconnaissance and other intelligence sources the physical condition of the crossing site and the enemy's capability to influence the river-crossing operation. He will establish the reconnaissance plan, which will have elements in place prior to the operation to provide real-time HUMINT. Specifically, he will want to confirm the location of all enemy forces that can bring fire to bear on the crossing site, including reserves, which may respond to the assault.

During the rehearsal for the river crossing, the S2 will want to review with the commander and staff the enemy's most probable course of action in response to the assault. In particular, the conduct of the enemy's defense will be closely examined to include the use of the reserves. The point of this rehearsal will be to identify enemy weaknesses and determine measures that can be taken to counter them.

Maneuver

At this point, the commander will rehearse each phase of the river-crossing operation.

Advance to the river. The brigade should be task organized for the operation before the advance to the river begins. Regardless of the events prior to the actual advance, the brigade's lead battalions will either move to secure objectives that overwatch the proposed crossing sites, or secure the crossing by seizing enemy bridges or by conducting their own amphibious assault. Once these objectives have been secured, the control will switch from the assault force commander to the crossing force commander.

Assault crossing of the river. Once in position, the assault force will neutralize the enemy forces that can influence the crossing. The actual crossing may be executed using any number of methods: fording, assault/swimming, rafting, or bridging. Lead elements should be prepared to cross under fire. A line or wave formation crosses more forces than a column in equal time periods. However, it exposes more forces, increasing vulnerability and the chance of detection of the crossing effort. A column, using one or two entry points, concentrates forces but require more time to build up combat power, providing the enemy more time to detect and concentrate fire on the crossing site. To reduce enemy obstacles and develop exit points on the far bank, the engineers should cross early.

Each lead battalion should have at least one fording or assault/swimming site. They should be oriented on close-in exit bank objectives, while subsequent sites should provide good ingress and egress routes to enhance mobility and the buildup of combat power on the exit bank. Once the area is secured and the bridges and rafts are constructed, the force will begin to pass as per the movement plan and crossing schedule.

Advance from the exit bank. The advance from the exit bank extends from the RP/line to the bridgehead objectives. At the RP/line, the crossing commander relinquishes control of units to the assault force commander for continuation of the attack. The forces will then attack generally along a narrow or a broad front, depending on the number of crossing sites in the sector. In the rehearsal, the commander must balance the number of forces collected on the far side of the river in preparation for the attack against the length of time it takes to marshal them. This solution must enable the commander to commit sufficient force to destroy the enemy and maintain sufficient momentum to gain ground.

Securing the bridgehead. Securing the bridgehead requires control of an area on the exit bank that is large enough to accommodate the assault and essential support elements of the crossing force. Assault forces will

receive objectives that must be controlled for the area to be secure. Once in position, the forces will go to ground and establish a hasty defensive perimeter around the bridgehead. A complete discussion of hasty defensive planning is in Chapter 4, Section 1.

Fire support

Priority of FS throughout the operation is first to the assault force. During the initial stages of the operation, the assault force commander will need the support of artillery to secure the far side of the river. Once those objectives have been secured, the assault force will continue to need the priority of fires to suppress other enemy positions and to repel enemy counterattacks. As a result, the fire plan will revert from one of an offensive nature, with preparatory fires and smoke missions, to a defensive plan using FPFs and FASCAM.

Once the majority of the forces are across, the orientation of the FS plan once again reverts to the offensive. A new assault force, consisting of other units marshaling on the far side of the river, will attack out of the perimeter to establish a secure bridgehead. Once this operation begins, the priority of fires will switch from the stationary force to the new assault force.

Mobility, Countermobility, and Survivability

The engineers will have to rehearse the positioning of assets on the near side of the river, the assault and clearing of obstacles from the far side, the preparation of each bank, and the construction of the bridges and rafts that will transport the force across the river. This will only ensure the physical preparation of the crossing site. Next, the engineers must review the crossing and movement schedule to determine how they can best maintain operations until bridging assets can ensure smooth travel across the river with minimum delay.

In addition to the actual river crossing, the engineers must rehearse maintaining a smooth flow of traffic to each crossing point as well as emplacing the obstacles needed to protect the bridgehead from enemy counter-attack.

Air Defense

The brigade air defense officer must demonstrate during the rehearsal that the stationary forces on the near side of the river are protected as the brigade prepare its initial assault crossing. Next, the assault force and the crossing force (bridges, rafts), as well as those forces waiting to cross, must have adequate protection. Finally the ADA plan must include an area defense of the entire crossing site for the brigade to maintain operations without enemy interdiction. In this regard, ADA assets may be assigned directly to a maneuver unit, positioned on surrounding terrain and maintained under brigade control, or a combination of the two techniques.

Combat Service Support

The FSB commander and the brigade S4 must rehearse the CSS plan for the river crossing. In particular, they should demonstrate the plan to push forward supplies throughout the operation, ensuring that it is completely integrated into the movement plan without a degradation of combat effectiveness. The pre-positioning of needed engineer material, plus the location of recovery and emergency supply assets, must be reviewed to ensure that maneuver elements will be able to cross the river as quickly as possible.

Command and Control

Throughout the rehearsal, the commander will be watching each player to ensure that he understands not only his job but also how it relates to the greater plan. Contingency plans must address the destruction of bridging and rafting equipment as well as the signals and events that will drive the force to execute these plans. Of particular concern to the commander will be the change of command responsibility during the construction of the bridgehead and as follow-on forces pass through. Additionally, he will want to identify the position from where he can best observe and control the operation.

Execution

Intelligence

The the brigade begins its advance to the river, the S2 will monitor the reports of the forward positioned reconnaissance elements concerning the enemy's activities. If possible, reconnaissance assets that are able to

infiltrate the far side of the river line will provide the most valuable intelligence, particularly in terms of enemy repositioning. Throughout the establishment of the bridgehead, reconnaissance assets will be able to direct effective indirect fire and provide early warning to the assault force. The S2 will advise the commander as the enemy situation changes, providing advice on how to counter the enemy's actions.

Maneuver

The brigade will move to the river using OPSEC measures to cloak their movement. If possible, the force will move at night or under the mask of smoke and suppressive artillery on known enemy positions. Pre-positioned reconnaissance elements will adjust these indirect-fire measures to ensure optimum effectiveness. Once the assault force is in position, the assault force commander will call for suppression of the far side objectives and enemy positions. As the fire begins to land, the force will cross the river under the supporting fire of stationary forces on the near side of the river.

Once the crossings have been secured, the assault force commander will report the status to the crossing force commander, who will in turn direct the immediate construction of bridges and rafts. At this point, the crossing area commanders will control all activities within the crossing area. Their initial concern, however, will be the reinforcement of the assault force on the far side of the river. This will ensure a secure bridgehead and protect the crossing operation.

As the follow-on forces cross the river and begin to assemble for the continued assault, they will also assist the initial assault force in the protection of the perimeter if necessary. However, once these forces are assembled, the assault force commander should begin the attack as quickly as possible. This will serve two functions. It will clear the area for the arrival of additional forces, and it will maintain the momentum of the overall operation. When executed correctly, the attack will keep the enemy off balance and unable to effectively respond to the operation.

Other crossings, deception plans, and proper reconnaissance of enemy reserve locations will be essential to the success of the operation. The enemy must be temporarily paralyzed during the establishment of the bridgehead or its counterattacks could spell disaster for the assault force. In addition, the enemy should also be confused as to the actual intent of the crossing force, namely the locations of the crossings and objectives to be taken in support of the crossings.

Fire Support

During the operation, the FS plan must effectively suppress the enemy's ability to influence the assault force as it conducts its initial crossing of the river. Smoke missions will mask the assault force initially; however, grazing fire across the surface of the river could cause many casualties and does not necessarily require target identification. As a result, reconnaissance elements must locate these enemy positions and target them as part of the preparation and suppressive fires during the assault.

Once the far side has been secured, indirect fires will shift to protect the assault force against enemy fire and counterattacks. Reconnaissance elements and FOS must actively target known and suspected enemy positions around the perimeter they also begin planning for their second assault to secure the bridgehead area for continued operations. The brigade should be aware that, depending on METT-T, artillery batteries and some of their support elements may have to position themselves at the river line to bring effective fires to bear against enemy positions on the far side of the river. This will add to the congestion on the near side of the river bank as maneuver elements are directed to holding areas until they are able to begin the crossing.

Mobility, Countermobility, and Survivability

The engineers will initially concentrate on the clearance of obstacles on the far river bank and the preparation of the entrance and exit ramps for each crossing. Simultaneously, other engineer elements will begin construction of bridges, rafts, and any other assets used to cross the river, to include field expedients. To ensure rapid completion of these activities, the engineers must verify the pre-positioning of all required materials and rehearse the construction prior to execution. Should this operation require execution under direct and indirect fire the need for rehearsals will become apparent.

Outside of the actual crossing activities, engineers will be required to maintain the road network leading to and away from the crossing sites. Some road-building materials and items such as mobility matting should be stockpiled near expected trouble spots. Also, survivability and countermobility operations may be required on the far side of the river to protect the assault force from enemy counterattack. Minefields and other quickly emplaced obstacles should be used but not to the extent that they prevent the assault force from further expanding or securing the bridgehead.

Air Defense

Initially, the air defense assets will protect the force as it advances to the river line. Priority of protection will most likely go to the engineer equipment that is pre-positioned for the assault crossing. Once the assault force reaches the far side of the river line and adopts a hasty defensive posture, the ADA protection will then extend across the entire crossing line.

Combat Service Support

As the brigade begins its advance to the river, the CSS will push preloaded support packages forward to the force. Specifically, ammunition will be the primary concern during the initial stages of the operation due to the amount required for suppression in defense of the bridgehead area. UMCPs and LRP locations should be placed along the routes leading to each crossing site, and recovery assets should be positioned to maintain trafficability at the crossing sites.

Recovery of wounded personnel in the assault force must be tied into the return rafting. Likewise, ambulances should be located at the sites to quickly transport the casualties to the aid stations or FSB treatment section.

Command and Control

The hasty river crossing is one of the most complicated and dangerous operations to execute. It is dangerous because it is easy for either the attacker or defender to locate the positions of the enemy. Similarly, air assets are able to identify the target area easily as they navigate along the river line. Therefore, the commander must be prepared to execute this operation under fire. His leadership will be crucial in moving the forces across the river and assaulting the bridgehead objectives.

Covering Force Operations

A covering force is a tactically self-contained security force that operates a considerable distance to the front or rear of a moving or stationary force. Its missions are to develop the situation early; defeat hostile forces (if possible); and deceive, delay, and disorganize enemy forces until the main force can cope with the situation. The brigade may participate in a covering force mission as part of a division that is in turn the covering force for a corps, or as a complete covering force for a division or corps.

Prior to the discussion of brigade covering force operations, Soviet-style march and meeting battle will be covered. Soviet-style armies consider the use of the march in the same way the American brigade S3 considers the use of the movement to contact. For the march, the MRB may be given the mission of advance or flank guard or forward or rear detachment, or it may be designated as part of the main body of the regiment. As the regiment's advance or flank guard, the MRB has the mission of ensuring the uninterrupted movement and security of the main body. It must also prevent enemy reconnaissance elements from reaching the main body and, most important of all, ensure favorable conditions for the main body to deploy. When acting as a forward detachment, the MRB has the mission of conducting reconnaissance or seizing and holding key terrain until the arrival of the main body.

In the Soviet-style force, the battalion commander and the attached artillery commander are normally located well forward in the march either with the advance detachment (when the battalion acts as the advance guard of the regiment) or at the head of the battalion's main body. The commander's position with the advance detachment enables him to best observe enemy action, formulate his plans, and deploy his unit. To control his unit during the march, the battalion commander relies on messenger, flags, road traffic controllers, and to a lesser degree, radio. While the battalion normally stays on radio-listening watch, the passing of PLs and other checkpoints is reported by radio NBC and aircraft warnings are also transmitted by radio.

The march is controlled as tightly as possible, with the starting times, passage control points, and speed and spacing of vehicles rigidly supervised. If a vehicle falls out due to technical problems, the commander or driver gives the designated signal to prevent following vehicles from slowing down. If the vehicle can be repaired by the crew or the battalion maintenance section, it will rejoin the column, resuming its correct place at a designated rest area. If not, the vehicle will be evacuated by the regiment.

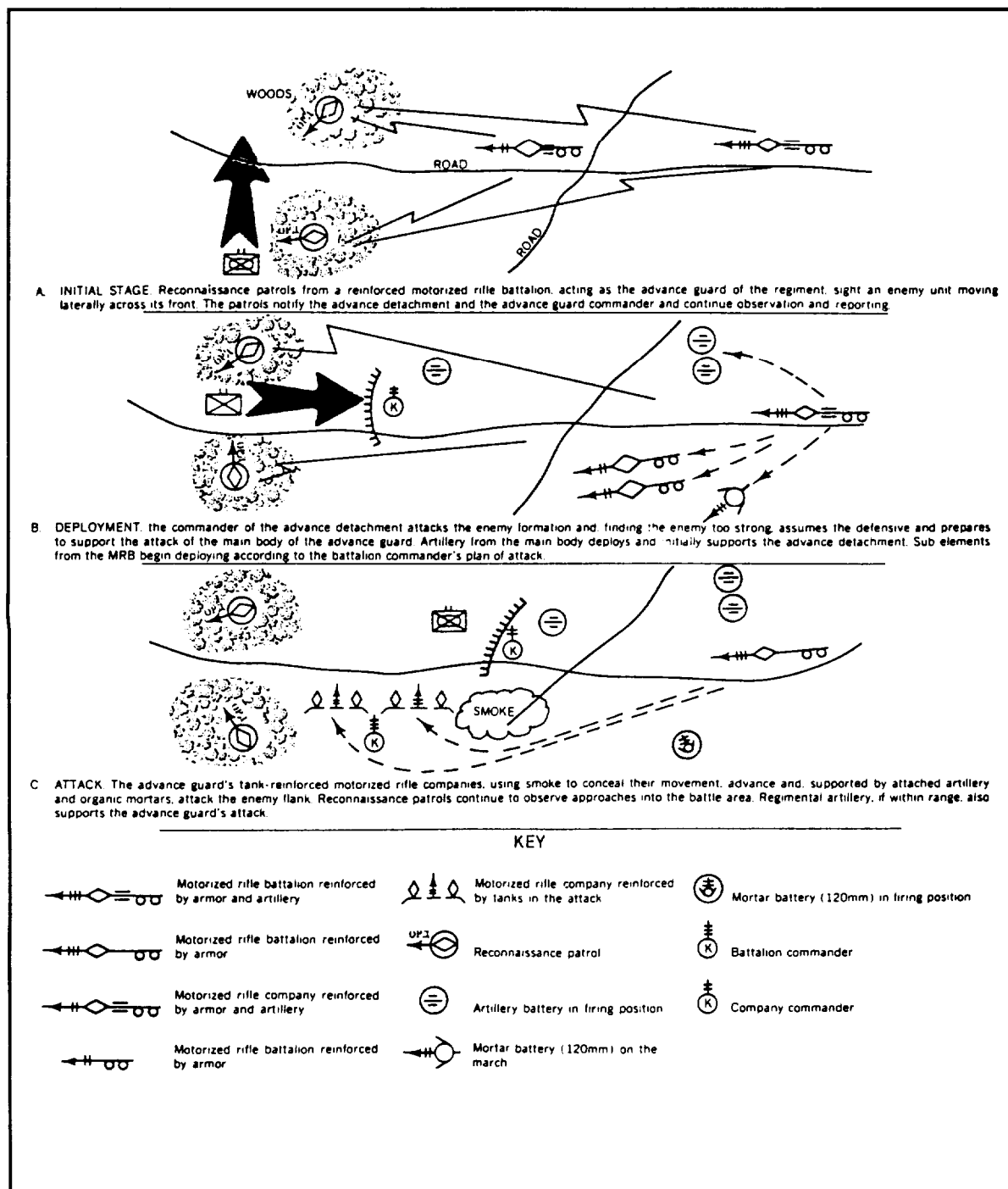


Figure 6-16. Reinforced motorized rifle battalion conducting a meeting battle.

Gorges, bridges, built-up areas, river-crossing points, and other potentially hazardous areas for the column are crossed at maximum speed without halting. Special effort is made to bypass built-up areas. Attached engineer support, usually part of the CRP when the battalion acts as the advance guard of the regiment, supervises the reduction or removal of obstacles. During short halts, the column halts in order and at the interval established in the commander's order.

By properly organizing and conducting the march, the commander of Soviet-style forces sets the stage for the meeting battle, the first phase of destroying the enemy's forces. The meeting battle is described as combat between two rapidly advancing columns, resulting in an intense struggle designed to seize and maintain the initiative. Figure 6-16 illustrates an MRB meeting battle. The commander is trained to anticipate the development of a meeting battle at likely locations along his march route. In most meeting battles, the enemy may not have had time to properly prepare the terrain, to create a complete fire plan, or to deploy his AT weapons. To take maximum advantage of these factors, the battalion will quickly transition to the meeting battle. Normally, the MRB attacks mounted with tanks preceding the BMPs and supported by artillery and mortar fire. The attack is developed into the depths of the enemy formation as rapidly as possible. There is no mopping up of small enemy groups; this task is handled by the regimental main body.

The meeting battle is over when the enemy has been destroyed or forced to retire, or when the MRB is forced on the defensive. After completing a successful meeting battle, the MRB resumes the march and continues the operation.

Offensive Covering Force Operations

Planning

Brigade is given an offensive covering force mission when the corps covering force has conducted a thorough reconnaissance of the enemy defensive positions and the intent of the division commander is to attack with as much unimpeded combat power as possible into the enemy's main defensive belt. In forming the divisional covering force, the commander still employs the cavalry squadron as a forward screen; however, he adds the combat power of battalion task force(s), plus a sufficient amount of CS, to enable the covering force to destroy enemy elements in the security zone. He will designate a brigade headquarters as the covering force headquarters and provide the brigade commander with clear intent. At the same time, however, he allows the covering force commander to operate independently. The division formation will appear similar to a movement to contact formation with the following differences:

Ž The division covering force is heavy.

Ž The advance guard comprises battalions from the main body brigades that remain under brigade control.

Intelligence

The brigade S2 begins planning for the operation using the information acquired by the corps covering force as a foundation for the IPB. In particular, he must pinpoint the location of enemy elements within the security zone and identify their routes of egress back to the main defensive belt positions. This information is especially important to the brigade commander as he prepares the covering force plan. A thorough terrain analysis will assist the commander in selecting the best routes within the division axis of advance. This includes the identification of both natural and man-made obstacles as well as a line-of-sight analysis from known and suspected enemy positions.

Next, the S2 will prepare the event template and intelligence collection plan for the covering force. Specifically, he will orient the collection effort toward identifying the enemy's area of vulnerability. It will be the responsibility of the covering force to direct the division attack; therefore, the covering force commander will want to select a location for the point of the attack that will yield the greatest success.

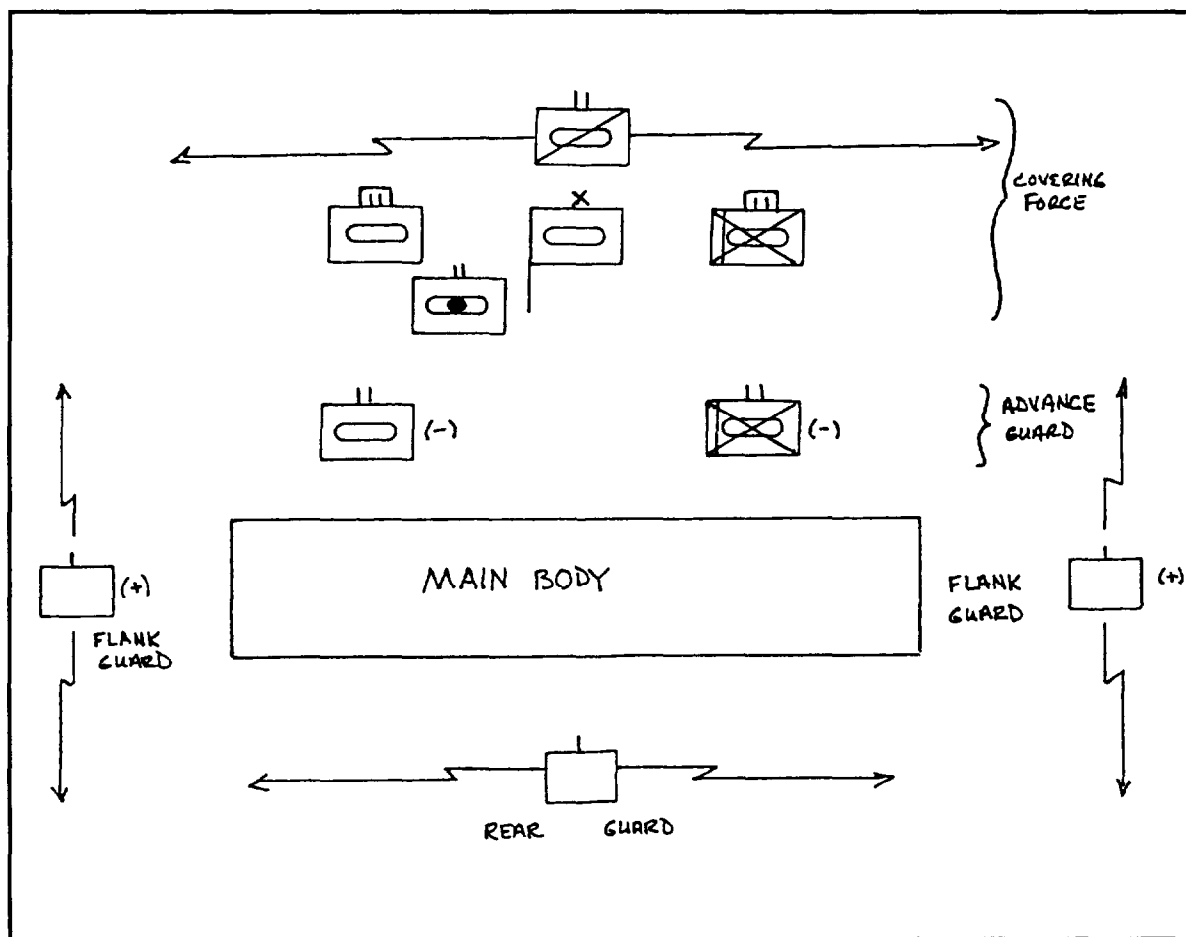


Figure 6-17. Division attack with a brigade covering force.

Maneuver

The commander plans for the operation by task organizing his forces to suit the mission. In this example (see Figure 6-17), he commands an element consisting of the divisional cavalry squadron, an armor battalion, a mechanized infantry battalion, and a DS artillery battalion. Knowing that the cavalry squadron will operate in zones, essentially with a ground troop and an air troop working together in each one, the commander will designate a TF to follow and support in each zone. He will task organize the battalions so that each TF is able to respond to a variety of threats, generally two armor and two mechanized forces with the mechanized TF retaining the ITVs. The artillery will trail, yet remain within the body of the formation.

Based on the commander's bypass criteria, the mission of the covering force will be to identify and destroy those enemy elements that can influence the division's maneuver. In effect, the cavalry troops and the battalion task forces become "hunter/killer" teams. However, some enemy forward detachment positions may be too strong for the covering force battalions. When this occurs, the covering force commander must attempt to find a bypass route that cannot be observed or influenced by the enemy detachment. He should also fix the position with indirect fire and, if available, aviation or CAS assets.

Fire Support

The brigade FSO prepares an FS plan that will engage those enemy positions identified through higher echelon R&S. He coordinates with the FSCORD to ensure the location of batteries, with respect to the maneuver battalions and the cavalry troops, will be both responsive and able to handle the covering force frontage. He also ensures the ammunition resupply plan for the DS battalion is adequate. Reinforcing and GS

reinforcing fires for the covering force should be checked through DIVARTY to ensure those units are positioned to support the covering force's calls for fire. If the covering force operates too far forward of the division main body, the reinforcing and GS reinforcing battalions may not be able to support covering force calls for fires.

Mobility, Countermobility, and Survivability

The brigade engineer will advise the commander of the best use of his assets for the operation. Due to the offense-like role of the covering force, mobility will be essential to the success of the operation. Moreover, because the mission of the covering force is to ensure the unimpeded movement of the division main body, engineers will reconnoiter obstacle crossing sites, breach obstacles, and check road networks for classification and capacity. As a result, the engineers should be organized into three groups. Reconnaissance elements will accompany the cavalry squadron; mobility assets will support the battalion task forces (breach obstacles for the assault); and other mobility assets will move to the rear of the covering force, marking routes and preparing the MSRs for use by the division main body.

Air Defense

The covering force air defense plan will mirror that of a brigade conducting a movement to contact. In addition to providing protection for the formation, the ADA representative will also plan to reconnoiter potential air defense positions along the divisional attack axis. These locations will be relayed to the follow-on brigades in an effort to expedite their own air defense planning.

Combat Service Support

The FSB commander has two choices in planning the support of the covering force. He can either locate the FSB forward of the main body or within the main body. The decision to do one or the other will be based first on the distance the covering force is expected to operate forward of the main body, and second on whether or not the FSB was given additional security elements (two mechanized companies). Generally, if the covering force stays within 20 to 30 kilometers of the division main body, the FSB will be able to support it from the main body. If the covering force exceeds this distance, the FSB will be forced to move forward of the division main body. The danger in this option is that the FSB may be vulnerable to enemy fire and maneuver elements. For this reason, the FSB commander should receive combat forces as part of the task organization. Their mission will be to guard the FSB while on the move and to provide perimeter security at the halt. Due to these requirements, a suggested organization would be two company teams (from one armor company and one mechanized company).

Command and Control

The commander will carefully determine the best route to follow during the operation. Due to the large frontage of the covering force, he will probably follow one of the TFs in zone while his S3 follows the other. Usually the commander will select the zone most likely to receive the heaviest enemy contact. The brigade main CP will attempt to remain centered throughout the operation in order to maintain communications to both zones. In particular, the commander will want to ensure that he remains in a position to assess the situation and issue FRAGOs accordingly. The flexibility of his C2 will directly affect the flexibility of the covering force; therefore, he may consider the use of a helicopter from the cavalry, if appropriate,

Preparation

Intelligence

The brigade S2 will prepare for the operation by reviewing the enemy situation and decision support templates with the brigade commander. He will ensure that the subordinate commanders understand what they should be looking for, in terms of the enemy's strength and disposition, as the covering force negotiates the enemy's security zone. Also, he will review the intelligence to date concerning the enemy's main defensive belt positions and how best to take advantage of known enemy weaknesses.

Maneuver

The brigade commander will conduct a rehearsal following the issuance of the OPORD to confirm that each of the brigade players understands his mission within the context of the issued intent. In particular, the commander will want to review actions on contact and the bypass criteria. It is imperative that each

commander understands how to negotiate the security zone in the most efficient manner. Commanders must overcome the temptation to focus on each enemy element that attempts to engage the force but at the same time, they must clear the axis of enemy elements that may significantly impair the movement of the main body. It is the responsibility of the brigade commander to exercise this decision making during the rehearsal and to ensure that the subordinate commanders operate as a team.

Next, he checks his subordinate commanders' ability to direct the main body into the enemy's main defensive belt. Essentially, this operation will look much like a forward passage of lines, where the covering force holds the shoulders of the penetration. The commander will want to ensure that he can adequately control the operation, even if his force is separated by the passing follow-on forces. Moreover, he will want to ensure that his subordinate commanders understand where they are to maneuver and their responsibilities upon arrival.

Fire Support

The brigade FSO ensures the priorities of fire are understood and each commander knows when to shift and to whom. The amount of artillery support the covering force receives during its operation should be explained in advance. This is especially important when reinforcing and GS reinforcing fires are not available. For the artillery the operation should be rehearsed to ensure the DS battalion is capable of responding to multiple targets across the covering force frontage. This maybe difficult, especially because some batteries will be moving when a mission is called. Subordinate commanders should be checked for use of artillery during actions on contact and on the move. In particular, the use of artillery to suppress enemy positions that have been fixed and bypassed should be checked. Further, the total number of positions that could also be bypassed should be weighed against the DS battalion's ability to sustain that fire while supporting the continued maneuver of the covering force. Based on this check, the commander may designate a ceiling to the number of bypassed elements and specify that, once the ceiling is inched, all other enemy positions will be destroyed.

Mobility, Countermobility, and Survivability

The brigade engineer will check during a rehearsal of actions on contact that the engineers are brought forward to assist in breaching enemy obstacles. Also, he will ensure that his plan for marking and preparing roads for the division main body can be executed without the engineers becoming separated from the covering force main body.

Air Defense

The air defense plan will be checked to ensure its flexibility during actions on contact. As the force moves from a moving formation to a slower-tempo operation, the air defense plan must adjust accordingly. Specifically, as the covering force slows to destroy enemy positions, the air defense plan takes on more of an area defense posture. Although ADA assets will travel with their assigned elements, they must be prepared to reposition temporarily to protect the unit and to participate in the overall area coverage protecting the covering force.

Combat Service Support

The brigade S4 and the FSB commander will rehearse their CSS plan concurrently with the maneuver rehearsal. In particular, they will want to practice forward resupply during the operation. Resupply will be critical to sustaining the operation, but it may be difficult, especially for ammunition, when the distance from the FSB to the maneuver battalion's combat trains could extend up to 30 kilometers. Under increasingly hostile enemy conditions the supply convoy could be vulnerable to enemy interdiction. The conditions and signals to change supply routes based on the enemy situation or route condition should also be reconfirmed. Evacuation of casualties and damaged equipment will be less difficult to accomplish, as the main body will converge with the evacuation vehicles whether they move or not.

Command and Control

The commander will observe the rehearsal and provide comments when appropriate. Generally however, he will allow his subordinate commanders to demonstrate their knowledge of the plan and their decision making within the context of the commander's guidance. For his part, the commander will practice his use of

the decision support template in an effort to anticipate likely enemy actions. Once he has made a decision, he will then rehearse synchronizing his resources to achieve the greatest effect. The commander must continually weigh the amount of combat power he is willing to commit to an axis against his overall mission to guard the division main body. Moreover, he must identify the conditions under which he would no longer be able to effectively operate as the covering force, such as increasing strength of the enemy defense, his own attrition, or a combination of the two. The impact of having a covering force become ineffective prior to reaching the enemy's main defensive belt is that the attacking force would have to commit prematurely, arriving at the objective area at less than the desired combat strength. Ultimately, this could be the difference between success and failure.

Execution

Intelligence

Once the covering force begins its movement, the brigade S2 will closely monitor the reports of the cavalry squadron. The continued development of the enemy situation template will be essential to the brigade commander as he attempts to create a secure axis of advance for the division main body. The S2 will also make any necessary modifications to the commander's decision support template; however, he must make the commander aware of significant changes that may have a severe impact on the decision making.

As the covering force approaches the main defensive belt, the brigade S2 should be in constant communication with the squadron S2 so that the location of the enemy's weak point can be quickly relayed from the covering force to the division S2. Through eavesdropping, this information will be received by the main body brigades, who in turn will make immediate adjustments to their attack plan.

Maneuver

As the brigade advances along the division axis of advance, enemy units will be identified by the divisional cavalry squadron. This information will be passed to the battalion task forces, which in turn will maneuver against the enemy position. In execution, the cavalry troop actually hands over the enemy to the scout platoon of the following TF. Elements of the air troop may continue to observe the enemy until the arrival of the TF. The cavalry and scout platoons should have gathered enough information about the enemy position so that, upon arrival, the TF can be directed into the assault. This hasty attack should be supported with an appropriate level of CS to ensure success; otherwise, the operation could develop into a deliberate attack and consequently slow the covering force operation significantly.

Weak enemy elements that are not worth the combat power or time to destroy will be fixed and handed over to the advance guard battalions or brigade main body for mopping up. Conversely, those enemy positions that the covering force clearly cannot destroy will be maintained under observation by reconnaissance elements; a bypass route will be selected around the area, out of direct fire and observation. All information concerning the enemy position will be relayed to the division commander, who must then decide to continue to bypass or destroy the position.

As the covering force nears the main defensive belt, the cavalry squadron will probe the defensive perimeter to confirm possible weaknesses in the enemy's defensive line. The TFs will adopt a hasty defense that will maintain the shoulders of the division penetration and will also support the attack of the main body elements. The cavalry will screen farther forward of the hasty defending battalions to provide flank security, or it may continue to infiltrate the enemy's defensive belt depending on the division commander's concept of the operation. At this point, the covering force operation ceases, and the brigade commander awaits further instructions or possible task reorganization.

Fire Support

The brigade FSO will execute the FS plan as he would for any offensive operation. In particular, he will attempt to mass fires on high payoff targets, usually in support of ground maneuver, for example, the assault of an enemy position. Constant communication with the division cavalry squadron will be essential due to air troop operations and the restrictions inherent between aviation and FS. Positions should be fixed and bypassed with just enough artillery to keep the enemy from repositioning. Therefore, it is essential that these positions remain under observation until they can be handed off to elements of the advance guard.

Mobility, Countermobility, and Survivability

The engineers will execute as for any offensive operation. Their main concern will be the axis trafficability for the division main body. Therefore, obstacle breaching, bridge construction, and the marking of fording or bypass routes will be essential if the division is to maintain momentum. Other mobility operations will be dependent on the types of assaults conducted by the battalion task forces and the level of enemy preparation.

Air Defense

The covering force's air defense must remain flexible throughout the operation. As the elements change formation, assault security zone forward detachments, and come increasingly under the threat of air attack the ADA elements must respond to each change in the situation. Due to the wide frontage of the covering force, it is essential that the brigade air defense representative maintain the necessary level of protection.

Combat Service Support

Throughout the operation, supplies must be pushed forward. The S4 and FSB commander must anticipate the hasty attacks conducted by the battalion task forces and ensure that when the action is complete, the needed supplies are immediately on hand for them. Resupply and evacuation may take longer due to the large frontage of the covering force. Therefore, the identification of good lateral supply routes will become increasingly more important. Those elements designated to remain in a UMCP for collection by the main body must be given a security element that should remain with them until contact is established with the main body.

Command and Control

One of the commander's greatest challenges will be the control of the two TFs when one is in contact conducting a hasty attack and the other is continuing to move. The commander must stay abreast of the location and situation of the TF in the other zone. He must also guard against focusing too much attention on the action in his own zone. The maintenance of a consistent rate of march through the use of PLs, and the continual adjustment to the speed of each force in zone, will be essential to a unified action across a broad front.

Defensive Covering Force Operations**Planning**

A brigade may be given a defensive covering force mission when the division has sufficient resources and the intent of the commander is to influence and shape the battlefield forward of the MBA. Covering force operations may run the spectrum from a division cavalry squadron conducting a screen, to a reinforced squadron conducting a guard, to a brigade-controlled element operating independently as a covering force.

Normal covering force operations embrace the middle of the spectrum, where a reinforced cavalry squadron will strip away the enemy's reconnaissance destroy the advance guard battalions, and force the commitment of the lead regiment's second echelon battalions. Within this organization, the cavalry squadron will perform the mission for which it is best trained, usually the screen, while the attached armor and infantry battalions will be given missions (defend and delay) commensurate with their training.

A brigade given a covering force mission may consist of the division cavalry squadron, three to five heavy battalions, and an attack helicopter battalion. This organization will be responsible for inflicting casualties forward, but not to the point of discouraging the enemy from attacking according to its plan. It is important that the covering force shape the battle so that the forces in the MBA can complete the final destruction of the enemy.

Intelligence

The IPB for the covering force operation will be extremely important, as the division commander will want to identify the enemy's main effort and location of follow-on forces for the brigades in the MBA. The actual IPB planning will be accomplished as it would for defensive operations; however, the S2 will have to concern himself with more avenues of approach and a larger number of enemy forces. The S2 should plan his IPB with the assistance of the division cavalry squadron and attack helicopter battalion S2s, who may have

their own specific intelligence needs. They will also be used to working in operations with a divisional scope. They may be able to provide valuable input in terms of the special considerations inherent to covering force operations of which the brigade S2 (as an MBA player) may not be aware.

Maneuver

In this example, the brigade commander controls the division cavalry squadron, three battalions, and an attack helicopter battalion (see Figure 6-18). This is a medium-size covering force to be placed under a brigade commander. Having received the IPB from the S2, he knows that the division is facing a combined arms army, attacking with two divisions abreast. In the left zone, the division will most likely attack with three regiments abreast, while in the right zone the division may attack with two regiments up and one back. The commander's goal is to strip away the enemy's reconnaissance elements, destroy the advance guard battalions, and force the commitment of the second-echelon battalions. He will do this by making the lead enemy regiments deploy. This should also assist in the identification of the second-echelon regiments and, therefore, the enemy division's main effort.

Knowing the enemy main effort will likely be where he plans to attack with three regiments abreast, the brigade commander wants to inflict damage, but allow enemy forces in the sector to continually make progress. Conversely if the enemy will attack with two regiments forward, as the secondary effort, the brigade commander may choose to destroy these forces to discourage further advance in the sector. As a result, the two attacking divisions will become echeloned. This will drive the commander to reinforce his "success" and direct his second echelon into the MBA, where the division commander can destroy it. This reaction will identify to the division commander the location and nature of the enemy's main effort and complete his situation template.

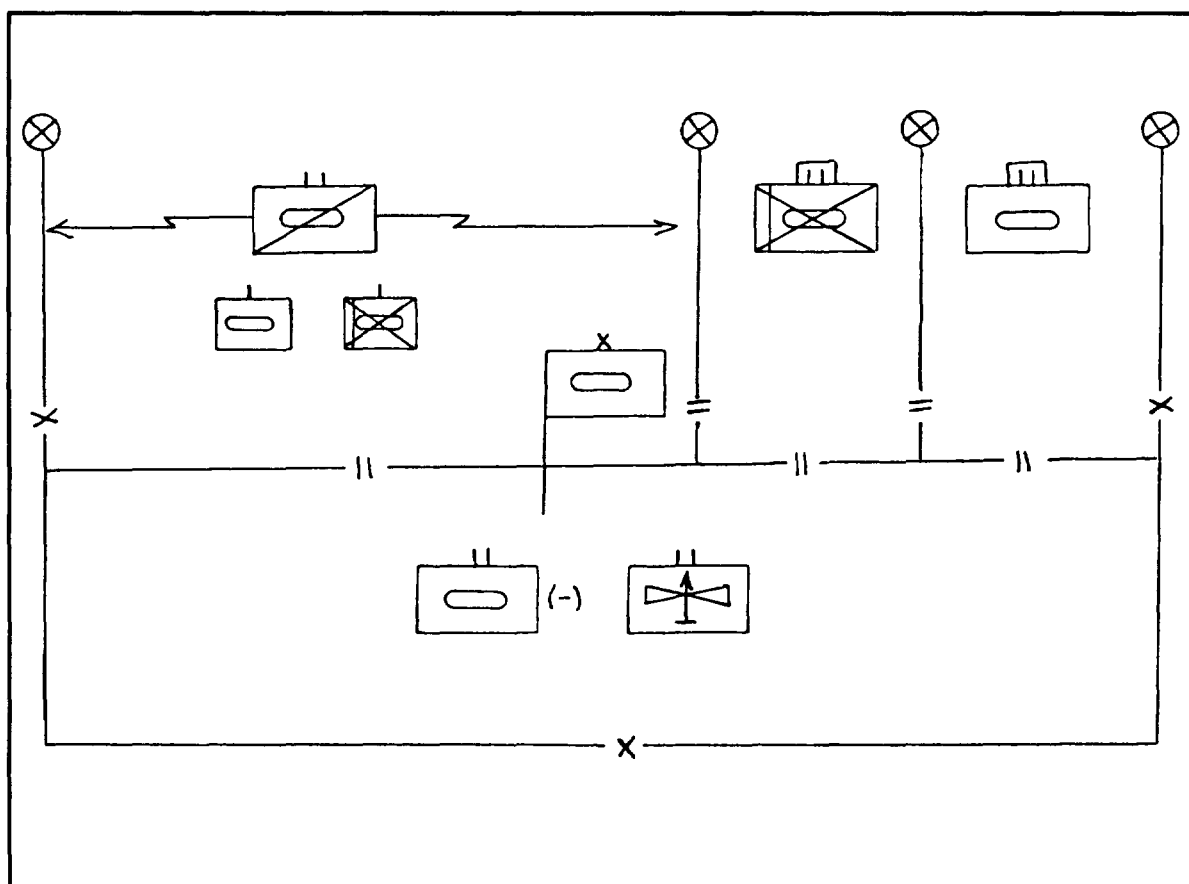


Figure 6-18. Brigade defensive covering force plan.

To achieve the desired effect, the brigade commander places his cavalry squadron, augmented by tank and mechanized infantry companies, along the more open terrain with the mission to delay in sector. The mobility advantage of air troops allows maneuver in this terrain so the enemy sustains losses but remains unable to decisively engage the force. In the other sector, a battalion task force will be placed astride each of the enemy avenues of approach and be given the mission to defend. The remaining battalion (-) and the attack helicopter battalion will serve as the covering force reserve, ready to assist operations in each of the three sectors, together or in separate operations.

Fire Support

The brigade FS plan will be absolutely essential to the commander and his projection of firepower to the enemy in depth. In particular, he will want the fire support plan to separate enemy echelons so that they can be defeated one at a time. Further, along the axis of the enemy's secondary effort, FASCAM and interdicting fires should be planned to complete the enemy's loss of momentum. The actual planning and coordination of the fire plan will occur as for any brigade defensive operation with one exception: the artillery will not only accompany the covering force but also fire exclusively in its support. Therefore, the FS plan can be prepared with more certainty in terms of the amount, timeliness, and sustainment of fires.

Mobility, Countermobility, and Survivability

The obstacle plan will be developed concurrently with the FS and maneuver plans. It will also have the same intent, namely to deny mobility in the right sector and slow the enemy in the left sector. Given the frontage in which the brigade must operate, the ability of the engineers to construct barriers will be limited to carefully selected targets designed to enhance the effect of both direct and indirect fires. Larger obstacles designed to turn and shape the enemy's maneuver simply may not be possible unless the brigade receives large amounts of engineer support.

The brigade engineer will create an obstacle plan that can be completely integrated with the direct- and indirect-fire plans. The division should augment the brigade with additional countermobility assets so it can deal more effectively with the enemy across the larger frontage. As mentioned earlier, the obstacle plan should attempt to shape the battle. Therefore, in some areas the enemy will be merely slowed, while in others the brigade commander may choose to deny enemy penetration altogether. Those obstacles designed to stop the enemy must be reinforced heavily with direct and indirect fire. If the resources are available, FASCAM should be planned to augment these areas. Fighting positions should be planned for those units that have been given the defend mission. Also, in close terrain, countermobility obstacles should be planned for execution along routes to subsequent BPs. For larger obstacles, such as river lines, bridges that are designated for target turnover should be given special attention.

Air Defense

The brigade air defense representative will begin planning for the operation by examining the commander's priority of protection. Essentially, the priority should be the same as for defensive operations. However, due to the independent nature of covering force operations, the ADA assets given to the commander should be sufficient to protect the entire force, to include the CS and CSS elements. This may cause the ADA defense plan to cover a larger area and appear more complicated than in normal brigade operations. Nevertheless the same employment considerations apply.

Combat Service Support

The brigade S4 and the FSB commander must be prepared to support the covering force forward of the MBA. However, due to the fluidity of the operation and the knowledge that the covering force will conduct a rearward passage of lines at the completion of the mission, CSS assets must remain mobile so as not to impede the movement of the covering force. To accomplish this, the BSA will consist of only those essential activities determined by the FSB commander within the guidance of the brigade commander. This lighter and more mobile FSB should be oriented on evacuation of casualties and damaged equipment, resupply of Classes III and V, and to a limited extent, vehicle and weapon maintenance. Coordination should be made with the support systems of the MBA brigades to augment the evacuation of casualties and vehicles through ambulance exchange points and UMCPs, which are positioned where the depth units can assist in the evacuation.

Command and Control

Much of the C2 of the covering force battle will be decentralized due to the distances covered and the decisions each battalion task force or squadron commander will be required to make during the operation. Generally the brigade commander will want to position himself and the TAC CP in the sector adjacent to the enemy's main effort, as this will be the most critical area of the battlefield. The S3 will observe the enemy's secondary effort and ensure that he maintains communication with the brigade commander. Due to the lack of an additional headquarters element to accompany the S3, he may collocate with the battalion task force or squadron main CP. In this manner, he will ensure communications with the brigade main CP and the TAC CP without degrading his mobility.

Preparation

Intelligence

The brigade S2 will prepare for the operation by war-gaming with the brigade commander. Specifically, the commander will want to verify the conditions under which he would release the counterattack force, whether it is the tank battalion (-), the attack helicopter battalion, or both. Included in this assessment will be the ability to monitor the progress of the enemy. Therefore the commander will review the R&S plan with the S2 and make any adjustments that would make the plan more effective. During the rehearsal, the S2 will role-play the enemy and challenge each of the battalion task force and squadron commanders.

Maneuver

The brigade commander will rehearse the operation with his subordinate commanders following the issuance of the OPOD. In particular, he will want to ensure that each understands his mission within the context of the overall covering force operation. For example, the battalion task forces, which have been given a defense in sector mission, should demonstrate how they plan to maintain flank coordination with the cavalry squadron conducting a delay.

The covering force reserve, whether ground or air, should rehearse how it plans to maneuver to each sector. This will determine if there are any conflicts between the obstacle plan and the counterattack plan. Similarly, the air routes used by the attack helicopters should be checked against the FS and air defense plans. Airspace coordination measures should be coordinated through the division A2C2 element in the DTOC.

Fire Support

The brigade commander will want to ensure that the brigade FSO and FSCoord will be able to cover the division frontage, yet have the ability to mass fires along the templated avenues of approach. He should ensure that the subordinate commanders understand how the priority targets are to be used. More important, he must understand the artillery's limitations. This may include their ability to emplace FASCAM or fire other special munitions, to include smoke.

Mobility, Countermobility, and Survivability

The brigade engineer will carefully observe the execution of the covering force plan to identify any possible conflicts with the obstacle plan. In particular, he will want to ensure that the counterattack force is given an obstacle-free zone into each of the battalion task force or squadron sectors. Target turnover and brigade reserve targets should be reviewed to reinforce to the responsible parties the conditions under which they should be executed. Priorities for the engineers during the conduct of the covering force battle should also be checked. The brigade may lose many of these assets as they withdraw to begin operations in the MBA.

Air Defense

The air defense officer will check his defense plan against the attack helicopter battalion's counterattack plan and any other aviation operations that are part of the covering force plan. He will verify his priorities of protection with the scheme of maneuver to ensure compatibility. Moreover, he will ensure that key areas of the battlefield (bridges, defiles, or other routes needed to maintain a mobility advantage) are protected against enemy air interdiction. It is essential in the fast-paced covering force battle that all ADA assets maintain abreast of the ground and air tactical situation.

Combat Service Support

The brigade S4 and FSB commander should conduct a CSS rehearsal coincidentally with the maneuver rehearsal. The ability of the support elements to sustain the force during combat will be essential to the success of the operation. In particular, the support players should verify that the MSRs and lateral supply routes remain unencumbered by the obstacle plan and that support elements will be able to reach each maneuver element. Prestocks and LRPs should be checked against BP locations. Linkage with CSS elements from the MBA should be checked to ensure coordination is complete. If possible, representatives from the MBA should attend the rehearsal.

Command and Control

The commander will ensure that his intent is understood and that his subordinates can execute as a team without further guidance. He will ensure that he will be able to control the operation and maintain flank coordination through every phase. Most important, he will rehearse the synchronization of the counterattacks and engagements in main kill zones. He will check the time distance analysis against the decision support template to ensure that his forces can arrive at the decisive point of the battle at the correct time. In particular, he will exercise the execution of brigade priority targets and reserve demolitions to ensure that they contribute to the effectiveness of the plan as desired. Finally, the commander will review the coordination necessary to effect the rearward passage of lines at the completion of the operation.

Execution

Intelligence

As the enemy begins its advance toward the covering force area, the brigade S2 will monitor the reports from the reconnaissance elements executing the R&S plan. The actual conduct of the S2's operation will be identical to that of defensive operations in that he will maintain a current enemy situation template and inform the commander both periodically and in the event of changes in the situation. The main responsibility of the S2 will be to predict enemy actions to allow the brigade commander time to position forces accordingly. In particular, the commander will want to ensure that his counterattacks are timely and directed against a high-yield enemy vulnerability. This will be possible only with an effective R&S plan that allows the commander to see the enemy in depth.

Maneuver

As the enemy's reconnaissance elements reach the covering force area, they will be engaged and destroyed by the battalion task forces and cavalry squadron. Whether their mission is to defend or delay, it will be essential to blind the enemy divisional commanders by stripping away their ability to collect information. The commander will closely monitor the front line trace of the covering force to ensure that his subordinate commands maintain flank coordination throughout the operation. In particular, he must ensure that the battle is being shaped according to the plan. Therefore, in the center and right sectors where the battalions have been given a defend mission, he must be prepared to divert assets to augment their lethality. In this regard, the ground reserve must be prepared to block enemy penetrations or reinforce the defensive positions while attack helicopters may be called forward to inflict casualties in the depth of the EA.

In the left sector, where the division cavalry squadron is conducting a delay, the greatest concern will be that the superior enemy force will be able to push back the squadron faster than the brigade commander desires. As in the other sectors, the reserve must also be prepared to respond by augmenting the squadron. All things being equal, the brigade commander will be more likely to use the attack helicopters to reinforce the cavalry squadron, particularly since they can work together with the squadron's two air troops and use their mobility to best advantage. The ground reserve is better suited to reinforce the battalion task forces, where a tenacious retention of terrain is more important.

As the covering force moves closer to the MBA, the brigade commander will coordinate with his counterpart brigade commanders. The main CP and TAC CP will collocate with the MBA brigade CPs in preparation for the rearward passage of lines. Maneuver elements from the MBA will be alerted to cover the rearward passage of the covering force, and a BHL will be confirmed. (A complete discussion of passages of lines is found in Section I of this chapter.) The covering forces will fight and withdraw to positions within the protection of the MBA forces. At this point massive combined arms fires should be brought to bear against the lead enemy elements. This temporary enemy paralysis should allow the complete passage of the covering force, free of significant enemy pressure and the intermingling of forces.

Fire Support

The artillery plan will be executed in the same manner as in a defense or delay. A significant difference in executing FS, from the perspective of the artillery, is that as the covering force moves closer to the MBA, the covering force FSO will have to coordinate with the MBA brigade FSOs for positioning of the covering force's DS battalions. This is essential because the MBA brigades may have something different in mind in terms of artillery positioning. The difficulty for the DS battalion commander is that while he is firing in support of the covering force, the MBA commander will assign his position. Therefore in an effort to avoid conflicting instructions, the counterpart FSOs should develop a plan that supports both the brigade and the covering force.

Mobility, Countermobility, and Survivability

The covering force engineer will monitor the operation, paying special attention to the execution of target turnover and brigade reserve demolitions. In particular, he will advise the commander during the course of the battle concerning techniques to further slow enemy momentum if required. For example, he may coordinate with the brigade FSO for the emplacement of FASCAM minefield and with the S3 to ensure the obstacle is covered by fire. As the force moves closer to the MBA, obstacles will take on increasing importance in helping the covering force to maintain separation from the enemy. If the BHL is placed along a natural obstacle, such as a river, prepared bridge demolitions or AVLB crossings should be monitored to ensure their execution following the crossing of the last maneuver element. Once each is executed, it is reported to the covering force main CP so that the commander will verify the safe crossing of his maneuver elements and the inability of the enemy to maintain pressure.

Air Defense

The covering force air defense plan will be executed as in any defensive mission. The brigade ADA representative will ensure that critical areas, such as crossing sites, are given priority of protection so that the covering force will not find itself stranded as a result of enemy air interdiction. As the covering force nears the MBA, he will also coordinate with the MBA brigade ADA representatives to ensure that coverage is complete and special protection is given to the massed forces of the covering force and forward-positioned MBA forces along the BHL.

Combat Service Support

The brigade S4 will continually coordinate with the FSB commander to ensure that CSS operations are executed according to plan. He will coordinate with the engineers to monitor the road conditions and the status of any bridges and will coordinate for the implementation of on-order MSRs or other alternate routes depending on the situation. He will also keep abreast of the expenditure of Classes III and V and of emergency resupply vehicles moving to units heavily involved in combat. As the covering force nears the MBA, the S4 will also coordinate with the MBA brigade S4s. It will be important that the passage of lines is conducted in a manner as controlled and organized as possible. Much of the control will depend on the ability of the recovery and evacuation assets to tow disabled vehicles to the rear and to keep the egress routes open. Assets from the MBA may assist in this effort, freeing the brigade's equipment for use in the forward area of the covering force battle.

Command and Control

The commander will observe the battle from his position overlooking the enemy's main effort. He will maintain contact with the main CP and his S3, who will be positioned along the enemy's supporting attack axis. As the enemy begins its attack against the covering force, the commander will ensure that his forces do not become decisively engaged. This is especially important to those battalion task forces that have been given the mission to defend. Therefore, in an effort to retain the mobility advantage over the enemy, the commander must judiciously use the attack helicopter battalion for quick strikes to keep the forces separated or to extract an element that is under severe pressure. He must be careful not to commit them too early; attrition will reduce their effectiveness when needed in a bona fide counterattack role. The commander will commit the ground reserve when a more determined defense of a particular piece of terrain is required to slow down the enemy or to bolster the existing defense within the sector. However, because the ground force is less responsive than helicopters, its employment must be planned in advance, and its extraction will be less immediate. Throughout the operation, the commander must remain extremely flexible and use each of his elements to its utmost potential. Above all, he must retain mobility at all cost, or the covering force will be lost. As the force nears the MBA, the commander will collocate headquarters in preparation of the rearward passage of lines; however, he will remain forward with the battalion task forces and squadron to ensure their safe withdrawal from the CFA.

SECTION II. BATTALION TASK FORCE TACTICAL OPERATIONS

Battle Handover and Passage of Lines

Planning

Intelligence

The battalion S2 will prepare for the passage of lines in the same manner as the brigade S2, through coordination with the stationary battalion's S2.

Maneuver

Commanders of units conducting a battle handover will make tentative plans for the conduct of the operation by analyzing the factors of METT-T placing special emphasis on—

- **Organization.** Unit/team task organization required for the tactical mission is maintained during the passage to avoid task reorganization following the passage.
- **Order of movement.** An order of movement is prescribed based on the number of routes and PPs, the degree of security required, the enemy situation, and terrain. An order of movement sets priorities on who moves when and precludes confusion and congestion.
- **Security.** The scout platoon can assist the passage of lines by screening between the enemy and the passing unit to provide early warning and limited protection. Noise, light, and radio discipline must be enforced.

Control measures normally used in a battle handover and passage of lines include the following.

AAs. (see Chapter 2).

BHL. The BHL is an easily identifiable location where the stationary force assumes control of the battle (used for a rearward passage of lines). This location must permit the stationary force the ability to engage the enemy with direct-fire systems. It must be portrayed on the operations overlay as a PL. The BHL is not the rear boundary of the covering force. Rather, it depicts to the covering force commander the maximum range that the MBA forces can engage the enemy. The CFA forces plan to disengage and begin their withdrawal along this line. Normally, when a covering force is used, the battlefield is structured as depicted in Figure 6-19.

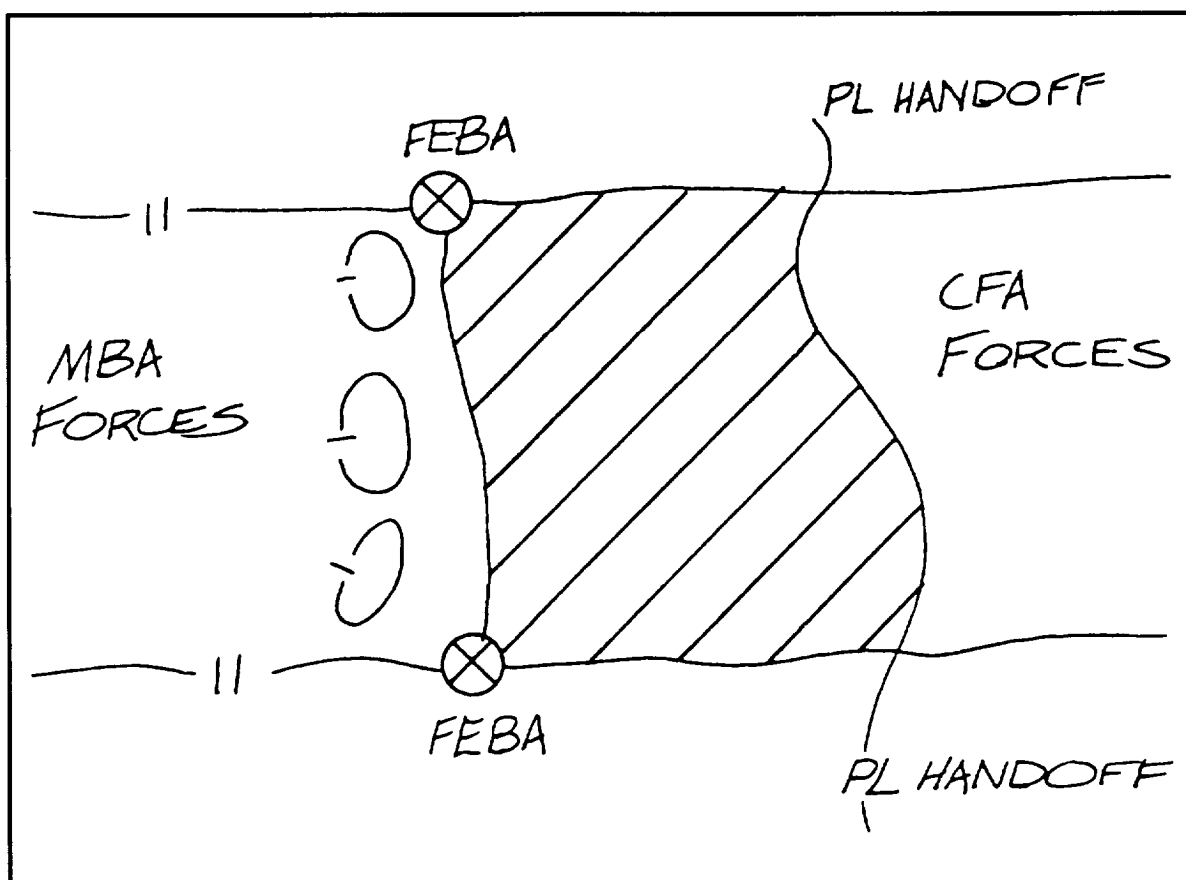


Figure 6-19. Area of discussion between CFA and MBA commanders.

The crosshatched area is frequently an area of discussion between CFA and MBA commanders. Even though the MBA commander assumes control of the battle at the handover line, the CFA commander owns the terrain up to the FEBA. The FEBA is the CPA commander's rear boundary. It becomes a planning problem for obstacles, artillery fires, air defense positions, CSS locations, and CP sites. The MBA commander may need to position some forces and obstacles in this area so that his forces can cover the withdrawing covering force.

It becomes incumbent upon the passing and stationary force commanders to coordinate and resolve any problems. The recommended method is to allow MBA forces to emplace obstacles and some forces (combat CS, and CSS) forward of the FEBA, yet behind the BHL. The CFA commander must plan positions up to the FEBA. The MBA commander sites the obstacles. Thus, the CFA commander may need to adjust his positions accordingly and use the MBA-installed obstacles if necessary. The MBA and CFA commanders exchange these plans through LOs to allow CFA forces to plan and prepare their BPs and MBA forces to emplace obstacles (including lanes, gaps, guards, and demolition parties). MBA forces may position combat, CS, and CSS forces in CFA positions with approval of the CFA commander.

The BHL is adjusted depending on visibility. If the line must be adjusted, one technique to represent the change is for the MBA commander to make the PL either on order or specify a DTG indicating the change.

Contact point. For a passage of lines, the commander directing the passage assigns the contact point (for a battalion passage, that would be the division or brigade commander). He may delegate the responsibility to the units actually involved.

The recommended technique is for the stationary unit commander to designate the contact points. The stationary commander then transmits these locations and the meeting time to the passing commander. This is

normally done on secure radio nets. The stationary commander's NCS uses the passing unit's command or OI net. The commander directing the passage has the responsibility to make sure units have compatible SOIs.

The stationary unit commander controls the contact point. He is responsible for local security and limiting access to those who must be there. While the contact point may not be in his sector or zone, he must control it because the subsequent operation (the passage) affects his mission and because, most probably, he selected the location.

Coordination for the passage, to include identifying the specific units and vehicles to pass, is done at the contact point. Normally, the commander and S3 make the coordination for a forward passage and the XO (battalion and company) for a rearward passage. Either can make contact for a lateral pass, although it is recommended that the commander/S3 accomplish the coordination.

PP. The stationary unit assigns the location and number of PPs. The location is the critical factor. By definition, the PP is a spot on the ground where the passing unit passes through another unit. Thus the PP must be located where the stationary unit can cover it with direct fire. If forces are available, they should occupy PPs. This prevents enemy infiltrators from gaining access to the rear of the stationary unit. At times, a PP may be a lane or a gap through an obstacle. If the PP is at the entrance to an obstacle lane or gap, the stationary unit has the responsibility to close that lane or gap.

PPs are controlled by the nearest stationary unit. The actual passage of units may include several different options. In a rearward passage where the enemy has the capability to become interspersed with the moving force, the vehicles may pass one at a time in column formation. This method is the slowest, but also the most secure. When time is at a premium and enemy pressure is not strong, the passing force may move in formation. This requires a wide lane and is less secure than the other example; however, it is the fastest means of conducting a passage.

In a forward passage of lines, the passage may manifest itself in the same manner as in the rearward passage. However, the passing unit will move in column when the security and terrain allow for an attack position or AA once the passage is complete. Where the situation calls for the passing force to be prepared to make contact with the enemy upon passage, the lane must be wide enough to allow the force to conduct the passage in the appropriate combat formation. This will necessitate the establishment of a wide lane and pose some risk to the stationary force until the passage is under way.

Passage lane. Passage lanes are assigned by the stationary unit but coordinated with the passing unit to ensure that they are compatible with the scheme of maneuver. These lanes provide the route of march for the passing unit so that it does not interfere with the stationary unit. The end of the lane should be outside the sector or zone of the stationary unit. Passing units must have priority of movement on the lane. This is necessary to reduce clutter caused by a congestion of units. Normally, passing units are not permitted to move off the passage lane.

Passage lanes should guide the passing unit around the stationary unit's location; however, there will be situations that require a passing force to move through occupied and/or prepared positions.

The stationary unit controls the passage and sets the priority of movement. The priority should be to the passing unit. Guides are used in both the forward and rearward passage to ensure the timely and proper execution of the passage.

Time or event of passage. The time or event of passage should be prescribed by the commander ordering the passage.

Recognition signals. Probably the most critical aspect of the passage, these allow identification of friendly or enemy forces. They include various types of messages, visual or audible codes consisting of one or more letters, words, visual displays, characters, signal flags, or special identification markers with prearranged meanings. The commander directing the passage must supply these signals in the SOI and/or SOPs therefore, he must make sure the passing and stationary units have the same updated SOI and/or SOPs.

All members of the passing and stationary forces must know the current signal, just as they must know the challenge and password. Improper use of the recognition symbols or someone's failure to "pass the word" will probably result in a friendly stationary weapon system engaging a friendly passing vehicle. This prob-

ability increases during limited visibility, when the passing unit is in contact, and when the stationary unit is receiving indirect fire. As an absolute minimum, friendly weapon systems must be oriented toward the enemy. This is especially critical in a rearward passage.

Movement considerations and techniques. The movements of passing units are controlled by their respective commanders. Normally, movement of the passing force in a forward passage of lines presents fewer problems than in a rearward passage. This is because a forward passage is normally done in the offense, and the passing unit has or is seeking the initiative. In Figure 6-20, the crosshatched area is under the control of the higher headquarters. The controlling headquarters may direct or prescribe the routes from the AA to the PPs. Another technique is to allow the passing force to reconnoiter and establish its own routes to the PPs, subject to approval from higher headquarters.

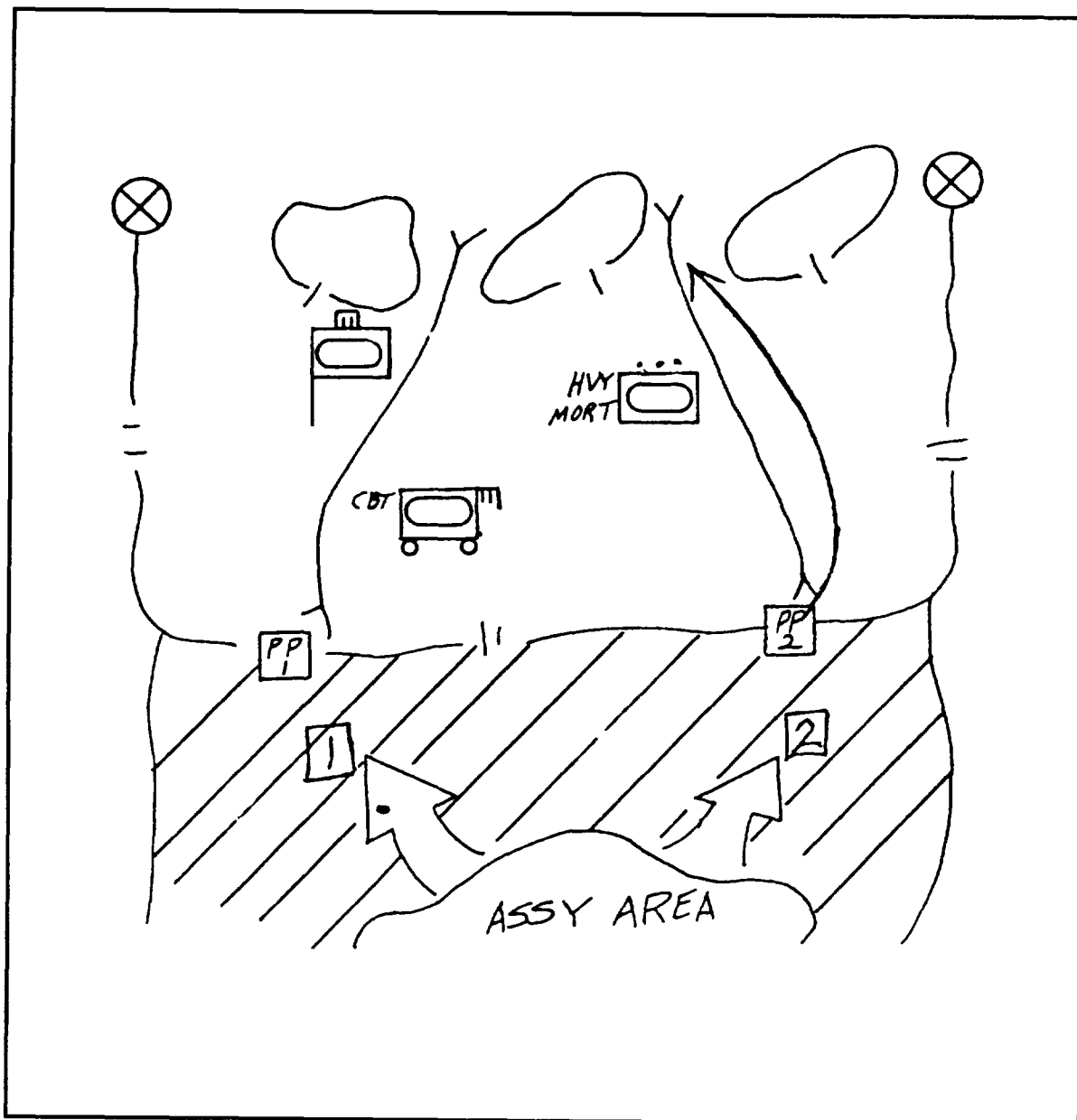


Figure 6-20. Rear area under control of higher commander.

In a rearward passage, the situation is different. Figure 6-21 shows the initial layout of the battlefield where a covering force intends to withdraw through MBA forces. The maximum effective range at which MBA forces can engage the enemy with direct fires is designated as a PL. This is the BHL and marks the location where CFA units should be able to disengage and withdraw. Ideally, the BHL will be placed on an easily identifiable terrain feature such as a road, railroad line, power line, or stream. The stationary unit commander should establish contact points just forward of the BHL and PPs close to the occupied positions.

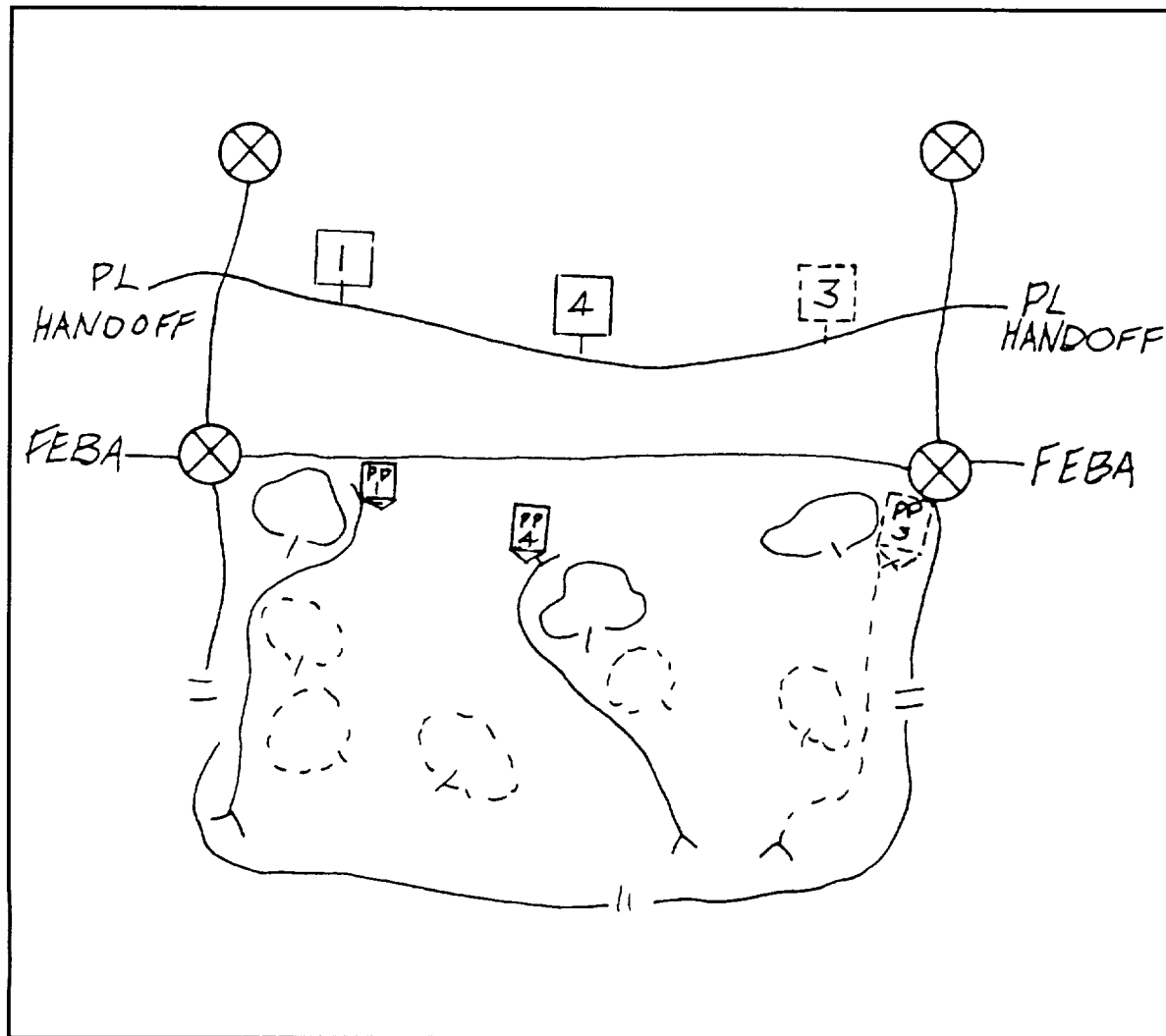


Figure 6-21. Initial battlefield layout.

A critical area for movement is the crosshatched area illustrated in the top portion of Figure 6-22.

The CFA commander owns the ground forward of the FEBA, yet the MBA commander assumes control of the battle at the BHL. The MBA commander, with permission of the CFA commander, has emplaced obstacles in the crosshatched area. The problem is that the covering force units are not bound to follow any set route to the PPs, even after coordination at the contact points. This may endanger the covering force and MBA missions.

The resolution to this problem is for the stationary force and passing unit commanders to agree to routes, established by the stationary force commander, between the contact point and PP. Once coordinated, the graphics might look like those in the bottom portion of Figure 6-22.

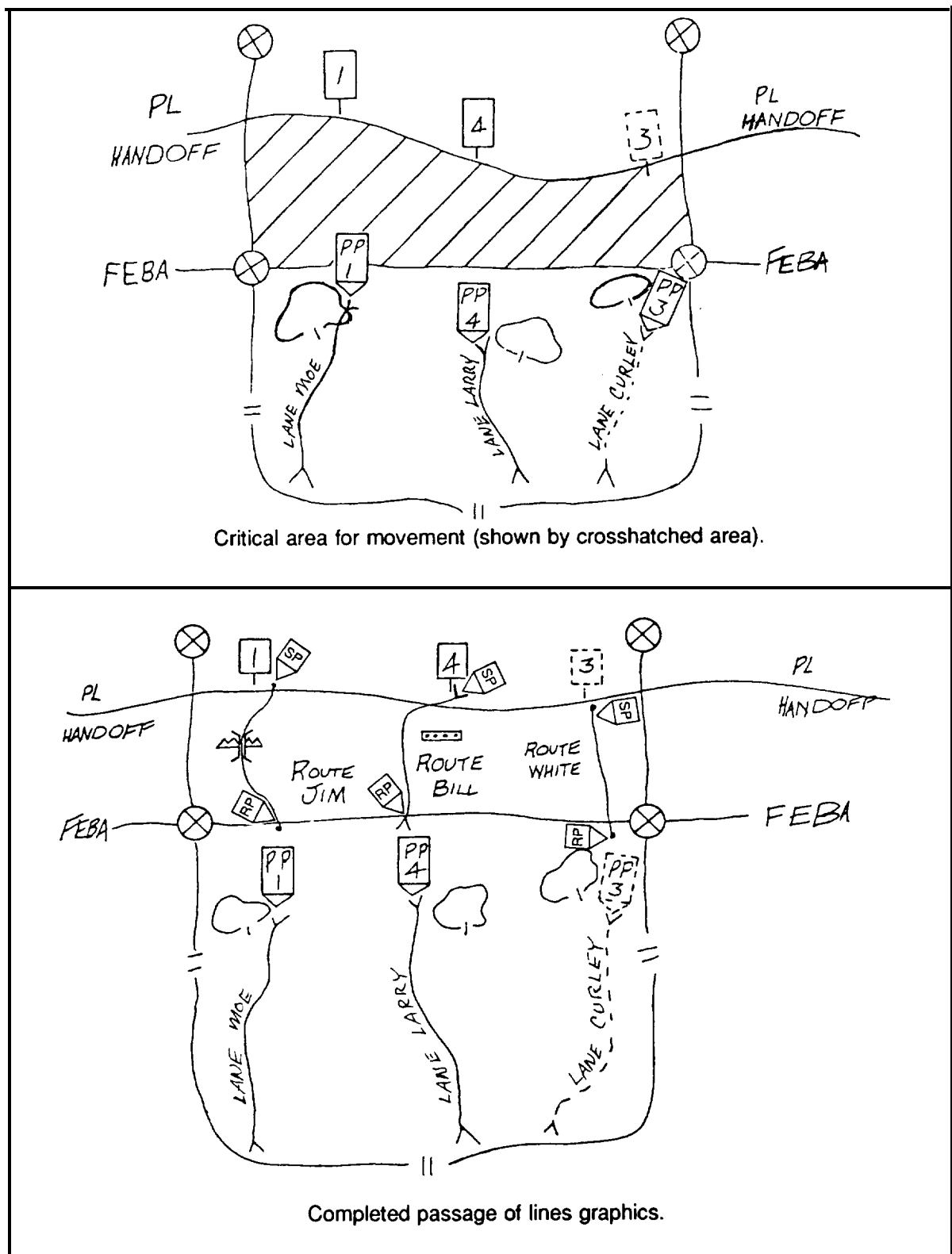


Figure 6-22. Completed battlefield layout.

Fire Support

The passing force FSO will coordinate with the stationary force FSO to exchange FS plans. When conducting a forward passage of lines, the artillery will initially be controlled by the stationary force's fire control assets. Then once bathe handover has been executed the FS control will shift to the passing force. In a rearward passage of lines, the procedure is simply reversed; the moving force initially has control of the indirect fires and then passes control to the stationary force.

Mobility, Countermobility, and Survivability

As discussed earlier, the location of obstacles is critical to planning a passage of lines. Passage lanes must be planned to avoid existing obstacles, or the obstacles must be removed from the path of a lane. In the case of the tatter (and when conducting a forward passage of lines), the commander must decide when and how to remove the obstacles so the enemy will not be tipped off to his intentions. Generally, discretion is the best method, whereby obstacles will be removed under cover of darkness and during artillery suppression of suspected enemy positions. This will mask the detonation of friendly mines and prevent enemy observation of mine-clearing operations. If the enemy situation is such that this technique cannot be used the engineers will have to prepare the obstacle for demolition and treat it as target turnover. The obstacles will be destroyed on order of the appropriate commander, in conjunction with the forward passage of lines.

Air Defense

Air defense also will be coordinated between units. Generally, at the battalion task force level, the air defense assets will move with the passing force, while the stationary force provides area air defense, with special attention directed to the AAs passage lanes, and other possible choke points or congested areas.

Combat Service Support

When conducting a rearward passage of lines, the CSS should be organized to serve three separate functions: sustainment of the force in its current operation, assistance with the rearward passage of lines, and support to the force immediately following the passage. Generally, to accomplish all three tasks, the commander will ensure that only required support activities remain with the force. All other support operations and equipment will be moved in preparation for the actual passage and reorganization.

In a forward passage of lines, the CSS takes on a different character. Because the unit has not been in combat and has had time to prepare for the operation, the CSS assets position themselves to assist with the forward passage and then move forward to establish the facilities that will support the offensive operation. If, however, the passing force does so following a long movement, some maintenance and fuel assets may be designated to attend to the unit in a forward AA prior to the actual passage.

Command and Control

The degree of C2 depends largely on the number of PPs. Normally, multiple PPs (at least two per battalion) are established, requiring decentralized control. The TF commander must decide how he can best influence the action and then position himself accordingly. For example, if a unit is conducting a passage of lines to attack forward of the FLOT, the commander will probably follow the lead unit.

The commander generally has three options from which to choose when considering the collocation of headquarters in support of the forward passage of lines:

- He can send the S3.
- He can collocate the entire main CP.
- He can dispatch an LO.

In a forward passage of lines, the most favorable option is probably the use of the main CP. This will allow the S3 to observe movement along other passage lanes (usually a battalion task force will be given two lanes) and give the main CP the ability to position itself quickly where it can monitor and control the operation.

In a rearward passage of lines, the main CP is generally the best option because the passing commander will try to “lighten” the battalion task force as much as possible in preparation for the movement. The S3 will still be available to observe those areas unavailable to the battalion commander, and the operation may be controlled from the main CP’s jump CP.

Preparation

Intelligence

The S2 prepares for the forward passage of lines by monitoring the OI net of the stationary battalion. He will continue to update his IPB with this and other enemy information from this point forward. In particular, he will try to determine whether the enemy will be able to affect the passage. Accordingly, he will advise the commander of enemy capability and possible effect on the operation.

Maneuver

During and after the conduct of a detailed reconnaissance by the passing unit both the passing and stationary units conduct detailed face-to-face coordination. Normally, the battalion task force commander and/or S3 coordinate a forward passage of lines, and the battalion task force XO coordinates a rearward passage. AU elements of the passage of lines plan must be mutually agreed upon by both units.

A checklist of the information to be coordinated includes—

- Contact points.
- Attack positions (forward passage).
- Ž AAs (rearward passage).
- Ž Passage lanes.
- PPs.
- Ž Traffic control measures.
- Recognition signals.
- FS plan (direct and indirect).
- Ž Obstacles.
- OPs and patrol routes.
- Number/type of vehicles and units to pass through.
- Enemy situation.
- Ž Fire control measures.
- Ž CS and CSS asset locations.
- Time and location of battle handover.
- Ž SOI information.
- Ž NBC status of sector.

Fire Support

The FS plans will be consolidated in preparation for the passage. However, the most important aspect of the coordination lies in developing an understanding between the two FSOs concerning the management of fires. When the passage occurs within the same division, this should not be a severe problem; however, when units from separate divisions are conducting the passage, extra precautions must be taken to ensure that each unit knows when it has control and which units are firing in support.

Mobility, Countermobility, and Survivability

As described above, obstacle information is exchanged in preparation for the passage of lines. Moreover, in case of on-order obstacle clearance, the TF engineers will check the preparation and system for conducting the clearance. The signal to execute and the backup means to deliver the message must all be checked for effectiveness.

Air Defense

The air defense plan is coordinated in the same manner as the FS plan. The only possible difference may lie in the allocation of space to the passing force's air defense assets if they are required to position themselves rather than accompany the maneuver forces.

Combat Service Support

In preparation for the passage, the CSS assets are moved into position. The battalion S4 and XO should check these facilities to ensure that they are prepared to properly support the operation. In particular, the CSS should be prepared to keep the passage lanes open despite possible vehicle breakdowns or other factors.

Command and Control

The commander must ensure that each element understands when to move, which lane to use, where to go once passage is complete, and what to do once they get there. To verify this, the commander may conduct backbriefs or rehearsals, or simply visit with each subordinate leader before the operation as part of his precombat inspection.

He must ensure that the collocation of headquarters has been accomplished and that communications are fully operational. Also, he will observe the coordination at the PP and the reconnaissance of the passage lanes to ensure that he is aware of any possible areas that may be of concern during the actual passage.

This discussion provides detailed information concerning the conduct of both a rearward passage of lines and a forward passage of lines.

Execution-Rearward Passage of Lines***Intelligence***

The passing force S2 will pass all information to the stationary force S2. The situation template in particular must be transferred to the unit that continues the fight. As the passage is under way, the passing force S2 must gradually transfer all responsibility to the stationary force S2. Although actual change of command will occur at a designated time or event, transfer of staff operations should be a gradual process so that continuity is not lost during the transfer of responsibility.

If time allows once the actual transfer of control has occurred, the passing staff should remain briefly to answer questions of the stationary staff. As in most transfers of responsibilities, some issues will have been omitted in the preparation for the change.

Maneuver

Control measures. Once the higher headquarters has issued the order for a unit to conduct a rearward passage of lines through a stationary MBA unit, the commander or S3 of the stationary force must establish and post to his overlay the following control measures

The BHL, based on input from company team commanders as to how far forward they can shoot (day, night, and limited visibility), as illustrated in Figure 6-23.

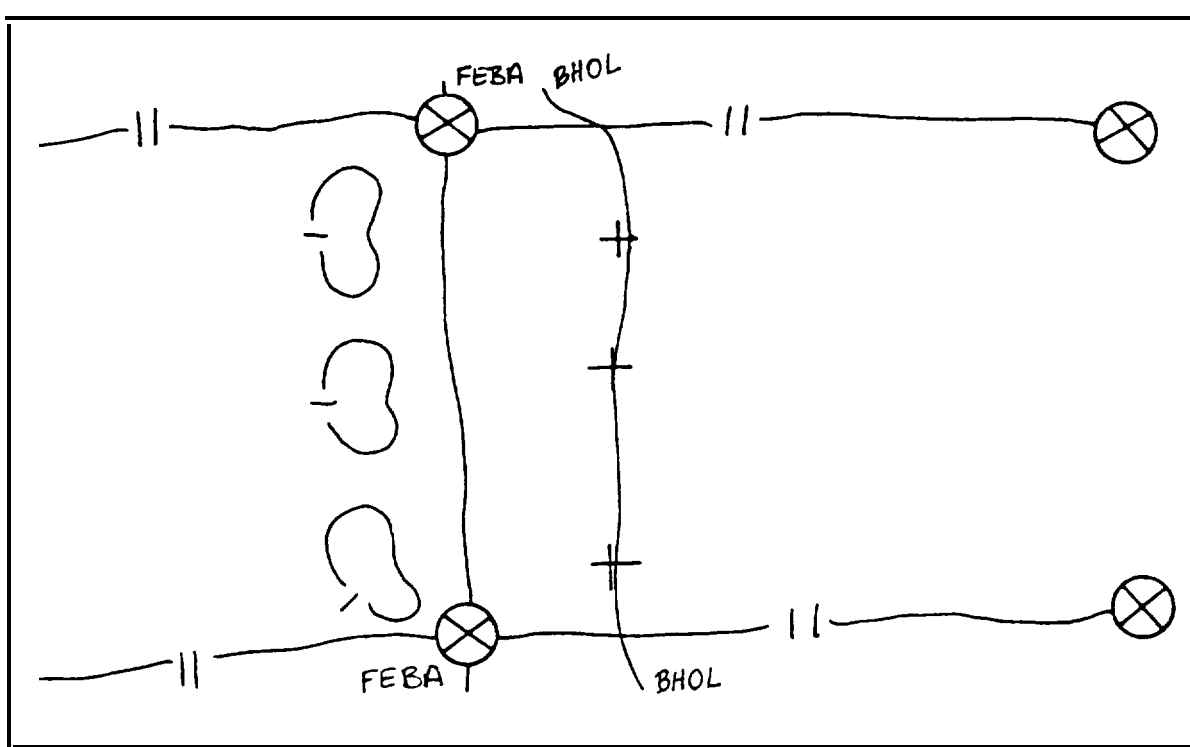


Figure 6-23. Battle handover line.

Contact points are illustrated in Figure 6-24.

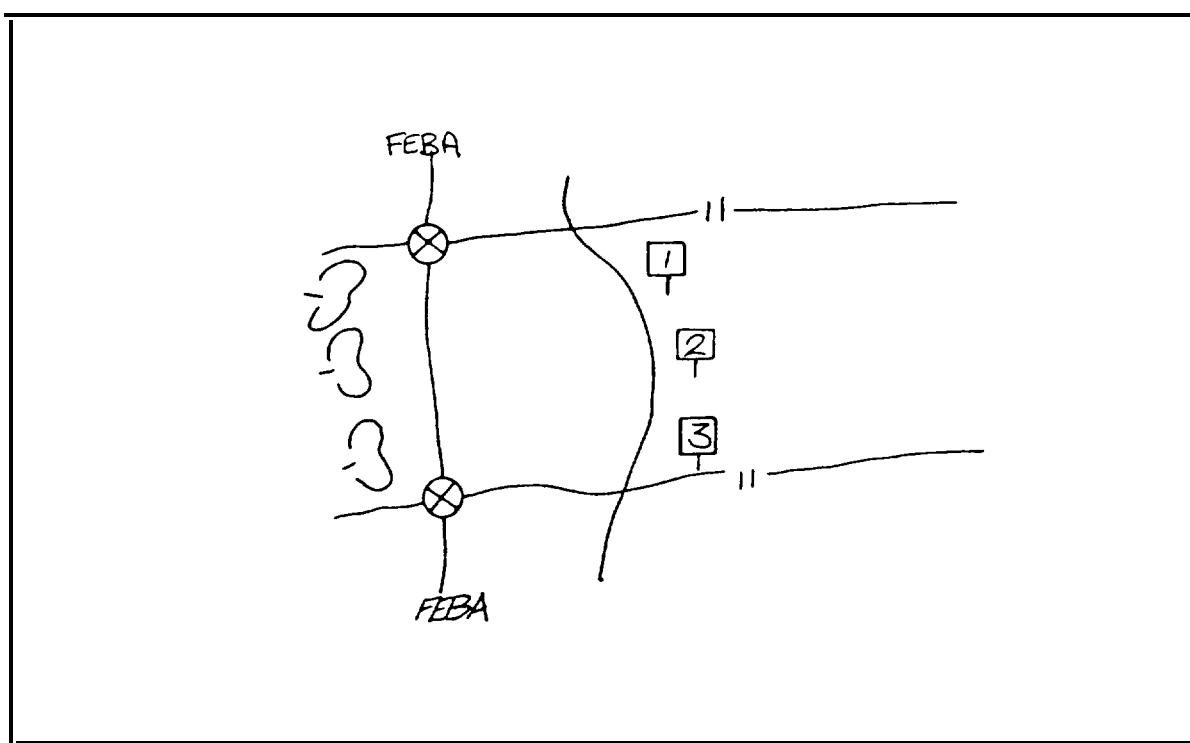


Figure 6-24. Contact points.

PPs, passage lanes, and location of AAs are illustrated in Figure 6-25.

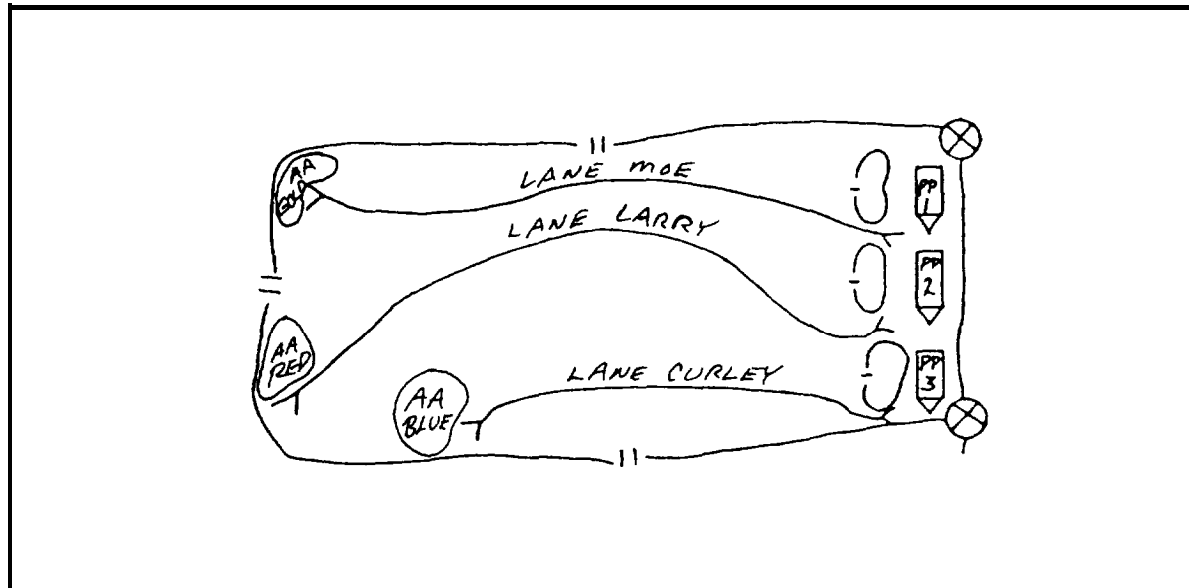


Figure 6-25. Passage points, passage lanes, and assembly areas.

A tentative obstacle plan in the area between the FEBA and BHL are illustrated in Figure 6-26.

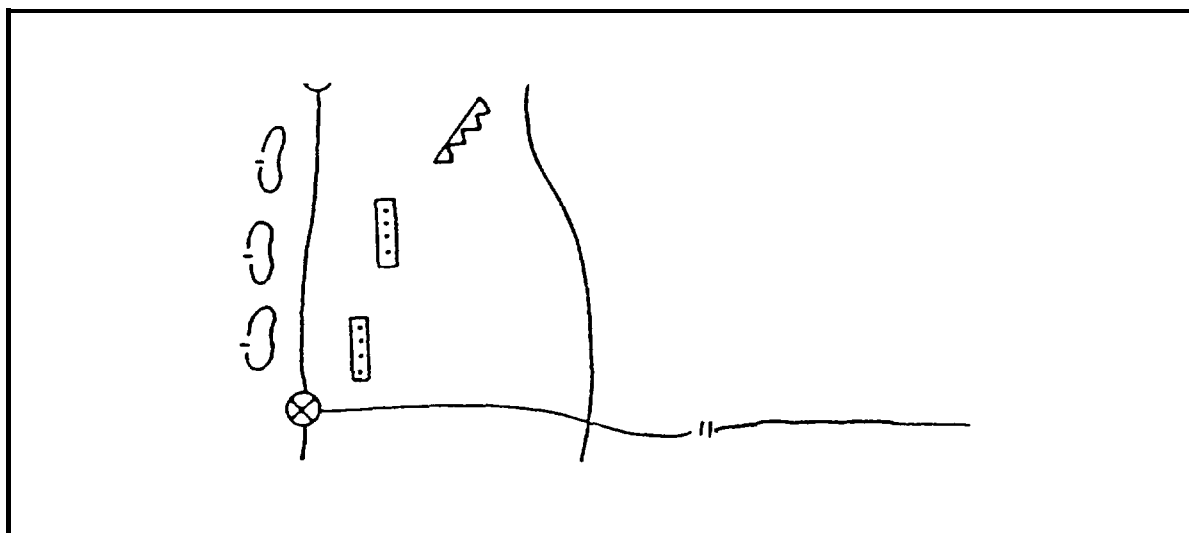


Figure 6-26. Tentative obstacle plan.

Routes of march between the contact points and PPs, including SPs and RPs, as illustrated in Figure 6-27. As mentioned, either mutes or passage lanes may be used to connect the contact points.

The stationary unit's battle plan (maneuver, fires TRPs, EAs, CSS information, patrol routes, and observation routes).

Expected time of passage.

Recognition signals in accordance with the SOI or as coordinated. Again, the higher commander must ensure compatibility.

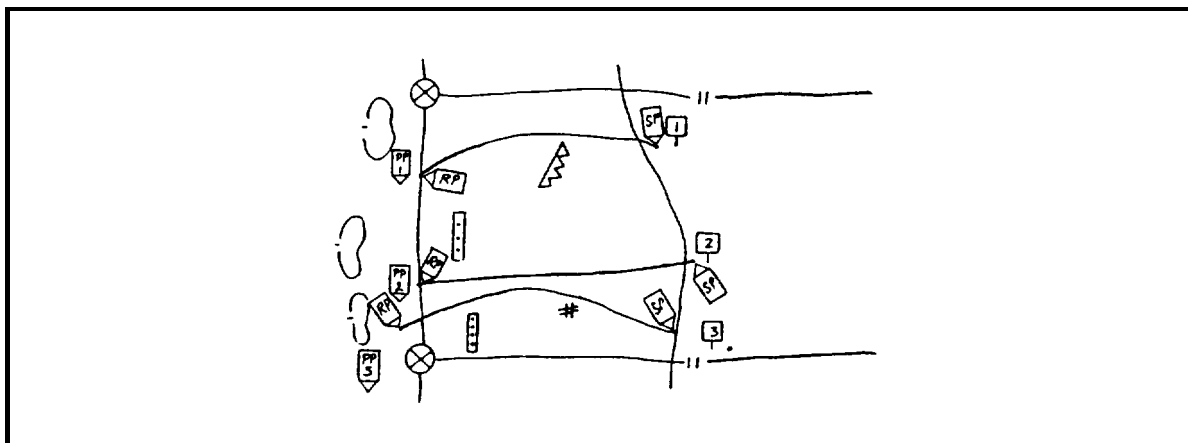


Figure 6-27. Routes of march.

Location of emergency CSS assets (medical, POL, and ammunition). As a minimum, the stationary unit commander should provide medical assistance, evacuation, and vehicle recovery.

Coordination. The stationary unit commander distributes the control measures to subordinate commanders, staff, and higher headquarters. In addition, his NCS enters the passing unit's NCS. The stationary unit commander sends, either by secure voice or encrypted message, the location of all contact points and the time to meet at one of them.

Next, the stationary unit commander designates the liaison party. As the stationary unit commander has the responsibility to secure the contact points, he knows he must send all or part of his scout platoon and some security forces. The liaison party should be composed of the battalion task force and company team XOs. Each XO has the complete passage plan. Each company XO should bring a security party (one or two tanks plus his own, or a rifle squad).

The security force (scouts) and liaison party may look like the one illustrated in Figure 6-28.

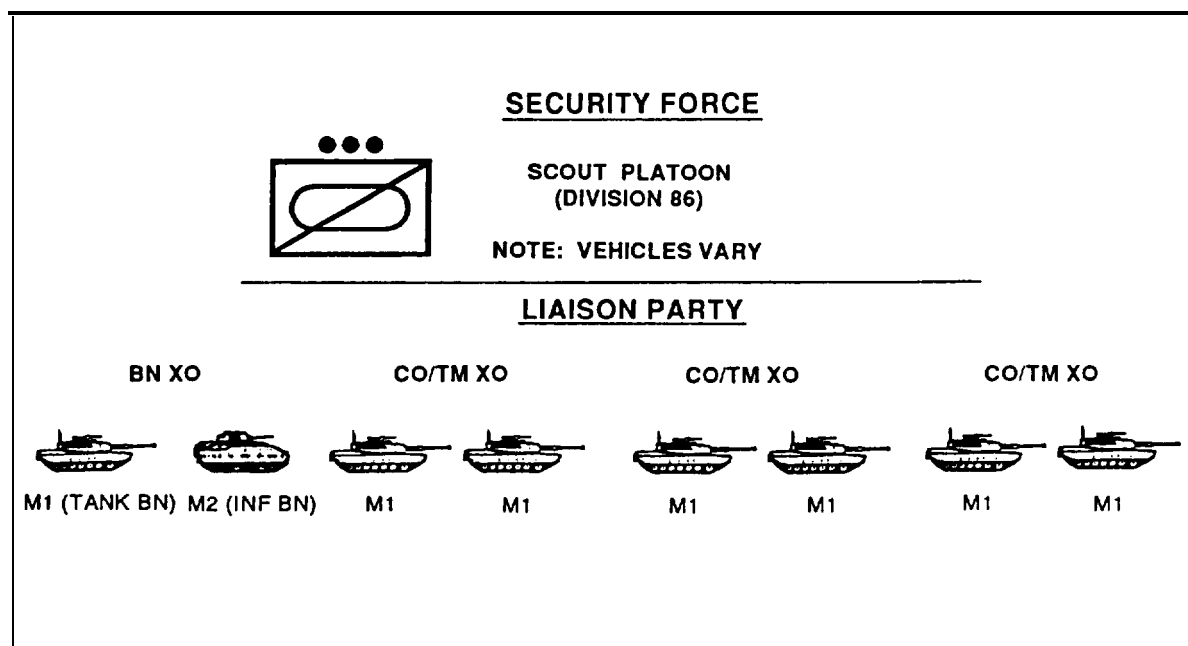


Figure 6-28. Security force and liaison party.

This element proceeds to the assigned contact points. The scouts establish OPs in the vicinity of the contact points. The XO's establish security at the contact points. All liaison parties must be prepared to exchange recognition signals upon arrival at the contact point. This is especially critical at night or during limited visibility. The occupied contact points with radio communications may look like those in Figure 6-29.

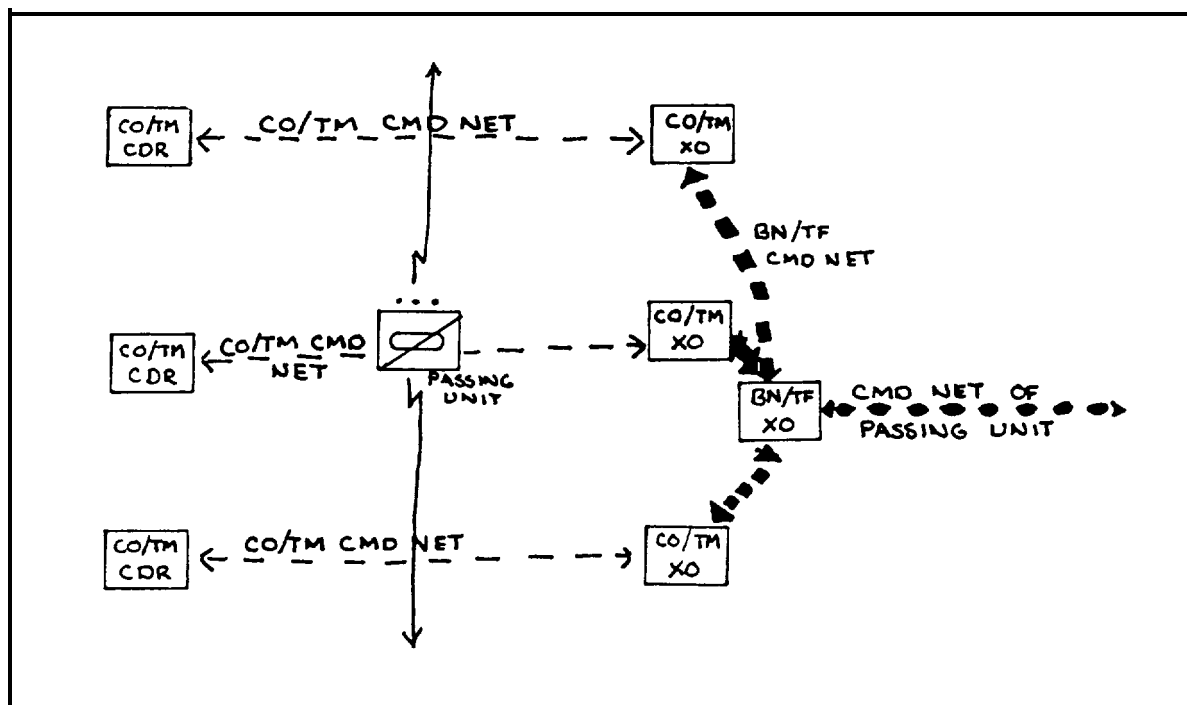


Figure 6-29. Passage communications net.

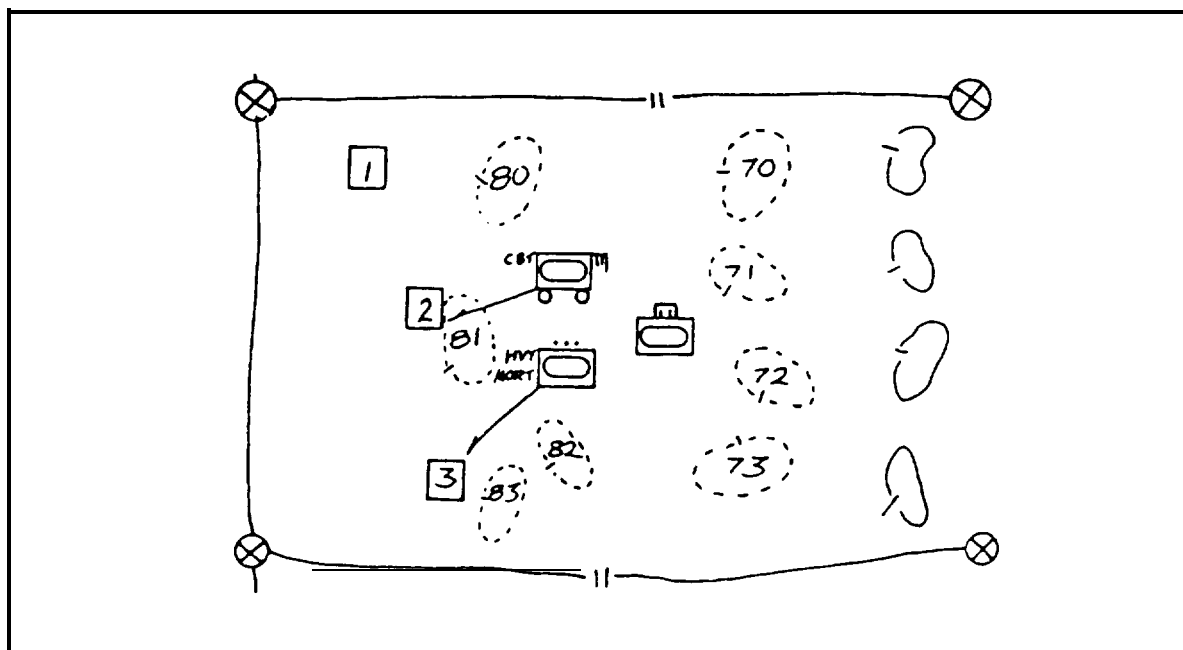


Figure 6-30. Maneuver and combat service support plans.

The passing unit commander takes similar action. He issues a WO to his subordinates and establishes a liaison team that is similar in organization and equipment to the stationary force's liaison team. The passing force's team should be led by the XO or S3. Each member must have a copy of the unit's defense (delay) plan plus the current enemy situation, SOI, and passing plan. The liaison team proceeds to the contact point.

Figures 6-30 through 6-33 illustrate a sample passage as well as several aspects of passage coordination. Figures 6-30 and 6-31 depict the passing commander's plans for maneuver and CSS, which the passing unit's liaison team will coordinate with the stationary unit's liaison team.

Based on the location of the contact points, the passing commander decides to withdraw the combat trains and heavy mortars (by section) upon occupation of BPs 70, 71, 72, and 73. It is recommended that BPs closest to the contact points be prestocked with Class I, III, and IV items. One half of the battalion's maintenance platoon, led by the BMO, will establish a UMCP near contact point 2 upon withdrawal of the combat trains. The other half, led by the maintenance sergeant, withdraws. Company teams will maintain their trains throughout the operation. Upon occupation of BPs 80, 81, 82, and 83, the CP will withdraw and collocate with the stationary CP, leaving the command group to run the battle. Scouts also will withdraw when BPs 80, 81, and 83 are occupied.

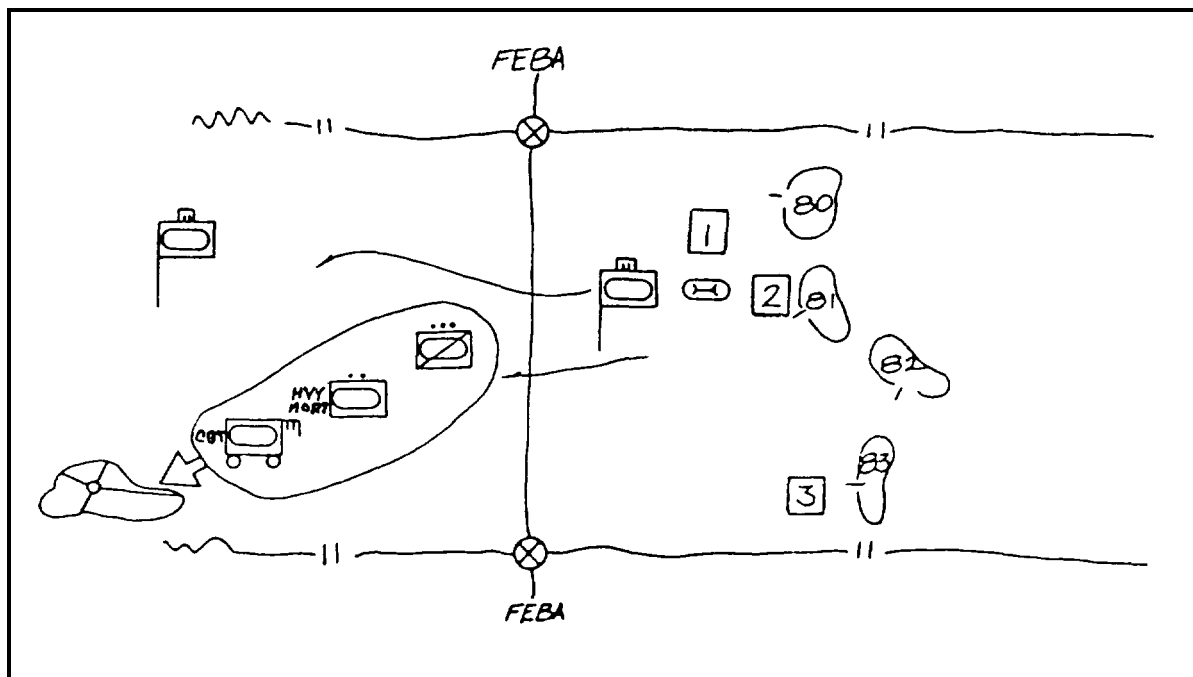


Figure 6-31. Rearward movement.

In addition to the plan to pass, the passing commander may be required to establish AA locations if not given by a higher headquarters. Once BPs 80, 81, 82 and 83 are occupied, the following should be occurring:

- The combat trains, scouts, and one heavy mortar section should be moving along the passage lane to the AA.
- The CP should be moving to collocate.
- If required, the remaining maintenance platoon elements pass lines and move to the AA.

Finally, the passing commander plans the passage of his company teams. In Figure 6-31, forces in BP 80 disengage and move to contact point 1, those in BP 81 to point 2, and those in BPs 82 and 83 to point 3 with units in BP 82 moving first, situation permitting. BP 83 must overwatch BP 82. Forces in BPs 80 and 81 will disengage by platoons.

With this information, the passing unit's liaison team moves to the contact points. Once the stationary and passing liaison teams have met, the situation would look like that in Figure 6-32. Liaison teams exchange information face-to-face. A sample checklist of coordination information that must be exchanged is in Figure 6-33.

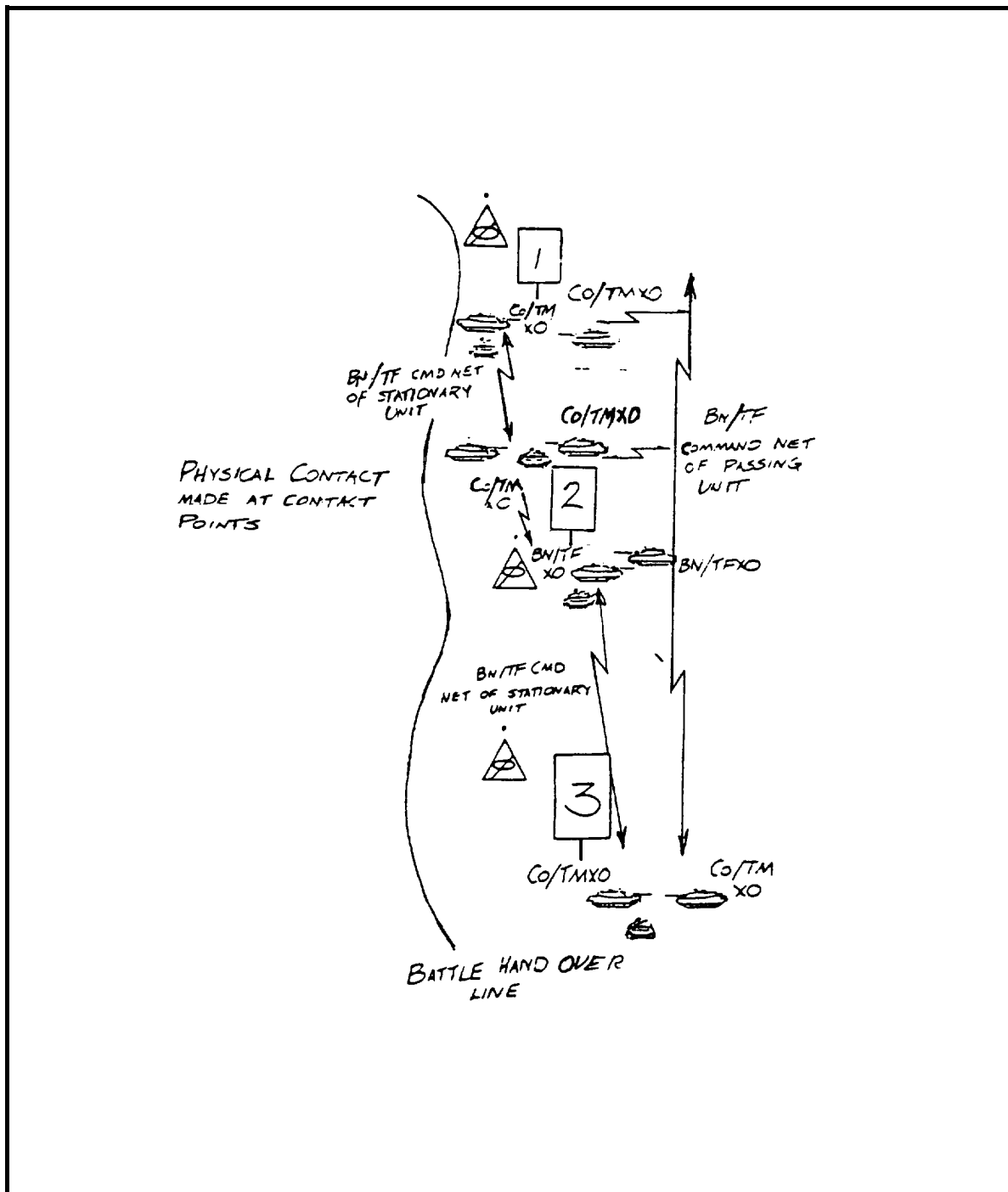


Figure 6-32. Liaison teams in position for coordination.

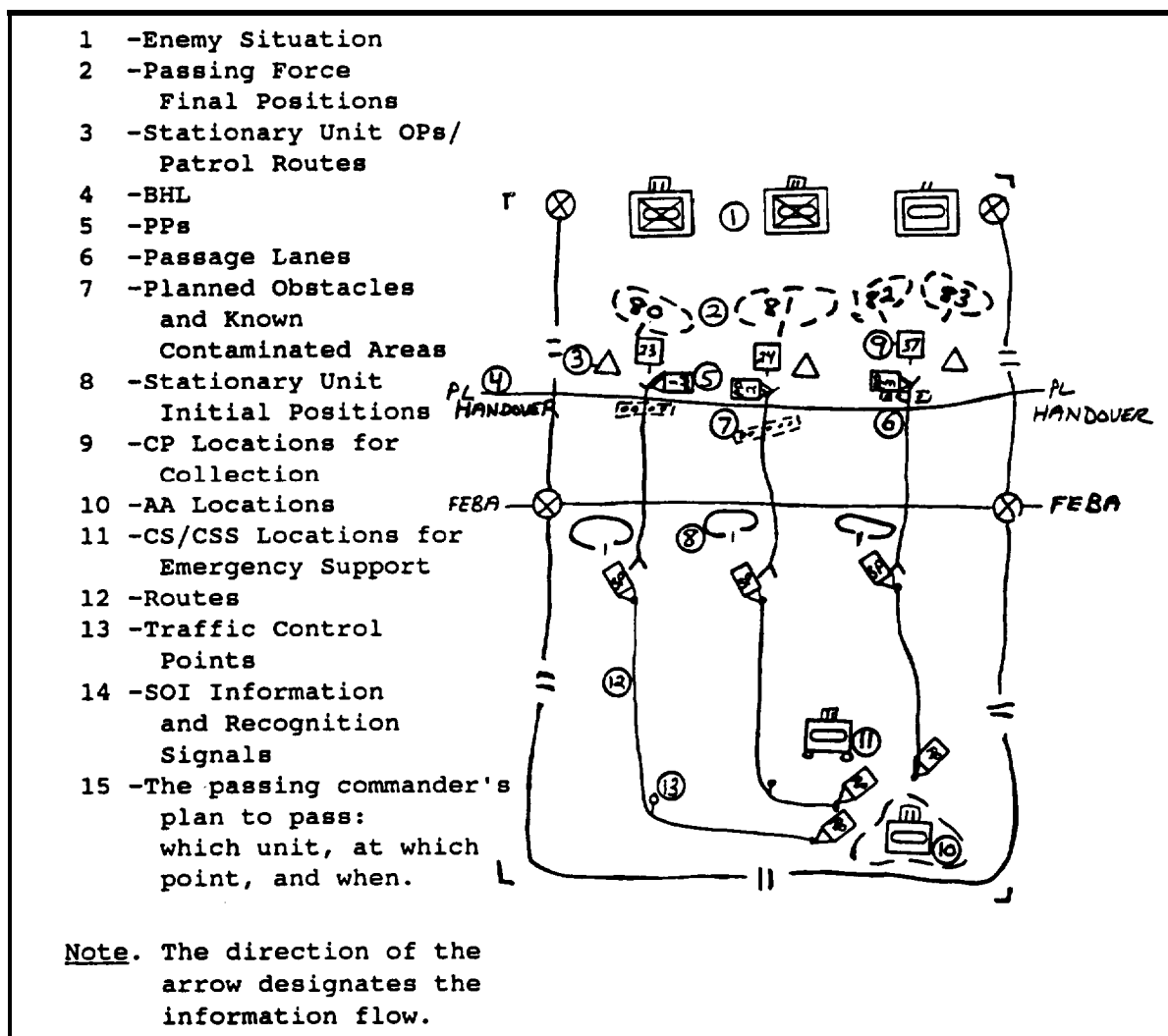


Figure 6-33. Liaison team coordination checklist.

Once coordination is completed, the battalion task force XO's normally attend to other duties as prescribed by the respective commanders.

Passing individual elements. As individual elements approach occupied contact points, they must present a recognition signal. Here are a few examples:

- Weapons pointed toward the enemy.
- Signal panels secured to the front slope/bumper.
- Reflective or engineer tape.
- Range flags tied to antennas.
- Flickering service drive lights and/or flashlights.

Ž A radio call to the passing element XO station at the contact point.

Once at the contact point, the passing element's leader contacts his and the stationary element's representatives at the contact point. The passing element leader notifies these representatives face-to-face about—

- The number and type of vehicles in his element.

Ž The enemy situation.

- Requirements for Classes III and IV and medical aid.

The stationary unit representative makes sure the passing leader understands the locations of all routes, PPs, lanes, obstacles, and friendly forces. The representative at the contact point then notifies the stationary unit by radio, wire, or pyrotechnic signal that a unit has arrived at the contact point and is passing. If radio or wire is used the stationary unit representative transmits the number and type of vehicles in the passing element. The passing unit moves quickly to the PP, maintaining all recognition signals.

Guides. The stationary unit has the responsibility to provide mounted guides. Normally, because only portions of passing units arrive at contact points and because they arrive at irregular intervals, the stationary unit usually does not have sufficient troops and vehicles to guide everyone. As a general rule, only vehicles without radios are guided. The same is true at PPs. Guides may not be available. Passing units must know the locations of movement control measures. It is recommended that elements from nearby MBA forces serve as guides.

Enemy penetration. If the enemy attempts to penetrate the defensive positions prior to or during the passage, the following actions should be taken:

- The passing unit becomes OPCODE or attached to the stationary unit (by order of the next higher commander, normally the commander of the covering force).
- MBA forces defend
- Passing units on the flank of the enemy penetration continue to pass. During their passage, they engage enemy forces from the flank.
- The passing elements interrupted by the penetration are ordered to go to safe contact points (those not fighting) and also to make a passage.

Ž The MBA commander may be ordered to allow passing units to continue to their AA.

Ž The passing elements are assimilated into the MBA defensive plan. In this instance, the MBA commander positions passing units into in-depth positions.

Fire Support

The FSO will continue to control the battalion task force fires throughout the passage. In particular, he should ensure that the FS plan is executed in such a manner that the enemy is unable to close with the passing force or, in the worst case, become intermingled. Due to the vulnerability of the force while it is passing, fires should deny enemy observation and engagement of the passing force. This will include the use of both HE and smoke, plus the possibility of FASCAM to separate the forces or to seal off the passage lane once the passage is complete.

Mobility, Countermobility, and Survivability

The TF engineer will ensure that the stationary force receives all the information concerning obstacles and contaminated areas located within the AO. This information will be critical to the stationary force should it consider any offensive operations. Some reserve demolitions may be planned to further assist in maintaining the separation of the passing battalion task force and the enemy.

Combat Service Support

The majority of CSS assets will be moved before the rearward passage begins. Those assets remaining forward to support the force, however, will be the first to move as the force begins its passage. Damaged vehicles that cannot be repaired or towed through the passage will be destroyed as will any supplies or ammunition. To ensure the proper evacuation and protection of CSS assets prior to the closing of the lane, the last elements to conduct the rearward passage should be a combat element and the scout platoon.

Command and Control

One critical consideration for this operation is positioning of key leaders and the designation of their responsibilities. A recommended solution is shown in Figure 6-34. The following considerations apply:

- Battalion and company commanders control the battle and passage forward of the FEBA.
- The battalion XO controls the AA and coordinates with higher headquarters for the next operation.
- The battalion S3 collocates with the stationary unit or ensures collocation of a headquarters element with the stationary unit.

Ž The battalion S1 and S4 establish the combat trains CP in the AA.

- The BMO will remain with the UMCP rearward of the BHL to repair and recover as necessary.

- The quartering party OIC (CSM, HHC XO, or S1) will assist the battalion XO in the control of the AA.

Ž The battalion medical platoon leader establishes an aid station in the AA. Emergency medical aid is provided by the stationary unit some aid station assets may collocate with the stationary aid station.

Ž Scouts will continue to screen throughout the passage, providing security to the passing battalion task force.

- Company team XOs occupy contact points.

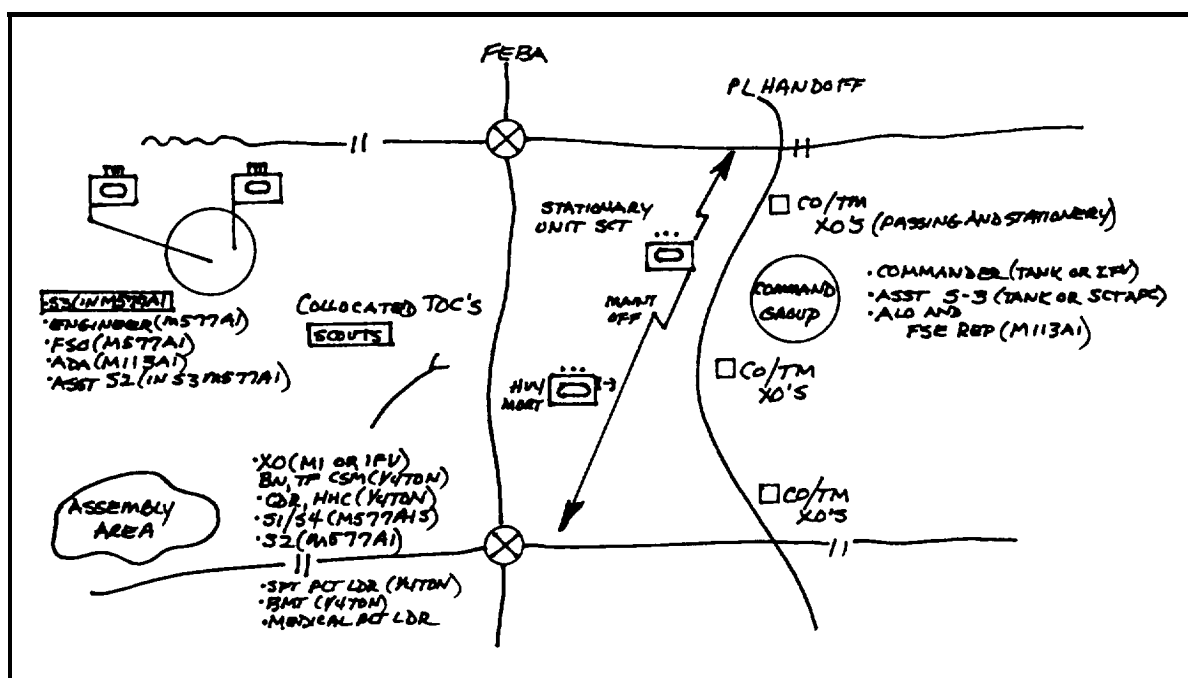


Figure 6-34. Rearward passage command and control.

Execution-Forward Passage of Lines

Intelligence

The passing force S2 will continue to monitor the OI net of the stationary force during the passage of lines until the passing force has control of the battle. During the passage, the S2 will be receiving reports from both the stationary force and his own battalion scouts.

Maneuver

In a forward passage of lines as part of an attack both the stationary and passing unit commanders must know the passing unit's objective. This allows both to focus on lanes through the stationary unit, PPs, fire control measures and axes, and zones or directions of attack. This is especially important if the stationary unit is expected to provide overmatching fires.

Once the order to conduct the passage has been received, the reconnaissance step is the most critical for the passing commander. Generally both reconnaissance and liaison can be accomplished in the same step. The stationary commander will assist in this effort.

The stationary commander reviews the location of his elements in his sector, BP or zone. He then establishes at least two contact points on his rear boundary and routes that lead to the stationary commander's TOC. He designates scouts or combat elements to man the contact points and act as guides. Lastly, he notifies the passing unit of the contact point and route location. There are two effective ways to do this:

- By secure voice FM, either on the higher command frequency or the passing command frequency. The passing command frequency is recommended.
- Ž By sending a liaison team to the passing unit's TOC. The location of the passing unit's TOC, command frequency, and recognition signals are obtained from the higher headquarters.

Meanwhile, the passing force commander begins his troop-leading procedures and develops his plan. Also, he anticipates the stationary commander's notification concerning contact point and route locations by establishing a reconnaissance party and preparing his TOC and combat trains for movement. This element should include—

Ž Battalion task force main CP.

Ž Battalion task force combat trains.

- All company team commanders with FISTs.
- Scout platoon leader.
- Battalion commander and FSCoord.
- A security force for each element (at least one tank section or two mechanized infantry squads per liaison/reconnaissance party).

The purpose of taking the main CP and all or part of the trains is early collocation for command, control, and CSS functions. XO's remain in the passing unit's location and prepare the battalion task force for the operation.

The stationary unit's scouts meet the passing force's liaison teams at the contact points. Passing forces may enter the stationary force's command net and announce their arrival. The stationary commander also designates a location near the main CP for passing forces to occupy during coordination at the headquarters.

The passing main CP and trains are initially collocated with like stationary force elements. The two battalion task force commanders coordinate the passage and the attack; then they proceed to a vantage point, normally in a forward stationary force company team position, to conduct reconnaissance. Any adjustments to the passage or the attack are done at the vantage point or at the collocated CPs.

Additional elements of coordination include—

- Location of PPs and lanes.
- Location of the attack position.

After coordination, the graphics should include the items shown in Figure 6-35.

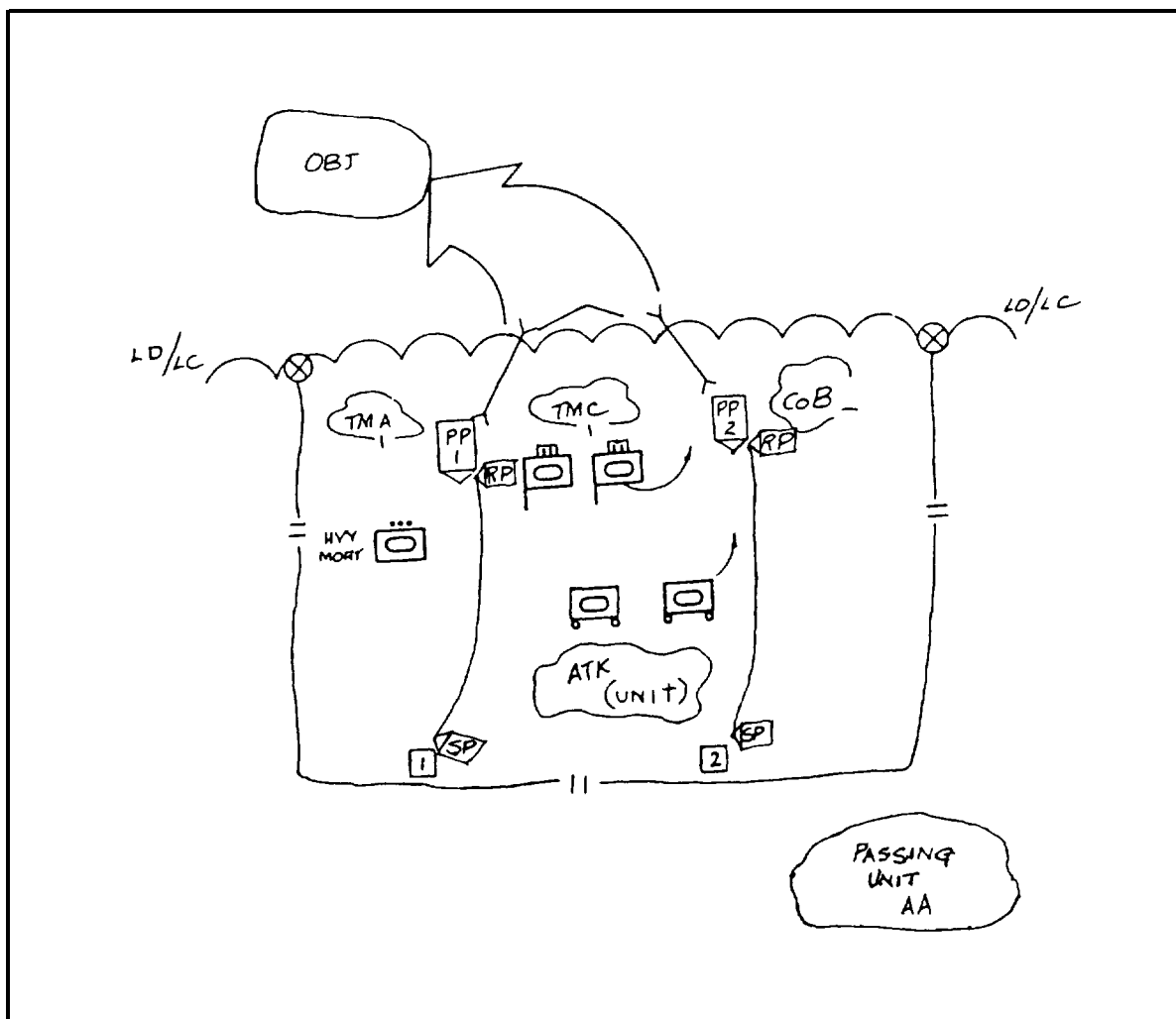


Figure 6-35. Forward passage of lines graphics.

The stationary unit elements should also know the order of march of the passing unit. They should know what passing unit elements will cross which contact point and at what time. Normally, LD/LC time is directed in the mission. Thus the time of entry into the stationary force area is a result of backward planning by the passing commander.

Finally, any last-minute change of plans or unforeseen events (such as enemy counterattacks) may require these adjustments—

- The passing force, on order of the stationary force commander, occupies an on-order position and awaits further instructions.

Ž The passing force occupies on-order BPs in the stationary force's sector and becomes OPCON to the stationary force and defends.

Fire Support

The passing force will send all calls for fire through the stationary force's supporting artillery until battle handover has occurred. Then the stationary forces's supporting artillery may be used to reinforce the passing force's supporting batteries, assuming proper coordination and ammunition allocation were accomplished during the planning of the operation.

Mobility, Countermobility, and Survivability

The TF engineer will ensure that all units receive the location of any known obstacle or contaminated area in the AOs. He will also be prepared to assist the stationary force engineers with opening and maintaining the passage lanes until the passage is complete.

Air Defense

Air defense assets will move with the passing force, while the stationary force maintains area air defense. The passing force's air defense assets will monitor the stationary force's air defense early warning net until battle handover has been effected. They will not move from the passage lane to stop and engage enemy aircraft unless the mess were coordinated in advance with the stationary force S3.

Combat Service Support

The CSS assets will attempt to remain as mobile as possible so that they can position themselves quickly once the passage is complete. Those support activities that must be operational during the passage should be handled by the stationary force with augmentation from the passing force's CSS elements.

Command and Control

During the passage, both main CPs will maintain their respective communications nets. If collocation is not possible, the passing unit commander and main CP enter the stationary unit's command net while monitoring the higher headquarter's net. Company teams maintain parent unit command nets. A typical radio net may look like the one in Figure 6-36.

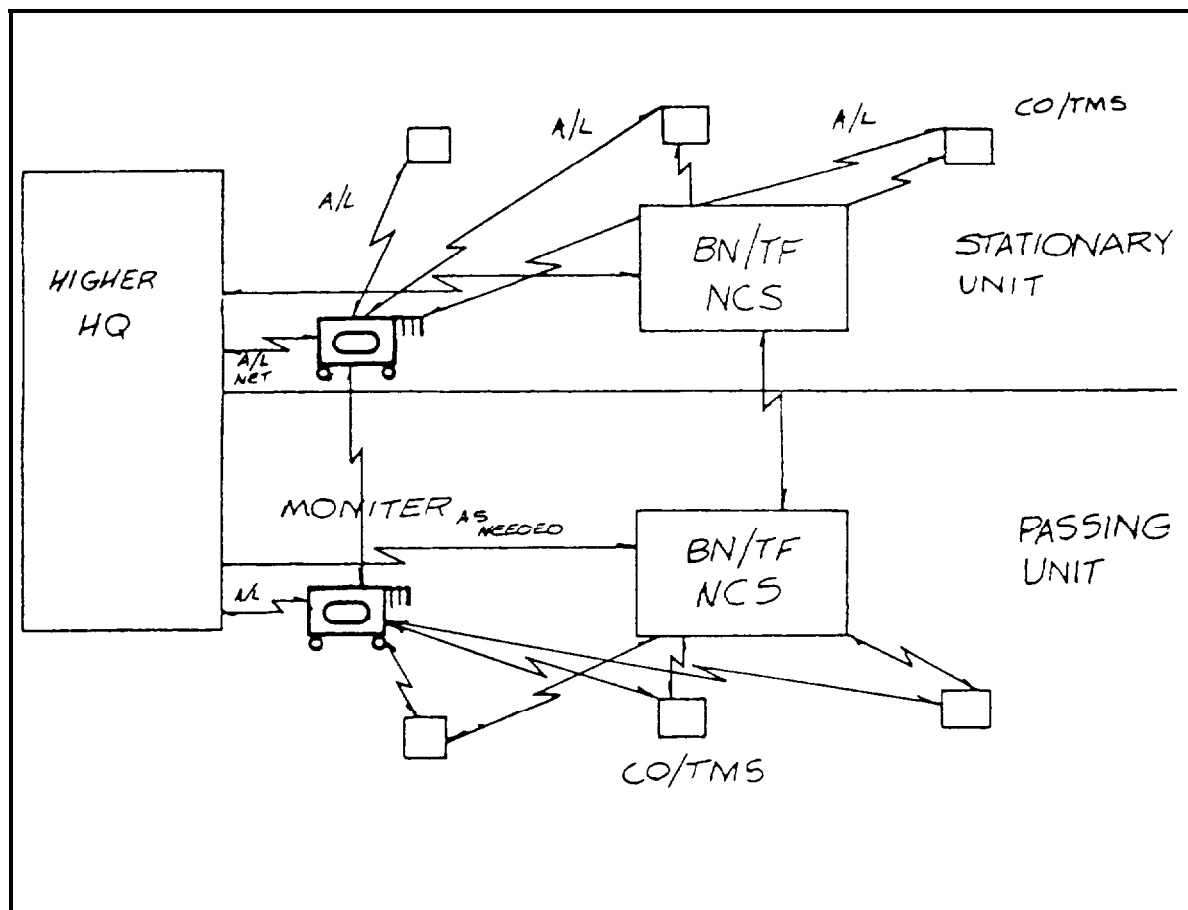


Figure 6-36. Forward passage radio nets.

Relief in Place

A relief is an operation in which a unit is replaced in combat by another unit. Responsibilities for the mission and assigned sector or zone of action are assumed by the incoming unit. Reliefs may be conducted during offensive or defensive operations and during any weather and light conditions. They are normally executed during limited visibility to reduce the possibility of detection.

Planning

Intelligence

The S2 of the battalion to be relieved plans for the relief in place by preparing a complete enemy situation template, to include likely enemy activities or probable course of action during the period allocated to conduct the relief.

Additionally, he should develop a deception plan that will provide the force with secrecy and surprise. Within this plan, all existing normal patterns of activity should continue to be followed. Similarly, the relieving unit should conform to this pattern until the relief is completed. Some examples include—

- Location of LPs/OPs and local patrols.
- Time of changing of the guards.
- Radio check formats and times.
- Time and duration of engine startup.
- Time, method, and location for Classes I and III resupply.

Maneuver

Upon receipt of the order to conduct a relief and assume the relieved unit's mission, the battalion task force commander and staff analyze the factors of METT-T. This will determine the sequence that will be used. Based on that sequence, the commander and staff will formulate the remainder of the plan. They then begin their troop-leading procedures. Additional emphasis must be placed on communications, reconnaissance and liaison, and passage of command.

The relieving maneuver companies move into position and relieved companies move to their AAs by one of the following methods:

Ž Relieving units one at a time.

- This method is the most time-consuming. The combat trains of the two units may be collocated to facilitate coordination and transfer of equipment, excess ammunition, fuel, water, and medical supplies. Initial company teams will relieve each other in order: 1, 2, 3, and 4.
- Relieving company team 1 moves along the center to the RP, and then (if the terrain allows) occupies a forward AA (generally, one AA position for each platoon). From there, the platoons will conduct the relief. When conditions do not permit the occupation of a forward AA, the relieving unit will either move directly to the occupied positions or move individual vehicles (with the assistance of guides) from hide positions established along the route of ingress.
- Next, relieved company team A withdraws along a separate route to a rear AA. Once company team 1 is in position, company team 2 travels along its designated route to relieve company team B, repeating the relief process. This technique continues until each company team has been relieved.
- Relieving battalion task force scouts will normally screen a flank during the relief. Scouts of the relieved force may reconnoiter the routes of egress and AAs, or they may be used as guides to assist in the rearward movement of the TF.

- The sequence of the relief can begin from the flanks or the center. The procedure is based on the enemy situation and the proximity of each BP to the enemy. Generally, if the enemy is likely to attack those areas not likely to receive the brunt of the contact will be relieved first. In this way, the main defensive positions will remain strong as they are manned with people who know the terrain and the defensive plan.
- Relieving units simultaneously. This method is the fastest, but it sacrifices secrecy because all units move at the same time. Once the command groups and combat trains are collocated and plans and equipment exchanged, the units of the relieving battalion task force move simultaneously along designated routes. Relief occurs simultaneously at each location. Relieved units withdraw immediately once they are relieved they do not wait for the other units of the battalion. At the company team level, however, there is no difference between this technique and sequential relief.
- Relief by occupying in-depth and adjacent positions. This technique requires terrain that will accommodate the physical location of another battalion within the same AOs, while also affording it the same direct-fire control measures. Considerations in planning the new defense include thorough reconnaissance of the relieving unit's BPs as well as the impact of the evacuated positions from the relieved unit. In execution, the relieving force will occupy its positions under radio-listening silence, while the relieved force maintains normal communications traffic. The actual relief will occur on order or by time/event. The relieved unit will then move either simultaneously or sequentially depending on the situation. Coordination between units is directed by higher headquarters and accomplished at contact points, designated by brigade.

Fire Support

Detailed coordination and liaison is conducted between the two units. Specifically, target lists are exchanged and arrangements are made for the relieving artillery to take the ammunition left by the relieved force's supporting artillery. The relieving force's artillery will be one of the first elements to arrive in the relieved force's AO and will fire in support of the existing DS battalion. The mortar platoon will do likewise; however, it must also be prepared to exchange base plates if tubes have been dismounted from the vehicles. All FS assets will remain in position to assist in the operation until all maneuver elements have been relieved.

Mobility, Countermobility, and Survivability

The battalion engineers will also exchange information concerning the location of mines obstacles, and any fortifications. The obstacles will be verified to ensure that they remain in the condition described, and target folders will also be exchanged. Target turnover will be closely coordinated, particularly in terms of the conditions under which any of the prepared demolitions may be executed.

Air Defense

Battalion task force air defense will be managed similarly to FS. Air defense assets in support of the relieving battalion will position along with the relieved force's ADA assets. They will coordinate so that the additional ADA units will be able to enter the relieved force's ADA early warning net. Together, these forces will remain, providing area coverage until the relief is complete.

Combat Service Support

The battalion task force S4 of the relieving unit will coordinate with the battalion S4 of the relieved unit to establish the collocation of combat trains CPs, UMCPs, LRP, and any other logistical organizations. The MSRs must be reconciled against the routes used for the actual relief to ensure that congestion does not occur along the route. Supplies of ammunition, Class I, and engineer material, as well as any unit prestocks, should be identified and incorporated into the CSS plan. If possible, the CSS assets should plan to move early, in anticipation of the relief. In this way, the relieved force's support organization may be able to establish operations in the rear AA designated for the relieved force.

Command and Control

Upon receipt of the order to conduct a relief in place, the following events occur.

- The orders group (normally composed of the command group, S2, S4, company commanders, slice, scout platoon leader, mortar platoon leader, and battalion communications officer) moves to the TOC of the unit being relieved. The relieving unit commander and staff coordinate in person with the relieved unit commander and staff at the TOC.
- If required the relieving unit XO moves the battalion to an AA to the rear of the relieved unit.
- The relieving unit commander and staff, after coordination with the relieved unit, complete their command and staff actions at the TOC of the relieved unit. If time is available and the situation permits, the company commanders and scout and mortar platoon leaders can conduct a reconnaissance at this time. The TF commander then issues his order to the orders group.
- Upon completion of the order, the command group remains at the TOC of the relieved unit until the relief is complete. The company commanders and platoon leaders return to their units, issue their orders, and move their units from the AA to positions as prescribed in the order. The battalion signal officer guides the TOC into its position; the S4 moves the combat trains into position.

Preparation

Intelligence

The relieving force S2 prepares for the operation by preparing a situation template from the most current information provided by the relieved force's S2. Specifically, the relieving S2 will want to ensure that he has identified every known enemy location and that his estimate of the enemy's most probable course of action is consistent with the manner in which the enemy has fought to date. It is important that the outgoing S2 describe the enemy's reaction to friendly battle techniques, enemy weaknesses, and identifiable actions or events that seem to trigger specific enemy actions. All this information should then be consolidated and presented to the incoming battalion task force commander.

Maneuver

In preparation for the relief in place, the company teams will move along their designated routes to the forward AAs. It is important that the order of march and the position of each vehicle in the forward AA facilitates the conduct of the relief. For example, the first tank in the column may move to the right-most position in the forward AA, under the condition that it will relieve the outgoing force's right-most tank.

Due to this requirement, the battalion commander should allocate enough time for his company commanders to coordinate with the outgoing commanders and for each company to assume its proper march order prior to execution.

Fire Support

Before the movement of the maneuver elements, the mortar platoon, supporting artillery, and their support elements will move into position and establish communications with the outgoing battalion's FS organization. They will fire as a reinforcing element to the current DS battalion or mortar platoon.

Mobility, Countermobility, and Survivability

Once all the obstacles have been identified and verified and target folders exchanged, the incoming engineer will analyze the defensive plan of the outgoing TF to see if there are any areas in which he could improve the defense. The outgoing engineer will probably have his own fortification improvement plan that should be used as a point of departure for the analysis.

Because the CSS relief has already occurred, the incoming engineer may take advantage of the situation to ensure that the incoming company teams carry some of the additional engineer materials that may be needed immediately following the relief. Likewise, digging assets may be task organized to accompany the incoming

teams so that they may begin improving the survivability of the force once the relief is complete. It is important to note, however, that these activities do not take precedence over the actual relief.

Air Defense

Like the FS, the incoming air defense assets will augment the existing area air defense of the outgoing battalion task force. Once in position and having entered the ADA early warning net, the ADA commander will ensure that each asset knows where it must reposition following the completion of the relief.

Combat Service Support

The CSS relief should occur as soon as possible after the issuing of the order. As a result, the assets will be in position to assist in the maintenance of movement along the assigned routes by positioning recovery and maintenance vehicles at appropriate locations. This is intended to provide assistance as much to the outgoing force as to the incoming force. Some of the outgoing force's CSS assets may be left behind to augment the incoming force's support organization, particularly if it appears that the outgoing force will require recovery support back to the rear AA.

Command and Control

During the preparation for the relief, the incoming commander will closely monitor the activities of the outgoing force as much as he does his own. For example, if an outgoing organization is having difficulty preparing to move, perhaps due to sniper fire, this will have an impact on the overall conduct of the relief. This is especially true if the commanders decide to conduct the relief sequentially. Delays in the outgoing force's preparation will affect the timetables established for the relief. Therefore, each company team commander must monitor the command net and be prepared to react to changes in the movement times.

Enemy activity may also change the mutually agreed-upon time for the change of command. Should enemy activity increase, yet fall short of an attack, the two commanders may choose to change command at a later moment to maintain the advantage of having both forces' FS and ADA assets under continual control. Then once the majority of the force has been relieved the command may change.

Execution

Intelligence

The incoming S2 will pay close attention to the reports received by the headquarters during the relief. He will want to identify as early as possible the likelihood of enemy attack. This puts a real burden on the reconnaissance assets of the outgoing battalion task force. Generally, reconnaissance assets are one of the last elements to be relieved, during the relief, they must continue to conduct operations as they have done in the past. Therefore, the trick will be to increase the reconnaissance coverage without making it obvious to the enemy. In this regard, active reconnaissance assets such as GSR are not an option, as the increased activity can be easily detected. Rather, additional passive operations may be planned, yet positioned so they cannot be easily detected by the enemy.

Maneuver

The execution of the relief will follow one of the three techniques outlined previously in the planning portion. Regardless of the technique chosen, one of the most important aspects of the operation is secrecy. If appropriate, artillery preparation of enemy positions may mask vehicle movement noise, while smoke will prevent observation in selected areas. The most important technique, however, is to use the terrain to advantage. In this way, even if the enemy does detect movement, he still will not be able to ascertain what type of movement (forward passage for an attack, withdrawal, relief).

Another consideration is that while a great deal of emphasis is placed on quietly moving the incoming unit into the position, the same care must be taken by the outgoing unit. Certainly, after a period of extended combat, the temptation of the outgoing unit to "blast" out of the area is very great. Therefore the outgoing commanders must ensure that the same sound and light discipline taken by the incoming force applies to the outgoing. Discipline will be the deciding factor in the orderly and controlled rearward movement of the outgoing force.

Fire Support

During the relief, the supporting artillery may fire HE and smoke on known and suspected enemy locations however, this technique will generally be used when it is commensurate with the normal operations of the outgoing unit. Otherwise, such use of indirect fire will most likely be part of a deception plan conducted by higher echelons.

Should the enemy attack during the relief, FS will be controlled by the outgoing unit's FS organization. Similarly, the incoming mortars will fire to reinforce the outgoing mortars. Having distributed the FS plan and data in preparation for the operation, each FS unit will be able to support the force as it would in any defensive operation. In fact the additional artillery will significantly increase the lethality of the force within the sector. Therefore, as long as proper advance coordination and control is established, the force should be reasonably secure in its ability to defend its defensive positions.

Mobility, Countermobility, and Survivability

The incoming and outgoing battalion task force engineers will monitor the handover of targets, verifying the status of each one in the process. Particularly in the case of lanes through minefields or other systems through which reconnaissance elements must pass, it is essential that the incoming barrier guards know the challenge and password or other signals. This will prevent premature closure of an obstacle or engagement of friendly reconnaissance forces.

Air Defense

The ADA elements will monitor the air defense early warning net during the relief, augmenting the existing ADA assets yet conducting operations as they would for the defense. Once the relief is complete, the incoming ADA elements will reposition to cover the battalion task force.

Combat Service Support

The CSS elements will support the operation in the same manner as for a rearward passage of lines. They will divide their assets to support the incoming force, while also allocating elements to assist in the rearward movement of the outgoing force. Once the incoming force is in position, each company will prepare consolidated reports so that the commander may readily assess the effectiveness of the force. However, these reports and other activities that occur after operations or consolidation must be closely guarded so that they will not identify the fact that a fresh unit is in position.

Command and Control

If either force gains direct-free contact with an enemy force, it immediately notifies the collocated battalion task force CPs, which in turn will notify the higher headquarters conducting the relief. If the responsibility for the sector has not passed, the relieving unit will become OPCON to the relieved unit. As mentioned earlier, FS and air defense assets will continue their support based on who is in command of the sector. However, if responsibility has passed, the assets and staff of the relieved force may become OPCON to the relieving unit. In this capacity, the remaining elements will augment the relieving force or provide advice concerning enemy activity or the current battalion task force defensive plan. The point to remember is that although an enemy attack during the relief may cause confusion, it is nonetheless directed against essentially a reinforced battalion task force. By properly positioning forces through FRAGOs to take advantage of the additional firepower, the enemy will be hard-pressed to overwhelm the defending force through strictly conventional means.

Breakout From Encirclement

A breakout is an offensive operation conducted by an encircled force. A force is considered encircled when all ground routes of evacuation and reinforcement are cut off by the enemy.

Planning

Intelligence

The S2 begins planning for the breakout by determining the enemy situation surrounding the TF. Specifically, he will use the scout platoon and units manning the perimeter to report all enemy information. If the

battalion is still in communication with the brigade or other friendly elements, he will also request their assistance in determining the size, location, and intentions of the enemy forces in proximity to the force. He will consolidate this information and present an estimate with accompanying situation template to the battalion commander.

Maneuver

The doctrine for battalion breakout planning is identical to planning for a brigade breakout (see Section I of this chapter). In planning a breakout for a battalion, the commander is faced with making the same decisions as well. Specifically, he must decide whether the forces on hand are sufficient to create a deception force, while at the same time allow for the protection of the force and its breakout mission. If the battalion task force has four companies on hand, this should be manageable. As an example, here are the forces required to conduct a battalion task force breakout and their commensurate strengths:

- Rupture force, consisting of two company teams.
- Reserve force, consisting of one company team.
- Main body, consisting of the battalion task force, main CP, and CS and CSS elements.
- Rear guard, consisting of one company team.

NOTE: The scout platoon may screen forward to assist the reserve force or assist the rear guard by maintaining contact with the enemy. The mortar platoon will initially support the rupture force, then assist the rear guard as they delay and disrupt.

The rupture force must comprise elements that are able to create a penetration and subsequently hold ground. Generally, that means infantry-heavy company teams. The reserve force has the responsibility to maintain momentum and to reinforce the rupture force if necessary; this points to an armor-heavy company team or tank company. The rear guard must be highly mobile, lethal, and survivable it is usually a reinforced tank company.

Security for the main body, in this example, will have to be provided by the forces themselves. To lessen the burden, the main body may travel close to the reserve force; this will allow some measure of protection outside of its own capability. Fortunately, most of the vehicles in the main body will be armored and equipped with mounted M2 machine guns.

Fire Support

Depending on the situation, artillery may not be able to fire in support of the breakout. The battalion task force FSCoord must make the commander aware of this. If artillery is not available, the battalion has little recourse for indirect FS than to maximize the use of the battalion task force mortar platoon. As mentioned earlier, the mortars will be most effective during the initial stages of the operation as supporting fire for the rupture force. Once the reserve has been committed and the battalion task force maintains its momentum, the mortars will then support the rear guard. Remember, mortars will fire initially in support of offensive operations, then switch to defensive fires. In the case of the latter, that may involve firing for the main body if that is where enemy contact is made; therefore, during movement, the mortar platoon must remain flexible and positioned to where it can protect the force from enemy attack from several directions.

Mobility, Countermobility, and Survivability

The TF engineer has the responsibility to plan each type of operation. He will organize engineer assets in support of the rupture force to conduct mobility operations. Digging assets will prepare fighting positions to ensure the survivability of the TF, and countermobility assets will be given the mission to prepare obstacles in support of the rear guard and, if time allows, to the flanks. Figures 6-37 through 6-39 provide examples of how a battalion task force engineer may organize his assets in support of the breakout.

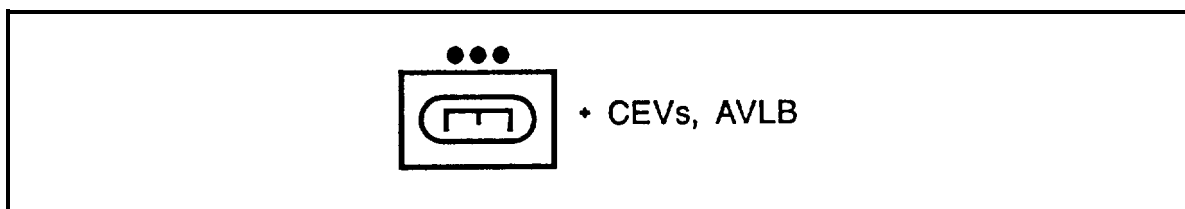


Figure 6-37. Engineer assets in the rupture and reserve forces.

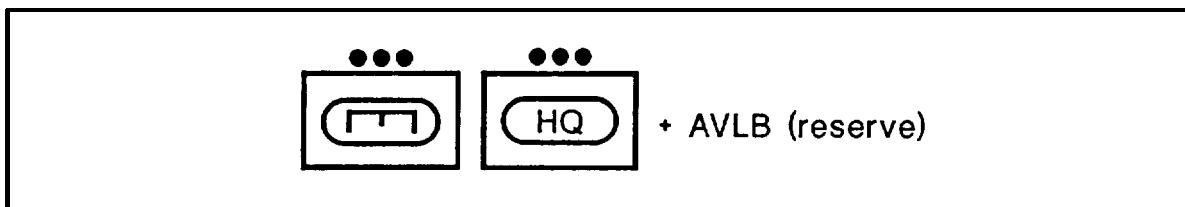


Figure 6-38. Engineer assets in the main body.

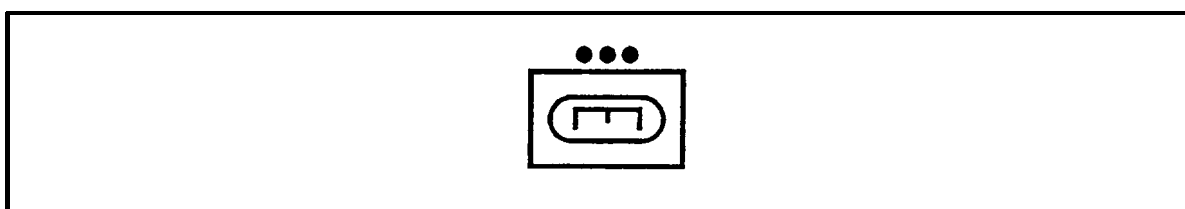


Figure 6-39. Engineer assets in the rear guard.

Air Defense

The air defense assets will initially establish an area air defense plan for the battalion task force area. This will be done via a FRAGO issued by the air defense platoon leader. Once the area is secure, he will attempt to establish or maintain communications with the larger force so that he can take advantage of the air defense early warning net. Next, he will plan to organize his ADA assets so that he can support the task organization for the breakout. This generally means attaching assets to each of the elements. The difference between this and other offensive operations lies in the fact that the main body is considered to be a maneuver element.

Combat Service Support

The CSS elements that most likely would be included in a battalion task force encirclement consist of—

- All company team combat trains.
- UMCP and LRP elements forward of the battalion task force combat trains.
- Battalion task force combat trains.

In planning the breakout, the battalion S4 will want to maximize the use of his limited recovery and evacuation assets. Therefore he will consolidate all the CSS assets and place them under his command. The only exception to this rule is the establishment of combat trains for the rear guard, usually an augmentation of existing company team trains. This organization allows CSS assets to be used where and when they are needed, acting as cleanup for the rupture, reserve, and leading main body forces. The rear guard, on the other hand, will continue to operate as per CSS doctrine, but with perhaps more confidence due to the additional assets.

Command and Control

The battalion task force commander will plan his control of the battle based on the organization of the force and the missions to be accomplished by each. Because the intent of the breakout is to attack out of the encirclement, those forces participating in that aspect of the operation will be considered the main effort

while the rear guard and perhaps, initially, the diversionary force will be the secondary effort. As such, the commander will position himself where he can best control the main effort, while the S3 will probably observe the rear guard. In this way, the S3 can act as a liaison between the battalion task force and rear guard commanders. It is critical that each understands the location and situation of the other throughout the operation, or the force could become fragmented or condensed to the point of decisive engagement.

Preparation

Intelligence

The S2 prepares for the breakout by ensuring that his reconnaissance assets are positioned to provide early warning to the force as it begins the operation. This includes the scout platoon as well as company LPs/OPs around the occupied perimeter. The S2's primary responsibility to the commander lies in his ability to anticipate possible enemy responses to the breakout (counterattack, reinforcement of enemy positions, use of chemical munitions).

Maneuver

The commander will issue his order, probably by FRAGO, as time is essential to the success of the operation. He will conduct a radio rehearsal; however, the commander must be mindful of the trade-off between the loss of security due to an increased radio signature and the time that would be lost in conducting some type of physical rehearsal with the commanders (sand table, walk-through). The decision is not an easy one and will be primarily based on the situation presented by the S2.

Fire Support

If the battalion FSCOORD is still able to make contact with the supporting artillery, k will attempt to input as many targets as possible before the attack begins. There will not be time to prepare a formal FS plan; therefore, he will ensure that each company team FSO has each target number, location, and description as coordinated with the FDC. Should a company team FSO not have digital contact with the FSO, he will have to use the battalion task force VFMED as a relay to the FDC. A company team FSO who wishes to fire on a target of opportunity must be aware that the response time for artillery, as well as adjustment time, may be extended if he does not have direct contact with the FDC.

Mobility, Countermobility, and Survivability

In preparation for the breakout, the battalion task force engineer will ensure that the proper task organization of the engineer assets has taken place. He will spot-check the elements that are designated in support of the main effort to verify that they are prepared to properly conduct their mission. Similarly, he will want to ensure that countermobility operations are occurring as planned. Any areas in which the engineers are having difficulty should be reported to the battalion task force commander so that can make up the difference with the positioning of combat forces.

Air Defense

The battalion task force air defense officer will check via the ADA early warning net and/or his own ADA communications net that each element is "on line" and prepared to defend. He will verify that the task organization is complete and that each element is prepared to provide protection to its respective element while on the move.

Combat Service Support

The battalion task force S4 will account for all the CSS elements that have been consolidated under his command. He will establish a chain of command and issue a frequency from which he can control the formation as it moves. The S4 will ensure that vehicles with externally mounted weapons are interspersed throughout the formation and that air guards are posted to ensure security. He will also ensure that the trains in support of the rear guard are adequately "plussed up" with whatever additional supplies and equipment are required.

Command and Control

The commander will conduct the radio rehearsal, ensuring that the commander of each element fully understands his responsibility within the parameters of the commander's intent. He will position himself where he can observe and control the main effort, initially behind the rupture force. Also, the S3 will move to

the vicinity of the rear guard and conduct a radio check with the battalion task force main CP and the commander. The commander must ensure that all instructions are given clearly and briefly. The breakout is clearly an operation that is based on simplicity of execution, yet is made difficult by the simultaneous C2 operations. The commander will designate PLs for use by the attack forces as well as the rear guard. In this way, through constant coordination with the S3, he will be able to maintain the integrity of the battalion without sacrificing the momentum of the operation. Figure 6-40 illustrates the commander's breakout plan.

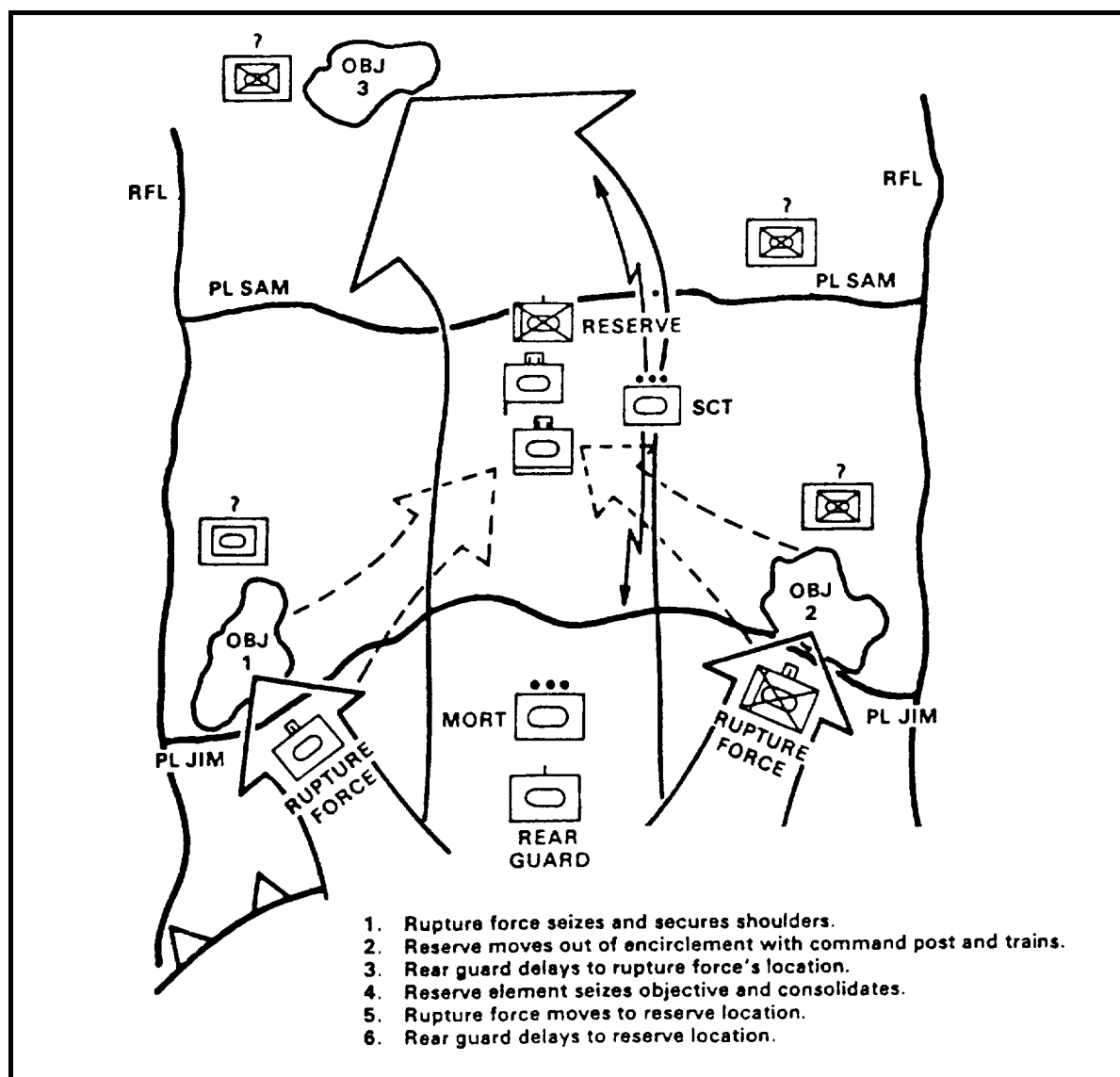


Figure 6-40. Battalion task force breakout from encirclement plan.

Execution

Intelligence

As the battalion task force begins the breakout, the S2 will monitor the enemy situation from two perspectives. First, he will concentrate on the enemy's response to the breakout. Specifically, he will attempt to identify possible counterattack forces or probable enemy defensive positions along the direction of attack. As the battalion task force moves, he will continually advise the commander of the enemy situation, to include

possible courses of action. Second, the S2 will monitor the enemy situation faced by the rear guard. In this case, the S2 will be particularly interested in the enemy's ability to maintain contact with the force. The primary concern to the battalion as a whole is whether or not the rear guard can keep the enemy from closing with the main body. As a result if the enemy seems especially strong and tries to press the attack beyond the rear guard's ability to delay, the S2 must notify the commander, who in turn must either press his attack more violently and assist the rear guard with more combat or CS elements.

Maneuver

The rupture force begins the breakout by attacking a clearly defined objective, usually an identified enemy weakness, but ultimately an objective that allows for a strong defense against enemy counterattack. The rupture force destroys enemy encountered en route, consolidates and reorganizes on the objective, and then establishes hasty defensive positions, securing the shoulders of the penetration.

Once a gap has been created, the reserve force will pass through the rupture force and maintain the momentum of the maneuver. At this point, the battalion task force is set for a movement to contact formation with the reserve force leading, followed on either flank by elements of the rupture force. The main body, containing the trains and CP, is within this protective wedge, while the rear guard completes the all-around security.

Although the battalion task force moves as in a movement to contact, the execution differs in that the force does not want to establish contact with the enemy; rather it wants to bypass enemy resistance in an effort to link up with the main force. Therefore, enemy elements encountered en route will be fixed and bypassed or, if possible, avoided altogether. In this operation speed is essential; the faster the force travels, the less likely the enemy will be able to adequately respond. However, the commander must maintain the integrity of the formation and avoid maneuvering recklessly into an enemy EA. As a result, if the battalion task force must move a considerable distance, the scout platoon should be given the mission to screen forward of the main body.

Fire Support

The FSCOORD will manage the FS as the force maneuvers. Initially, he will ensure an effective preparatory fire is directed against enemy elements in the vicinity of the rupture force's objectives. Once that is accomplished, he will monitor the situation and direct fires where he can best protect the force, whether that is in support of the reserve as a lead element or in support of the rear guard. If DS artillery is available, the FSCOORD may use it to fire primarily in support of the attack. This allows the mortar platoon to fire exclusively in support of the rear guard.

Mobility, Countermobility, and Survivability

Mobility assets will move initially with the rupture force, assisting as required in breaching operations. Once the objectives have been secured, the mobility teams will move to support the reserve force as it moves forward to assume the lead of the formation. Simultaneously, countermobility assets will continue to establish obstacles in support of rear guard operations.

Air Defense

The air defense assets will travel with their assigned maneuver element, providing protection as required. They pay particular attention to protecting the area of penetration, where the forces will become congested as the reserve force moves forward.

Combat Service Support

The S4 will control the movement of the trains, attempting to keep them as close as possible to the reserve force without exposing them to enemy observation and direct fire. The recovery and evacuation assets will attempt to follow in trace or to the flanks of each of the forward maneuver elements. From this position, they will provide support as needed during the movement. The trains supporting the rear guard will move just forward of the force and fall back only to tow a vehicle or extract wounded. If possible, wingmen should do as much as possible to rescue damaged vehicles or evacuate wounded, due to the longer reaction time

required by the trains. However, if trains assets are required, the rear guard will remain in place until the assets have accomplished their mission and are once again forward of the rear guard. This is a very complicated operation to accomplish effectively and will require close coordination and control of the rear guard elements.

Command and Control

The commander will observe the progress of the rupture force and the movement forward of the reserve, while at the same time monitoring the activities of the rear guard. Once the battalion task force begins its movement in a movement to contact formation, the communication and coordination between the commander and the S3 become absolutely critical. If the two forces begin to separate from each other, it could create an assailable flank that an enemy counterattack force could exploit with lethal results. As a result the commander will control the movement via PLs. For example, knowing that the reserve force is crossing a particular PL, the commander should ensure that the reserve is likewise crossing an appropriate PL, which ensures the battalion task force is maintaining its proper interval. This will be extremely difficult to accomplish, due to the unpredictable nature of enemy contact either in front of or behind the formation and the natural tendency of the forward positioned forces to travel too fast and consequently outdistance themselves from the main body and rear guard. Therefore it is essential that each force commander understands his responsibilities with respect to the force and is aware of the need to maintain force integrity, often at the expense of speed.

Linkup Operations

A linkup is the meeting of two or more friendly ground forces that have been separated by the enemy.

Planning

Intelligence

Once the battalion task force S2 has been given the linkup mission, he will begin his IPB process. Knowing the higher commander's intent will be especially important in the preparation of the decision support template. For example, if the nature of the operation is to conduct an envelopment of an enemy force, then the analysis of the enemy's most probable course of action will be oriented on the enemy's actions once he has learned that he has been encircled. On the other hand, if the operation is designed to link up with a friendly force that has been encircled, then the enemy's most probable course of action would more likely center around the containment of the force and the prevention of the linkup. Regardless of the friendly mission, however, the S2 will prepare a situation template that identifies known enemy weaknesses and a decision support template that allows the commander to anticipate the enemy's response to the offensive operation.

Maneuver

The commander will plan the linkup in the same manner as a deliberate attack or movement to contact, based on the strength and disposition of the enemy. However, linkup operations must be planned to facilitate maximum flexibility, especially if the operation involves two moving forces. Control measures may be changed several times during the operation, and detailed recognition signals (for both daylight and limited visibility) must be planned to preclude friendly forces from engaging one another. Units conducting linkup operations must closely coordinate actions prior to and during the linkup operation to ensure that all units involved are aware of the location and actions of all units.

Actual linkup maneuver graphics are the same as offensive operations graphics with the exception of the linkup point and the use of RFLs and CFLs. Proper selection of a linkup point is essential to the success of the operation. Besides being easily identifiable, the linkup point must also be rather inconspicuous, or the enemy will be able to predict the location of the coordination and quickly target it with artillery. Also the location should be relatively isolated from direct fire and observation of possible enemy elements located

on surrounding terrain. Alternate linkup points must meet the same criteria and should be reconnoitered to the same degree as the primary linkup points.

In preparing his plan, the commander must pay special attention to his time analysis. The linkup has a better chance of success when the operation is begun early. The trade-off for time against preparation must be carefully balanced to ensure the battalion task force does not jump headlong into the operation without carefully considering the enemy situation and the inherent capabilities of the force.

Fire Support

The battalion task force FSCOORD will prepare the FS plan, devoting special attention to the fire control measures assigned to protect the force while on the move. The proper emplacement and control of RFLs and CFLs will be critical to the mission. As the battalion maneuvers, these control measures should be changed periodically to keep pace with the operation. It is essential that each force participating in the linkup has a copy of the other's FS plan. This may be difficult to accomplish if the linkup is designed to free an encircled force. Usually, the FS plan is sent to the other force via DMD; however, if the communications link is not in place, the battalion task force FSCOORD will have to use any other radio net to transfer the information. The danger, of course, is that this is very time-consuming and may not be secure. When this technique is used the FSCOORD should try to reduce the target list to "bare bones." Regardless of which method is used, RFLs and CFLs, plus the times and signals to control them, are difficult to transmit over the air therefore, care must be taken when describing their location and use.

Mobility, Countermobility, and Survivability

The battalion task force engineer will advise the commander of the optimum task organization and use of these assets in the linkup. Generally, they should be the same as for any offensive operation. Initially, the most important mission of the engineers will be mobility operations. Therefore, the engineer assets should be placed forward in the formation, where they can quickly respond to obstacles. Once the force has completed the linkup, the engineers may then engage in operations suited to a possible change in mission, for example, survivability and countermobility operations in support of the hasty defense.

Air Defense

The battalion task force air defense assets will be organized as in a movement to contact. The priority of protection will be based on the commander's assessment of the force's vulnerability and criticality of each of its elements. Usually, the commander will want to safeguard his C2 as well as those elements essential to the mission, such as breaching assets. Each company team will be given a Stinger team for protection, while the Vulcans protect choke points or the element given the highest priority of protection.

Combat Service Support

The battalion task force S4 will have a particularly difficult task in preparing for the linkup. In addition to organizing the force for an offensive operation, he must also plan to transport additional supplies and materials, especially if the mission is to link up with an encircled force. The tempo of the operation will be very fast; therefore, the S4 must plan carefully to maximize the road network as well as any other transportation assets that may be on hand. He must select UMCP and LRP locations that support forward evacuation during the maneuver and must take extra precautions to safeguard each of these locations. The enemy will attempt to counterattack to blunt or cut off the linkup force. Under conditions of extended lines of communications, CSS assets may become extremely vulnerable.

Command and Control

Initially, the commander should establish liaison with the commander of the counterpart force. In the case of a double envelopment, this should be easier to accomplish than when attempting to free an encircled force. Regardless of the method of liaison (visual or audio), the linkup commander should attempt to gain as much information as the enemy will about the situation, composition, and capability of his counterpart force. This background information will assist the commander greatly during the execution phase of the operation, as he assesses the situation. In particular, the commander will attempt to gauge the tempo of the operation based on the speed and effectiveness of the other force.

In the actual C2 of the operation, the commander will use the same procedure as for a deliberate attack or movement to contact with one significant difference. While attacks are certainly part of the linkup, the

ultimate goal of the linkup is to pin with the other friendly force. As a result, the commander must ensure that the recognition signals used by both forces are appropriate for the situation and easily within the capability of his company teams to execute.

Also, the commander must think at least one step beyond this operation to ensure that his force will be poised to execute any series of missions once the linkup is complete. A hasty defense and continuation of the attack are two options most likely to be executed. Therefore, the commander must not only be prepared to fight for the immediate goal but also be prepared to sustain operations for the subsequent mission.

Preparation

Intelligence

Once the staff has completed the decision support template and briefed the commander on the enemy situation, the S2 will then ensure that he has good communications with his counterpart S2. Together, the two S2s will provide information to each other in an effort to develop as complete a picture of the enemy situation as possible. The S2 will also coordinate with the scout platoon leader to ensure that the reconnaissance plan is fully understood and that he is mindful of potential danger areas within the AO.

Maneuver

The commander will have little or no time to conduct a level three rehearsal due to the immediacy of the situation. However, he should as a minimum take the time to walk the commanders through the operation. As for any offensive operation, the battalion commander will want to ensure that each company commander and special platoon leader understands the guidance and is prepared to make decisions and operate within those parameters. Bypass criteria actions on contact, and other actions within the greater linkup operation should be reviewed. In particular, the commander must impress upon his subordinates the notion that they should not become distracted or enticed away from their primary mission, namely the linkup.

Of all the activities that are reviewed, however, the most important is the linkup operation. In this regard, the commander should ensure that each element understands the recognition signals used to make the actual linkup, the fire control restrictions, and the enemy's most probable course of action and how to defeat it. In fact, unless the battalion task force has had to fight its way to the other force, the scout platoon will be the most likely element to establish initial contact and guide the remainder of the battalion into position. For this reason, the commander will want to give this unit special attention.

Fire Support

In preparation for the operation, the battalion task force FSCoord will ensure that each company team FSO has the FS plan and understands the signals and conditions under which restrictive measures will be emplaced or lifted. Additionally, he will confirm the same information with the counterpart force prior to the commencement of the operation. During the commander's rehearsal, the FSCoord will verify the use of priority targets and ensure that each commander understands who has control of the target and when. The mortar platoon leader will demonstrate that he will be able to maintain support of the lead element of the battalion throughout the operation. The commander may choose to have the mortars fire in support of the scout platoon if the enemy situation warrants, in which case the mortar platoon leader must coordinate movement with the scout platoon leader. Once the linkup is complete, the mortars should also be prepared to quickly establish firing points in support of the hasty defense or to move to support the new lead element as the battalion continues to advance.

Mobility, Countermobility, and Survivability

The battalion task force engineer will verify the proper task organization and attachment of engineer assets. Next he will inspect the engineers to ensure that they have all the equipment necessary to accomplish their mission. Specifically, he will want to ensure the amount of each type of ammunition and demolition material available. This serves two functions: it confirms that the engineers are prepared to execute, and it gives the battalion task force engineer a complete understanding of the capabilities of the force. The latter may become very important in making recommendations after extended combat. Finally, he will review breaching drills with the force to ensure that the engineers and their maneuver element are able to work as a team.

Air Defense

The air defense officer for the battalion will conduct communications checks with each of the ADA elements to ensure that each is prepared to receive notification concerning enemy aircraft via the ADA early warning net. He will also check with each element to ensure that those accompanying the maneuver companies are under armor. If possible, extra Stinger missiles will be carried to avoid the need for immediate resupply once on the objective.

Combat Service Support

The battalion task force S4 will review the concept for logistical support with the company team 1SGs and the support platoon leader. In particular, he will want to ensure that each understands the routes they are to use, the direction of travel for each route, the location of the UMCPs and LRPs, and the events or signals that will trigger the activation of new UMCPs and LRPs. Advisories will be issued concerning controlled supply rates and other supply constraints. Conversely, additional supplies that are to be carried to the encircled force for immediate supply will be identified and coordinated for pickup.

Command and Control

After walking the company team commanders through the linkup rehearsal, the commander will use the remaining time to review his own actions with the S2. He will ensure that he gets the best use from the decision support template, particularly in assisting his timely decision making. He will especially want to verify the time-distance analysis. Once that is complete, the commander will spot-check the companies to assess the confidence of the men and their preparedness for the mission. The commander will want to make sure that each commander is satisfied that he has all that he needs to accomplish the mission and that he fully understands the commander's intent.

Execution

Intelligence

Once the operation begins, the battalion task force S2 will execute in the same manner as for any offensive operation. However, he will attempt to establish or remain in contact with his counterpart S2 throughout the maneuver. As the scout platoon and other elements report enemy actions, the S2 will add this information to the situation template and relay the information to his counterpart. The S2 will advise the commander periodically throughout the operation and upon the identification of any potentially significant threat. In particular, the S2 will attempt to identify enemy counterattack forces that may attempt to sever the battalion's lines of communications. He will also be on the lookout for reinforcement of enemy positions located between the converging forces in an effort to deny the linkup and blunt the attack. Once the linkup is complete, the S2 will coordinate with the scout platoon for reconnaissance operations in support of the new mission.

Maneuver

The battalion task force will maneuver toward the objective as in any offensive operation, such as a movement to contact or deliberate attack. As the battalion draws near to its counterpart, the tempo of the operation will slow as elements from each force reach either a limit of advance or achieve line of sight with the RFL (it is imperative that this control measure is easily identified). Predesignated elements, usually the scout platoon, will move forward, displaying the predetermined recognition signals and effecting the formal

In the meantime, elements from both forces must be prepared to orient in any direction to provide security to the coordinating elements and to anticipate an enemy attack. If the operation is a double envelopment encircling an enemy force, the enemy will place its full weight against the point of coordination because that is where the forces are weakest. Likewise, enemy elements outside the pocket will counterattack to reestablish a gap and extract as many elements as possible from the encirclement.

If the linkup is designed to free an encircled friendly force, then the enemy can be counted on to launch counterattacks designed to sever the lines of communication and create an even greater encircled force, or simply to sever the two forces into smaller-size elements where they may in turn be destroyed in detail.

Regardless of the objective of the linkup, the primary concern remains the consistent all-around defense of the force throughout the operation. Therefore, hasty defensive positions must be quickly established the moment the force makes contact with its counterpart and the momentum of the operation begins to slow. However, if the linkup force determines to make contact only long enough to coordinate and continue the attack, while follow-on forces actually tend to the needs of an encircled force, the hasty defensive positions are used more as an echeloned halt for quick perimeter security.

Fire Support

A CFL will be established along the maneuver route for each force or around the encircled force with an RFL becoming effective as the two forces close. Artillery will be free to engage all enemy forces outside of these restrictions for the duration of the operation or until notified otherwise. The battalion task force FSCORD will execute the FS plan as for offensive operations, but will remain prepared to revert to defensive FS the moment the force begins to slow for the linkup. He must pay close attention to the location of each company team in the hasty defense, to include the location of reconnaissance elements or outposts. With this information and enemy situational intelligence provided by the S2, he will quickly establish additional targets in support of the battalion task force defense.

Mobility, Countermobility, and Survivability

The engineers will conduct breaches and maintain the MSRs as required for offensive operations. Should the commander decide to defend once the linkup is complete, the engineers will immediately revert to countermobility and survivability missions. Speed will be essential; therefore, engineer equipment and barrier materials should be pushed forward throughout the operation.

Air Defense

The ADA support will be executed as in offensive operations during the initial stages of the maneuver. If the forces defend on linkup, the ADA commander may decide to revert to any area defense while also providing protection along the MSR. In this situation, the ADA elements will quickly occupy appropriate positions along identified air avenues of approach and coordinate their defensive plan with the ADA elements of the other friendly force.

Combat Service Support

The battalion task force S4 will push the CSS elements to keep pace with the operation and anticipate the needs of the force. LOGPACs will be pushed forward throughout the operation, and vehicles with emergency resupply of ammunition and fuel will be on standby as close as possible to the maneuver elements. The point to remember in offensive operations is the shorter the turnaround time, the better the support and the faster the formation. Therefore the S4 is key in continually pushing the support forward and monitoring the consumption of each element during the operation. Once the linkup is complete, resupply should be on the spot to bring the force up to strength. This maybe difficult to accomplish, particularly under enemy counterattack, but if the battalion was forced to fight all the way to the linkup point, it will most certainly need more ammunition if it is to sustain the fight.

Command and Control

The commander will position himself where he can best observe and control the battle, probably behind the lead company. As the two forces close to linkup, he must be prepared to accept heavy fighting. Moreover, he must look ahead to the next operation, whether it is to continue the attack or to defend. At this point in the battle, positioning of the force will be critical, specifically the areas adjacent to the linkup point. The commander must ensure that his most forward elements physically tie in with the counterpart force and that mutually supporting interlocking fires are achieved.

Coordination with the counterpart commander must be accomplished quickly and tersely. Each commander must be prepared to offer the other a quick status of his force's strength and fighting capacity as well as his personal assessment of the situation. Together, this information will be the basis for deciding the units' new missions. Also, in the case of a linkup to free an encircled force, this information will assist the battalion S4 in transporting needed supplies and materials to the counterpart force.

Speed will be essential to the success of this mission, but not without proper reconnaissance throughout. The commander must balance between spurring on the force to make the greatest gains quickly and being

careful not to fall prey to the enemy in the maneuver. These considerations, plus the expected high intensity of fighting, mean the commander must lead the battalion, making quick assessments of the situation and directing (personally if need be) the actions of the force. The linkup is clearly one of the most difficult and dangerous operations to execute.

Hasty Water Crossings

Hasty water crossings are normally used by the battalion task force to maintain momentum. A hasty water crossing is a decentralized operation to cross an inland body of water such as a canal, lake, or river. These operations include crossings by tactical bridging or by swimming or foaling vehicles. The battalion normally participates in a deliberate or retrograde river crossing as part of a larger force.

Planning

Intelligence

Once the S2 receives the mission, he will immediately coordinate with the battalion task force engineer representative the scout platoon, and the GSR to conduct a reconnaissance of the river line to identify possible crossing sites for the force.

The S2, of course, will also be concerned with the enemy composition and disposition within the area of interest. Generally, a hasty water crossing is not conducted at battalion task force level unless the enemy resistance is weak. Therefore it is important that the S2 creates a reconnaissance plan that will confirm or deny that assumption. The sooner the commander has an understanding of the nature of the enemy's defensive capability, the physical characteristics of the river, and the proposed crossing points the better informed he will be to create an effective river-crossing plan.

Maneuver

The battalion commander will begin by issuing a FRAGO to his force. In particular, he will want to provide as much time as possible for the units to prepare their vehicles for swimming or fording. At this point, the actual conditions of the river may not be known; however, the more time the force has to prepare for the worst, the more flexible they will be once called upon to execute.

Having received the initial reconnaissance reports from the scout platoon with input from the engineers, the commander, S2, and battalion task force engineer will begin to plan the operation. The most serious concern in the actual river crossing comes when comparing the physical characteristics of the river to the capabilities of the force. For example, a river that exceeds a depth of 1.2 meters requires the use of bridges or rafts if the force is to cross it. Bradleys, on the other hand can swim, but only when the current does not exceed 4 knots. A further consideration is that it takes between 45 minutes to 2 hours for a crew to prepare the vehicle for swimming. Generally, a battalion task force does not have the necessary engineer equipment for a river crossing; these are division and corps assets. The point to remember is that if the river cannot be forded or swum or if an AVLB cannot be used to cross the obstacle (even by laying it in the center of the river and fording to and from it), it will not be a hasty river crossing.

The commander will determine the location of crossing sites with respect to defensible terrain on the far side of the river. Usually, this involves several sites at the TF level in order to avoid having the enemy mass fires against the entire force. The defensible terrain then becomes the objectives for the assault force.

As an operation, the hasty river crossing may be broken into the following steps:

- Advance to the river.
- Cross the river.
- Advance from the exit bank.
- Secure the bridgehead.

The battalion task force will be organized to form the following forces:

- Ž The assault force is usually a mechanized infantry company given the mission to make the initial assault of the river and advance from the exit bank to the final objectives. The assault force may be reinforced by the follow-on force before making the assault on the final objective.
 - The follow-on force is usually a tank company and mortar platoon that will provide overwatch and suppression for the assault force, then reinforce the assault force for bridgehead security.
 - The support force is usually an engineer force that will develop the crossing sites, emplace crossing means, control units moving into and away from the crossing site, and assist the assault force to the objective through mobility operations.
- Ž CSS will sustain the assault and subsequent assault to the bridgehead.

This organization potentially allows a battalion task force to make two crossings simultaneously against light enemy resistance. However, in the case of a stronger enemy, the commander will most likely increase the size of both the assault and follow-on forces.

Fire Support

The battalion FSO will develop an FS plan that supports each phase of the river-crossing operation. This includes both offensive and defensive FS control measures as well as munitions. For example, in the assault crossing of the river, smoke and HE will be used to suppress the enemy positions that can influence the crossing site as well as mask the movement of the force. Once the bridgehead has been established, defensive fire control measures such as FPFs and FASCAM may be used in an effort to protect the force. Finally, as the assault force continues its advance to the final objectives, the fire plan will again revert to an offensive nature.

Mobility, Countermobility, and Survivability

The battalion task force engineer will begin, as mentioned earlier, by sending a river reconnaissance team with the scout platoon to determine the best locations to conduct the crossing and to verify the condition of the river. Meanwhile, the engineer commander will begin to assess the equipment on hand and the capability of the assets to support the crossing. For example, if an existing bridge has been damaged, then an AVLB may make the structure strong enough to support the weight of tanks, or if the river is just a few inches too deep, then the AVLB may be placed in the river where vehicles may then ford.

Air Defense

The battalion air defense officer has two major concerns during the river crossing: the protection of the force and the protection of the crossing site equipment. To this end, he will organize his Stinger teams and Vulcans so that some will be attached to each maneuver element to provide protection and others will be positioned to protect the river-crossing site. In the case of the latter, generally a gun-missile mix at the crossing site is favorable.

Combat Service Support

The battalion task force S4 has several major responsibilities with respect to the river crossing. He must ensure that the support forces have all the equipment needed to emplace an adequate crossing site. Also, he must ensure that the assault force receives a resupply of ammunition and other expended supplies as soon as possible after securing their objective. The crossing sites themselves must be kept free for movement as much as possible therefore, recovery vehicles should be positioned at each crossing entrance. Similarly, the aid station should be placed as close as possible to the crossing site so that casualties sustained by the assault force can be treated quickly upon their return by raft or vehicle.

Command and Control

The commander will be responsible for the overall operation; however, he may place the XO in the position of the crossing area commander, while his S3 accompanies the assault force and supervises securing the bridgehead. Throughout the operation, it will be imperative that the officers communicate with each

other. For example, if the assault force is unable to immediately clear enough terrain for the follow-on force due to enemy resistance, then the battalion commander must increase the artillery support and the direct FS of the follow-on force and hold the follow-on force in position. Should forces move too quickly and begin to pile up on the far bank, they will become a lucrative target for enemy air strikes, artillery and counterattack. The key to this operation will be maintaining momentum while also maintaining control of the crossing.

Preparation

Intelligence

The S2 will continue to update his enemy situation template from the reports of the scout platoon. If possible, some scout elements should attempt to reach the far bank of the river to provide an accurate assessment of the enemy situation. This may be a high-risk operation, however, depending heavily on METT-T. As the commander war-games his river-crossing plan and as he rehearses the plan with his subordinate commanders, the S2 will portray the enemy's likely course of action. Generally, the battalion task force can expect a fierce enemy defense as the assault force attempts to cross the water, followed by local enemy counterattacks to deny the establishment of a foothold. This latter effort will be augmented by heavy artillery fire

Maneuver

The commander will have some time to rehearse, but not to the extent of conducting a level three rehearsal. Due to the time it will take to prepare vehicles for swimming, the commander may use this time to walk the company commanders and special platoon leaders through the operation after issuing the OPORD. In particular, he will want to ensure that the command of the assault force and the follow-on force is clearly understood. Also, the battalion task force commander will check that each subordinate commander understands where and how he is to cross and his assigned objective on the far riverbank.

Contingency planning will be an important aspect of the rehearsal, due to the possibility of losses during the assault crossing of the river. The battalion task force commander will want to ensure that in the event of losses to bridging or rafting equipment, the company team commanders understand what new measures to adopt to maintain the momentum of the operation.

Fire Support

The battalion task force FSO will simultaneously rehearse the FS plan with the company team commanders as they walk through the river crossing. The FSO will ensure that during every phase of the operation each commander understands who has priority of fires. Additionally, any priority targets that may be assigned should also be exercised for timeliness and to check the conditions under which they are fired. The mortar platoon should receive the special attention of the FSO, especially in the case of water obstacles that may severely restrict the ability of the platoon to engage enemy forces once the initial bridgehead has been established.

Mobility, Countermobility, and Survivability

The engineers will prepare for the operation by ensuring they have all the materials needed to conduct the crossing. Their preparedness is the linchpin of the entire operation. Because their initial responsibility will be to clear the far side of the river and to prepare entrance and exit ramps, some of the engineers will accompany the assault force while others remain behind to construct the rafts or bridges. The engineers should rehearse their actions to ensure they are integrated into the activities of the maneuver forces

Air Defense

The ADA commander will ensure that the assets are task organized and located with their appropriate unit. Those assets that will be located to protect the crossing site should confirm their positions. Other normal preparation checks will be made to include communications on the ADA early warning net.

Combat Service Support

The battalion task force S4 will conduct a CSS rehearsal simultaneously with the maneuver rehearsal. Like the maneuver rehearsal, the CSS rehearsal is designed to be a walk-through following the issuance of the battalion task force OPORD. The battalion task force S4 will want to ensure that the resources are properly

allocated and that recovery, supply, and evacuation assets are positioned as directed. In particular, the S4 will want to ensure that river-crossing material is being brought forward in preparation for the operation and that it is located near the crossing site, disguised from enemy view. Contents of preloaded push packages should be reemphasized individual forces require differing resupply items based on the nature of their mission.

Command and Control

Due to the reduced space available for movement at the crossing site, the increased vehicular traffic, and the possible influx of other arms and services, C2 problems are very possible during a hasty crossing. Once the crossing site has been secured, control of elements in and out of the crossing site is usually accomplished by the battalion task force XO acting as the crossing site control officer. All of the available assets are used to cross the maximum number of vehicles and troops in the shortest amount of time. The organic means available to the battalion task force to conduct this crossing are the M113, M2/M3, and M577, which all have the capability to swim.

The commander will carefully watch the rehearsal to identify any areas that may be streamlined to make the river crossing more efficient. Also, he will look for vulnerabilities and attempt to make minor changes to the plan in an effort to make the operation more effective. He must avoid making severe changes that could confuse the company team commanders.

Execution

Intelligence

Once the operation begins, the battalion task force S2 will periodically update the commander concerning changes in the enemy situation. The scout platoon will be counted on initially to provide spot reports of enemy positions and activities on the far side of the river. The battalion task force commander will be especially interested in the first signs of a possible enemy counterattack so that he can take counteractions appropriate to the situation. As a result once forces are across the river, the scout platoon and any other reconnaissance elements should be pushed forward to the outside of the perimeter and beyond to provide as much early warning as possible.

Maneuver

During the movement to the water obstacle, the battalion task force commander deploys his force with his assets positioned to facilitate the crossing. In a hasty water crossing, minimum time is available for preparation. If required by the nature of the crossing, the battalion task force vehicles may need to stop briefly in a covered and concealed position to be prepared for the crossing. Also, the water obstacle entry site may need to be improved by the unit's engineer equipment prior to the crossing. The movement to the water obstacle is timed so that the initial unit does not pause at the crossing site but moves directly into the water. The company teams advance as quickly as possible in an effort to capture any existing bridges prior to their destruction by the enemy. The battalion task force advance guard clears the near bank of any defending or delaying enemy forces, while the identified reconnaissance elements start looking for possible crossing sites. If such a force is available, a friendly air assault could be used to secure the far (enemy) bank. Supporting engineers and available crossing equipment should be forward enough to be committed as required. It may be possible to use or repair partially damaged bridges using engineer crossing assets.

If bridges or fording sites are available and a strong AT threat is not present, tanks should lead across the water obstacles. Otherwise, the crossing should be led by M2s with tanks and M901 ITVs providing supporting fires. If enemy resistance is strong enough to prevent the tanks and M2s from crossing, the battalion task force commander may request an air assault to reduce the enemy force on the far bank. When the crossing is possible, the amphibious vehicles cross the water by unit each in line formation. When tanks and amphibious vehicles cross simultaneously, extreme caution must be taken to ensure that vehicles do not collide. To avoid collisions, amphibious vehicles should cross using sites downstream from tanks.

As soon as the far bank has been secured by the leading units of the battalion task force the remainder of the force should cross in the following order: the remaining maneuver units, command group, CS elements, the TOC, and finally the CSS assets.

Fire Support

The artillery will begin with suppression of the far side of the river, directed by the forward positioned reconnaissance elements. As the assault force begins its movement across the river under the cover of smoke and the suppression HE, FOs will be on the lookout for enemy elements that may reposition in order to get a shot at the assault force. Once the far side has been initially secured and the follow-on force and support forces begin their portion of the battle, the artillery will shift to suppress enemy positions in depth and to interdict enemy counterattack elements. Again, the reconnaissance elements will be vital to timely and accurate indirect fire. If possible, the mortar platoon should get across the river quickly to establish the perimeter security defense and FPF. This will make indirect support more timely and better able to respond to a quickly changing enemy situation. The point to remember in this operation is that for the force across the river, firepower must take the place of space and time. Therefore the faster indirect FS can react to the enemy the better.

Mobility, Countermobility, and Survivability

The engineers have one of the most critical tasks at the onset of the operation, namely the establishment of safe entrance and exit lanes for the crossing. This suggests the clearance of obstacles on the far bank under fire. Therefore if possible, reconnaissance of the far bank by the scout platoon will be of great assistance.

As the entrances and exits for the crossing are being established and the initial bridgehead secured, other engineer elements will construct or emplace the equipment and structures required for the crossing. As soon as the crossing commander receives word that the assault force is ready to cover the river crossing, the movement will begin.

The entrances and exits should be marked for daylight or for limited visibility operations. Should guides be unable to direct forces across the lanes due to enemy suppression or casualties, the vehicle operators and commanders should still be able to negotiate the water obstacle. This will ensure the speed of the operation despite enemy counteractions.

Air Defense

The Stinger teams will accompany their respective maneuver elements and provide the same type of protection as for any offensive operation. 'nose elements given the responsibility to protect the crossing sites, however, will move to positions of advantage that cover the air avenues of approach into the area. In close terrain, air defense must also be oriented down the length of the river, as enemy aircraft may orient along the river and stay below the line-of-sight radar range of most ADA systems.

Combat Service Support

Once the operation begins, the S4 will ensure that preloaded LOGPACs are pushed forward to resupply the assault force that is defending the bridgehead on the far side of the river. M88s will be standing by on the near side and far side to assist vehicles that may have difficulties entering or exiting the crossing site. Casualties sustained by the assault force will be brought back to the near-side aid station via return-route raft or a designated vehicle.

The battalion task force S4 should also begin arrangements for more permanent river-crossing facilities as the area is being secured. The location and description of the river as developed by the engineers should be relayed to higher headquarters for permanent bridge construction. Remember, just because the river is fordable under current conditions does not mean it will remain so after a period of rain or snow.

Command and Control

The battalion commander will monitor the traffic from the assault force, which may be in contact, and the follow-on and support forces which are in the process of establishing the actual crossing facility. It is important that he maintain the tempo of the operation consistent with both the enemy situation and the capabilities of the engineers.

Once the bulk of the force is across the river, the battalion task force commander will move forward across the river to concentrate on the mission to secure final objectives that will guarantee the security of the crossing site. In the meantime, the battalion task force will remain in control of the crossing site until that responsibility can be transferred to a following force.

Given the independent nature of each force's mission, yet mindful of the cumulative team effort to secure the crossing site, the commander allows each company team commander to make decisions for himself within the commander's guidance. The battalion task force commander should anticipate each of his commanders' needs and attempt to direct whatever resources are needed to that commander when called for. Therefore he will synchronize the CS elements to assist the company team commander in the execution of his particular phase of the operation.

Guard Operations

A guard operation is a security operation in which a unit protects a larger unit by maintaining surveillance, providing early warning, destroying enemy reconnaissance elements, and preventing enemy ground observation and direct fire from being used against the main body.

The guard force provides the larger force with reaction time and maneuver space it also delays or destroys the enemy within its capability. It is important to remember that the guard force commander must fully understand the degree of security his unit is to provide for the larger unit. This is critical because the higher unit commander may require the degree of security to change, such as from early warning to detailed and aggressive security for the main body, as the battle progresses. The three types of guard operations are advance guard, rear guard, and flank guard.

The advance guard is conducted as a movement to contact. Generally, a battalion task force is given an advance guard mission when the brigade is moving as part of the division main body in a movement to contact. In deploying an advance guard the brigade will ensure that the battalion has priority of fires from the DS artillery battalion. Unlike a movement to contact, however, the mission of the advance guard will be to clear the axis of enemy elements to allow the unimpeded movement of the main body battalions. Therefore, in execution, the security force should have developed the situation to the point that upon handing over the enemy to the battalion's scout platoon, the advance guard can conduct hasty attacks with sufficient intelligence and direction.

When a division conducting a movement to contact requires rear security, a battalion task force may be given a rear guard mission. In execution, the rear guard looks like a defend or delay in sector mission, with companies operating in sectors or from BPs, or a combination of the two. The significant difference in this operation is that the division commander will prescribe the distance that the rear guard must maintain between itself and the division tins.

A battalion task force is given a flank guard mission when a division is conducting a movement to contact. The flank guard has the responsibility to clear the area from the division main body and the flank guard's designated positions. Also, the battalion must be prepared to operate on a frontage clearly greater than it would in other tactical operations. Usually, the area will extend from the lead forward element, along the flank of the formation, to either the FEBA or the rear of the moving formation, tying in with the rear guard. Considering the length of a division on the move, this can be a very difficult operation. Due to the complexities of the operation, this section will be devoted entirely to flank guard operations.

Planning

Intelligence

Once the battalion has been given a flank guard mission, it will be the initial responsibility of the S2 to determine the type of threat facing the force during its movement. This information will be critical to the commander in his selection of the appropriate formation and movement technique. The IPB must incorporate the entire area of the offensive operation, with analysis of the mobility corridors and avenues of approach extending from the FEBA to the objective. As in all other operations, the S2 must produce a situation template and an event template. The staff will develop the DST to further assist the commander in his assessment of the situation and in decision making.

Maneuver

Having received the intelligence estimate, the commander will select the formation and movement technique called for by the enemy and main body situations. Movement techniques illustrated in Figure 6-41, include the following:

- Alternate bounds. Used when strong enemy action is anticipated against the flank, this technique requires slow movement by the main body.
- Successive bounds. This is used when the enemy action against the flank is light and the movement of the main body is expected to include frequent short halts.
- Moving guard. This is used when no enemy action is expected on the flank and the main body is moving with all possible speed.

In the first two options, the only difference lies in the execution of BP occupation. Generally, the scout platoon will be given the mission to screen from the line of BPs to the main body. The company teams will either move alternately from BP to BP (leapfrogging) or move in a group, simultaneously occupying new BPs and maintaining their position in the formation. If enemy activity on the flank is anticipated, the mortar platoon will position itself central to the occupied BPs. If designated, a battalion reserve will also be located central to and to the rear of the BPs, traveling forward in trace of the scout platoon.

In the moving guard, the forward screen mission will be executed by a company team (actually traveling as in a movement to contact), while the scout platoon will conduct a flank screen outside of the tentative BP line. The remaining company teams will travel in column along an axis or in sector behind the forward screen. This technique is used when the greatest enemy danger appears to be from the front therefore, the mortar platoon will follow the forward screening company to provide support. It is important to remember that a scout platoon can handle a frontage of only up to about 5 kilometers. As a result, its ability to effectively screen the length of the division formation is limited. The commander should request the attachment of additional reconnaissance elements, either ground or air. If possible, company teams should not be given a screen mission, which they generally are not trained to execute.

Fire Support

The FSO will plan for the flank guard operation in the same manner as in any offensive operation. Based on the IPB, he will target those enemy avenues of approach that threaten the force. Known and suspected enemy positions along the axis of advance or within the battalion zone will also be targeted in support of the forward screening element.

The mortar platoon will fire in support of the element designated as having mortar priority. Generally, this will be the scout platoon or the company team most likely to establish contact with the enemy. While on the move, the mortar platoon should operate in split sections in order to be responsive to immediate calls for fire.

Mobility, Countermobility and Survivability

The engineer platoon leader will have two missions to consider in planning for the flank guard mission. First he must plan for the mobility of the battalion task force along its designated axis of advance. Second, he must plan countermobility operations to deny the enemy axis to the main body should it attempt a flank attack. In the case of the former, the engineers will be organized as they would for a movement to contact. Usually, the engineers will follow the lead element and assist in the negotiation of any obstacles that prevent continued advance. However, in the case of the latter, the engineers have a more difficult task in that they may be required to emplace obstacles or demolitions the moment the enemy has been identified moving toward the force. As a result, the obstacle plan should include the use of rapidly emplaced obstacles through the use of FASCAM, GEMSS, or other assets. Key bridges or other potential obstacles should also be identified during the planning process so that they may be rendered unusable to enemy maneuver. Above all, the engineers must develop a plan that allows for the responsive emplacement of obstacles on short notice.

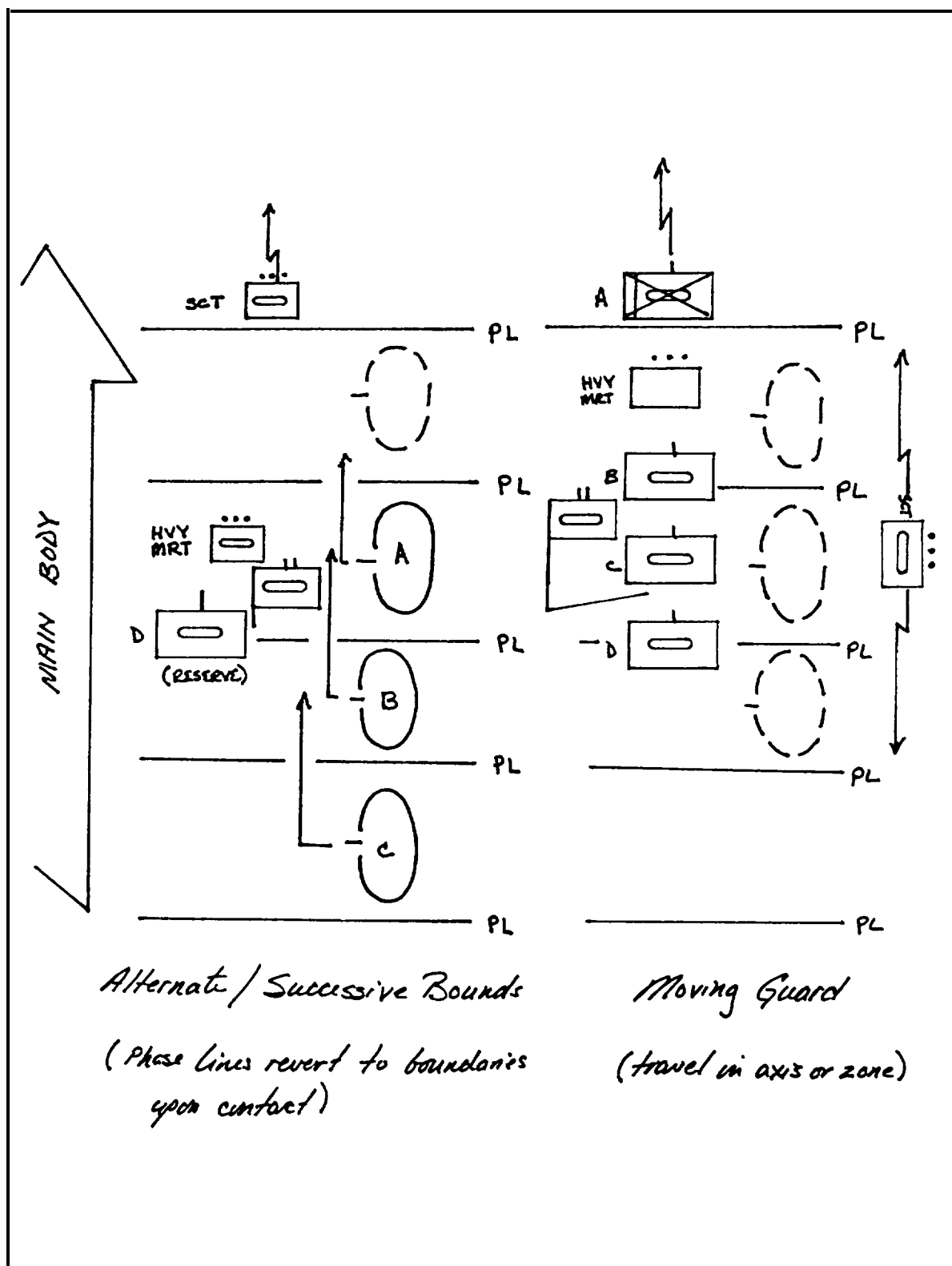


Figure 6-41. Battalion task force flank guard options.

Air Defense

The ADA representative to the battalion task force must develop a flexible plan that allows for the protection of the force as it changes its posture to and from moving and stationary. He will have an especially difficult task in that the disposition of the battalion will be over a much larger area than he is usually used to protecting. In general, he will plan the battalion's air defense as he would in an offensive operation however, most of the assets will be attached to the maneuver assets and the CP. Route protection or other areas will have to go without support or rely on protection from the main body ADA assets.

Combat Service Support

The battalion task force S4 will have the same type of difficulties as in the planning for a movement to contact. Specifically, he must plan for responsive and flexible support that may require the immediate resupply of ammunition and the evacuation of casualties and equipment upon contact. Lateral supply routes to each of the BPs must be identified during the planning process. Moreover, on-order control measures, LRPs, UMCPs, and ambulance exchange points will be essential to the operation.

Command and Control

A unique aspect of the flank guard mission is the orientation of the forces and the direction to which they may be called upon to respond. Here is an example. While the force maneuvers forward along its assigned axis of advance or zone, PLs will be used to control the movement of the company team elements. In fact, there should be a PL on either side of each company team BP. The BPs themselves will most likely be larger than in a purely defensive mission, due in part to the large frontage the battalion will be required to cover. Once the enemy has been detected and the companies adopt hasty defensive positions, the PLs become boundaries for the control of the defensive battle. This gives the battalion commander the option of designating company or battalion sectors in addition to the BPs already identified. Similarly, the control of the reserve can be accomplished through the use of both PLs and checkpoints regardless of the actual direction of the maneuver.

Preparation***Intelligence***

In preparation for the flank guard mission, the S2 will role-play the part of the enemy during the rehearsal. In particular, the commander will want to confirm how the battalion is alerted to the enemy's attack and how this report inches the maneuver companies. The S2 will also ensure that each company team understands which OPs it must occupy in support of the intelligence collection plan. In the rehearsal, the S2 should present a scenario that forces the commander to handle two situations simultaneously: destruction of any elements by the forward screen and repulsion of a light enemy attack from the flank. This situation or one involving a clearly superior enemy force should drive the commander to request assistance from the main body. Coordination with the main body must be done in advance if the unit is to be responsive to the needs of the flank guard.

Maneuver

After issuing the OPORD, the commander should conduct a rehearsal with his subordinate commanders, special platoon leaders, and CS and CSS representatives. The rehearsal should reinforce several important aspects of the operation: the conduct of the movement, response to enemy contact, and conduct of defensive operations. In rehearsing movement, the commanders must demonstrate their ability to maneuver along the designated axis, reporting the control measures as each one is crossed. The tempo of the movement and communication between elements will be essential in maintaining the prescribed interval and ensuring the orderly displacement and occupation of assigned BPs.

Once enemy contact has been established, the commander should verify that his companies will occupy the correct BPs and adopt the proper orientation. Likewise, the reserve should assume a designated position that allows for the reinforcement of the other companies or a counterattack to defeat the assaulting enemy forces. The forward screen or other moving elements should stop and maintain contact with the stationary force and elements of the main body.

The conduct of the defensive operation should be rehearsed to include all of the direct-fire control measures expected of a defensive operation. Although the defense will initially be hasty, the battalion commander should consider requesting any additional resources that would strengthen the division's flank security, for example, attack helicopters, additional FS, and if necessary, assistance from main body maneuver forces. Once the enemy has been defeated the flank guard should recover as soon as possible so that the main body can continue to advance in the accomplishment of its mission.

Fire Support

The battalion FSO will ensure that each of the company team commanders understand who has priority of fires and when, both for artillery and mortars. He will ensure that positioning of company FSOs on the BPs allows them to observe priority targets and the EAs. Special munition fires should be rehearsed as well. For example, FASCAM should be fired with the coordination of the engineers and under the direction of the battalion task force commander. Synchronization of DPICM and other munitions designed for high-yield destruction should be practiced with the direct fires of the company teams and any existing or planned obstacles.

Mobility, Countermobility, and Survivability

The engineers should practice breaching drills with the forward screening elements to ensure that the company team understands its responsibilities upon encountering an obstacle. The commander should also practice the emplacement of countermobility obstacles along the flank avenues of approach. Reserve demolitions and target turnover for those demolitions emplaced by lead elements should be reviewed so that commanders can verify the conditions under which these targets are to be executed. As discussed earlier, other targets such as FASCAM should be coordinated with the artillery and the battalion task force commander.

Air Defense

The air defense plan should be rehearsed to ensure that the battalion task force remains under protection throughout the operation. In particular, the commander will want to ensure that the positioning of air defense assets does not interfere with other operations and does not unnecessarily expose them to hostile direct fire.

Combat Service Support

The battalion task force S4 should concurrently execute a CSS rehearsal in support of the flank guard mission. In particular, the method by which the CSS elements respond to the changes in disposition by the maneuvering companies will be especially important. The designation and use of lateral supply routes as the companies continually displace to new BPs should be verified. Moreover, once contact has been established with the enemy, the system by which supplies are pushed forward should be checked for timeliness of response. After contact, a mechanism for immediate resupply and refitting should be undertaken as quickly as possible to avoid slowing the main body any more than necessary.

Execution

Intelligence

As the battalion task force begins its maneuver, the S2 will carefully monitor the reports of the lead and flank elements. He will want to anticipate the actions of the enemy as far in advance as possible. This will allow the maximum amount of time for the company teams to respond to an enemy attack. He will receive some information from the brigade main CP however, he must not rely on the brigade to issue timely information, particularly along the flank since the bulk of brigade attention will most likely be to the front. Once contact with the enemy is made, the S2 will press the scout platoon to acquire as much information as possible. This may include maneuvering deeper against the enemy in an effort to determine the enemy's true intent.

Maneuver

For the purpose of this discussion, the type of maneuver presented will be the moving guard. As the battalion task force moves along its designated axis of advance, the scout platoon will move in the same

manner along a parallel route. Because speed is essential and enemy contact is not likely, the scouts will be given an axis of their own and travel essentially in column but at a great enough interval to cover as much frontage as possible. Although the scout platoon's direction of travel will be to the front, its orientation will remain to the flank.

The lead company team will serve as the forward screen and move as in a movement to contact followed by the mortar platoon. The remaining companies may maneuver either in wedges or modified column, depending on the terrain conditions. The formation selected must lend itself to an immediate flanking movement or a hasty attack of fixed and bypassed enemy elements handed over by the forward screen.

Should the enemy launch an attack against the formation's flank, the scout platoon should be the first to pick up the enemy as it crosses over NAIs/TAIs and DPs identified in the S2's and commander's decision support template. The commander will immediately issue a FRAGO to occupy BPs. (The direct-fire orientation for each position should be identified in the OPOD.) The forward screen should stop and remain tied into the flanks of the most forward BP, while the mortar platoon will reposition under the direction of the TF FSO. The reserve should remain out of contact unless it appears that the battalion task force may have an assailable flank in which case it takes its place in the defensive line.

From this point forward, the flank guard reverts to the appropriate defensive mission. The first choice should be to defend with the intent to completely halt the enemy's attack against the flank. When facing a much larger enemy force, the flank guard may have to revert to a delay in sector, at which time the commander must explain the enemy situation clearly to the commander of the brigade main body he is protecting. If possible, the flank guard will receive sufficient support to hold its position against the enemy attack.

If the enemy's attack is defeated by the flank guard, the commander must quickly assess his battalion's ability to continue the mission. In the meantime, the scout screen will again be placed out for early warning, as the battalion prepares either to continue the mission or be relieved by another main body TF.

Fire Support

During the operation, the battalion task force's FS plan will be executed as it would in both a movement to contact and defensive operations. For the forward screen, as enemy positions are encountered and subsequently destroyed or fixed and bypassed, the artillery will be used to suppress the position. Should the enemy attempt to attack from the flank the FS plan will be executed as it would for defensive operations, either in support of the defense or delay.

Regardless of the type of mission fired, the point to remember is that the FS must remain flexible, particularly where there are two moving forces essentially colliding in a meeting engagement. Many of the targets will be ones of opportunity; however, a good IPB will take much of the guesswork out of the FS plan and at least provide solid targets from which the company FSO can adjust fire.

Mobility, Countermobility, and Survivability

The battalion task force engineers will conduct breaching operations as required during the movement along the assigned axis. A complete discussion of breaching operations is found in the following portion of this section. However, on the flank, countermobility assets must remain at the ready to emplace obstacles before the arrival of the attacking enemy force. Obviously, if there is not sufficient early warning, the engineers will have to prepare other obstacles on or behind the BPs in case the flank guard is forced back by the enemy. Nevertheless, the engineers' actions will be crucial to the security of the main body, particularly against a strong enemy force. The trick, however, is not to emplace obstacles unless they are genuinely needed; otherwise, they may impede the movement of follow-on forces. As a result, prepared and guarded demolitions or FASCAM minefield that have a limited life expectancy are the best choices.

Air Defense

The air defense plan will be executed as in a movement to contact, where a moving force may be forced to quickly adopt a hasty defense. Whether moving or stationary, it will be important that the air defense assets be linked into the main body's air defense early warning net and that the positioning of assets protect not only the flank guard but also the approaches into the main body.

Combat Service Support

As the battalion task force begins its movement, the battalion trains will follow behind the maneuver elements as they would in a movement to contact. Emergency resupply vehicles carrying ammunition and other quickly expended supplies, plus refuelers, will be at the ready to respond to sudden requisitions due to enemy contact (although fuel consumption will tend to be a matter of course across the board). Once the battalion begins the fight, evacuation of wounded personnel and damaged equipment will occur along lateral supply routes, perhaps all the way into the main body, if that is where the support battalion is located. Otherwise, the evacuation will be back along the axis of advance.

Command and Control

One of the battalion commander's greatest challenges will be to keep pace with the main body particularly if the occupation of BPs is necessary. As a result his terrain analysis must yield the most expeditious route for his force to travel yet allow for the swift occupation of BPs along the way. Moreover, the commander must monitor the tempo of the main body and adjust the disposition of his forces accordingly. It is a difficult mission and one that will require the rapid execution of instructions with the minimum amount of instruction or preparation once the mission has begun. Control measures and rehearsals will go a long way in reducing confusion on the ground.

The commander will be located toward the front of the formation where he can observe the maneuver of the forward security element and, at the same time, the lead element of the guard companies. The S3 will follow in trace, covering the remaining part of the sector and ensuring that the rear company team is tied into the rear of the division formation. Should the enemy attack from the flank, it will be the responsibility of either the commander or the S3 to make the initial determination for the occupation of BPs or other actions. This is due to the large frontage and the commander's inability to assess a situation that may be far away from his current location. For this reason, the commander's intent must be clear, and the S3 should rehearse the execution of the orders with the company teams.

Breaching Operations

Obstacles must be rapidly overcome to retain the initiative and to maintain momentum. When confronted with an obstacle, the commander must decide whether to bypass, breach, or force through the obstacle. Bypass is accomplished through reconnaissance, while forcing through is chosen when there are no other alternatives. The result of a force-through will be high losses of personnel and equipment. Regardless of the method selected, obstacles must not be the focus of attention and should be breached or bypassed as quickly as possible en route to accomplishing the mission.

Because of the enemy's ability to place obstacles anywhere on the battlefield units must always be configured and trained to execute in-stride breaching operations. This section will discuss how a battalion task force plans, prepares, and executes an in-stride breach as part of its overall offensive mission.

Planning

Intelligence

The TF S2 will prepare his IPB for the offensive operation. As a part of that process, he will include the identification of known and suspected obstacles along the axis of advance and in proximity to the objective area. He will rely on higher echelon intelligence-gathering assets to provide information concerning the location, construction, dimensions, and direct and indirect cover of obstacles within the AOs. Also, he will want the reconnaissance assets to identify possible bypass routes for each of the obstacles within the axis of advance. This by no means represents a complete picture of the enemy defensive obstacle plan; however, it should be enough to give the battalion task force commander an idea of the type of resistance he can expect to face. As a result, this perspective of the enemy's obstacle plan will drive the commander's task organization.

Maneuver

The key to successful in-stride breaching operations is to have rehearsed, well-tied battle drills and reduction procedures for breaching complex obstacles. Figures 6-42 through 6-44 illustrate engineer assets integrated into battalion tactical formations. Accordingly, the battalion task force must be task organized in

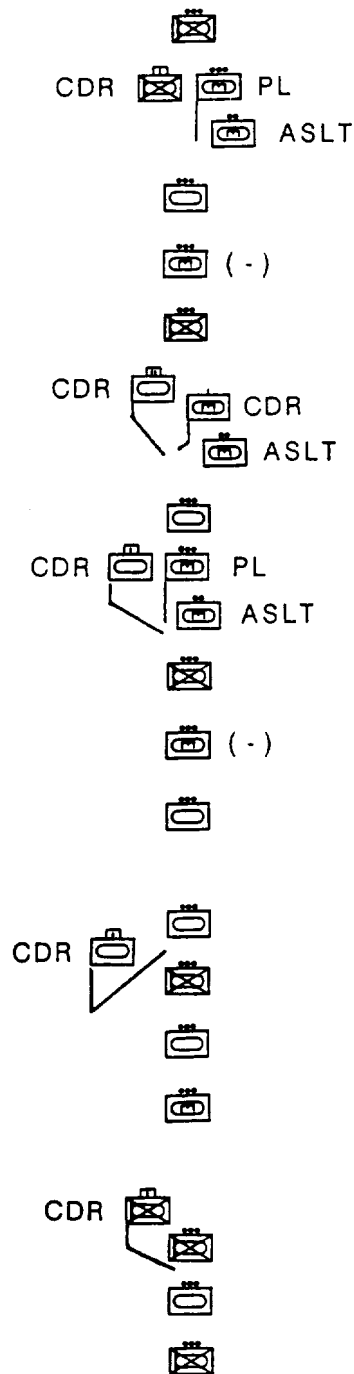


Figure 6-42. Integration of engineers into battalion task force column formation.

such a manner that maneuver elements will be predesignated as support breach, and assault elements. If engineers have been included in the battalion's task organization, they should be integrated into the formation so that the conduct of the breach does not slow the battalion's momentum.

The TF should always move configured for in-stride breaching, which includes a variety of movement techniques and combat formations. The scout platoon will precede the formation providing early warning and conducting initial reconnaissance of encountered enemy obstacles. Because the exact location and nature of the enemy and obstacles may be unknown, engineers and breach assets should be distributed carefully to allow the commander to move securely yet maintain his forward deployed breach and assault elements. If the battalion has not received engineer augmentation, he must be prepared to accomplish the in-stride breach using his own minerollers and mineplows.

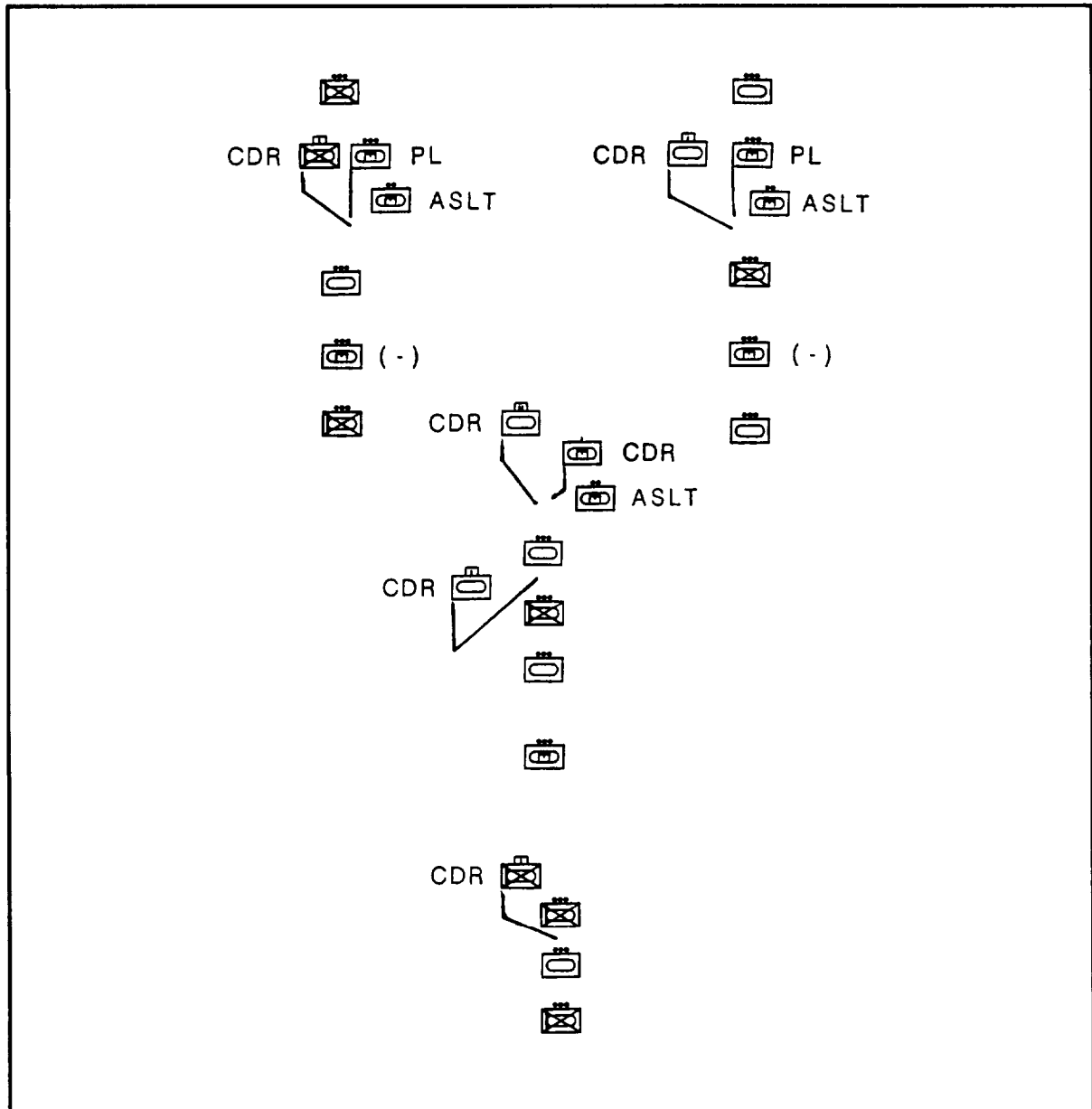


Figure 6-43. Integration of engineers into battalion task force vee formation.

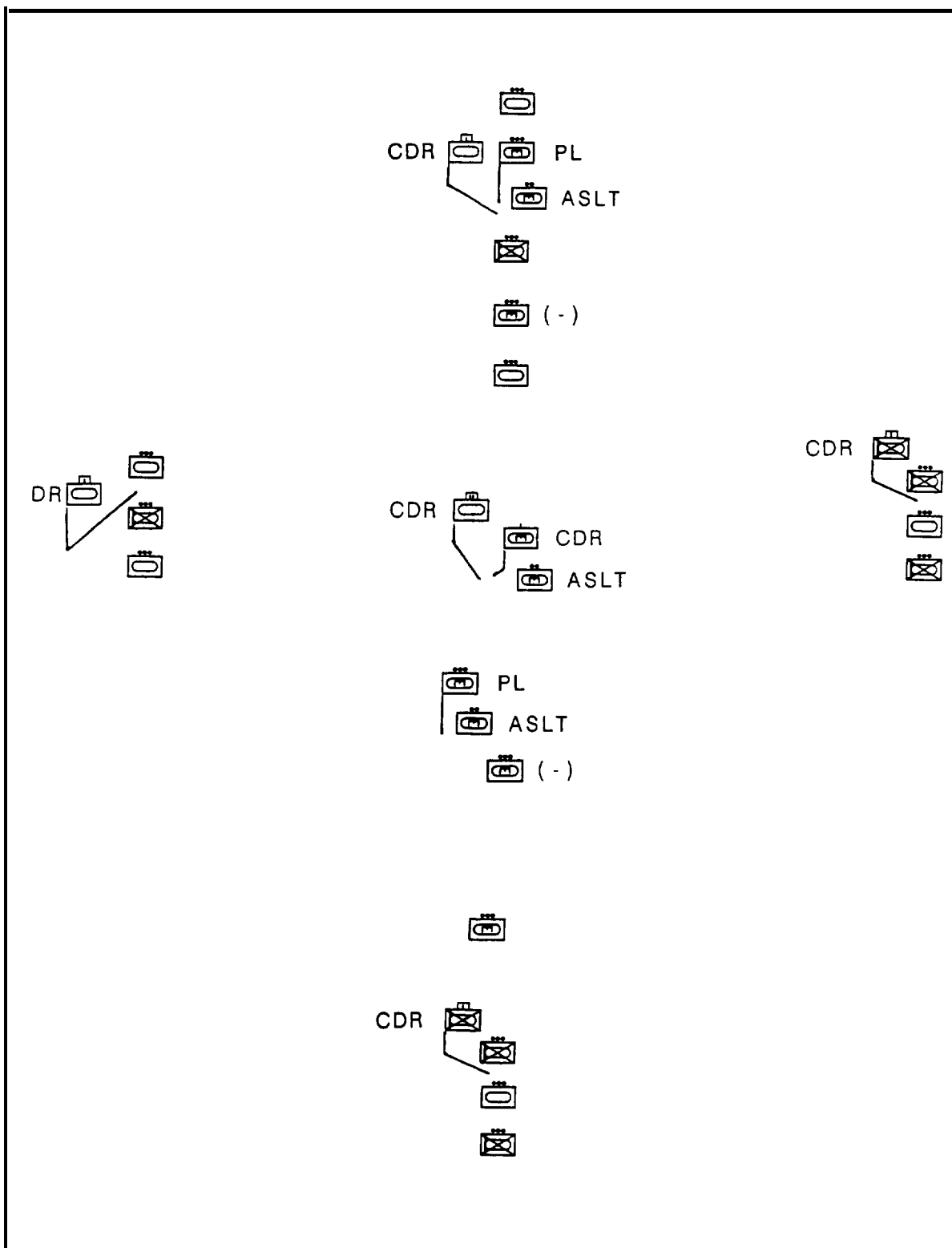


Figure 6-44. Integration of engineers into battalion task force wedge formation.

The commander will decide how best to maneuver the battalion and which formation(s) to adopt based on his estimate of the situation. In an operation such as a movement to contact where the force is expected to gain or regain contact with the enemy, the commander must balance the speed of the formation against its ability to detect obstacles. A fast-moving formation may generate casualties if the force maneuvers unknowingly into a minefield, while a slow-moving force led by detection equipment will save lives, but may prevent closing with the enemy. Depending on the quality of the intelligence, the commander may also compromise and move initially with speed, mount detection equipment at predetermined covered and concealed locations, and continue the advance more slowly into the area where enemy obstacles are suspected. Again, any decision will be the result of weighing the mission, force capability, and IPB.

Fire Support

A key aspect of the in-stride breach is the FS plan. Indirect fires are important in masking the location of the breach from enemy observation. This does not imply that smoke is placed at the point of the breach (which will in effect mark the breach site for the enemy), but rather that smoke must be placed between the enemy and the breach site or on the enemy positions themselves. This type of obscuration may require several smoke missions that must be sustained until the assault team clears the breach. As a result, both artillery- and mortar-delivered smoke will be used to its fullest advantage. Other smoke-generating means should be used if available or appropriate (smoke pots and smoke generators). In planning for the breach, a major factor will be the amount of smoke ammunition on hand. This clearly dictates the length, thickness, and duration of smoke missions. The battalion task force FSO must be counted on to provide this information during the commander's tactical planning.

Mobility, Countermobility, and Survivability

The norm for a TF conducting breach operations requires two lanes through the obstacle. Each lane requires an engineer platoon reinforced with breach equipment (MICLIC and mineplows). To provide flexibility to the TF, a third engineer platoon is required. It will be used to reinforce breaching operations, if required, or to conduct an additional breach farther along the axis of advance. As a result the commander should expect to receive an engineer company if his battalion is the lead TF of an offensive operation and the breaching of obstacles is considered a certainty.

Air Defense

The battalion task force air defense plan will be designed to protect the force initially in its maneuver configuration; however, once the commander gives the order to conduct an in-stride breach, the ADA support must shift to protect the breach site. In this regard, the air defense will be the same as for a bridge or other point-type target. This does not imply that air defense assets necessarily move to the breach site, although some assets may. Rather, the ADA elements should remain with their respective maneuver elements and protect the breach site from positions of dominating terrain that cover the enemy air avenues of approach into the area.

Combat Service Support

CSS planning of the offensive operation will include additional considerations for the type of expendable supplies that could be used during the breach. For example, the company team designated as the support team can be expected to fire more ammunition than the other forces since its mission is to suppress the enemy. Therefore additional ammunition should be earmarked for that unit. Likewise, resupply of smoke ammunition for the mortars, due to their limited ability to carry ammunition, should be taken into consideration. The combat trains may be tasked to oversee the transportation of minerollers if the commander chooses to mount them during the movement. As a result, the trains must select a route that allows for the movement of trucks and coordinate their linkup with the corresponding unit(s).

Command and Control

Having received the IPB from the S2, the commander should tentatively identify force locations at each of the potential breach sites. Specifically, he should identify good support positions that will allow for the suppression of suspected enemy positions, potential covered and concealed breach sites, and appropriate objectives for the assault team. Based on the number of obstacles that the battalion task force faces and the quality of the intelligence, the commander may include this information in the OPORD, or he may retain the

information for his own use in issuing FRAGOs as required by the situation. He must ensure that his subordinate commanders are equipped with enough information so that they understand where the potential obstacles are located and what their individual responsibilities include in the obstacle reduction.

Preparation

Intelligence

In preparation for the breaching operation, the S2 will continue to update his knowledge of the obstacle systems based on the reports of higher headquarters reconnaissance assets. If the situation allows, he may have tasked the scout platoon to reconnoiter the obstacle in preparation for the battalion's advance. This information would be extremely important to the battalion task force commander in the conduct of the rehearsal. During the rehearsal, when the TF "reaches" the obstacle, the S2 will present the additional information describing the obstacle, the enemy situation, and known vulnerabilities. This information should give each of the subordinate commanders something to key on when actually executing the operation. For example, if the scouts report that the obstacle is being overmatched by an enemy element located near an identifiable terrain feature, the support team will key on that location (not exclusively, however) as it occupies its assigned position. Likewise, if a portion of the obstacle lies in dead space or a bypass has been found these locations may also be described by terrain features. Of course, the best solution would be for the scout platoon to physically mark these the locations if the enemy situation permits. Regardless, the scouts should be on hand to direct the force as it approaches the obstacle and, if possible, guide it through its bypass.

Maneuver

The breach will be rehearsed as part of the larger offensive operation rehearsal. With this in mind the commander will want to ensure that his subordinate commanders understand the battalion task force drill taking into consideration the following factors:

- The obstacle should be identified by the scout platoon or the lead element of the TF.
- While the scout platoon or lead element searches for a bypass, engineers will reconnoiter the obstacle, identifying appropriate breach sites.
- Meanwhile, the support team moves into position to overwatch the breach sites.
- The breach team moves forward under the protection of direct- and indirect-fire suppression of the enemy and obscuration of the breaching sites through the use of smoke.
- The breach team will clear and mark two lanes through the obstacle and establish local security of the breaching sites.
- The assault team moves through the breach sites and secures terrain that allows for the security of the TF breaching area. If the enemy is positioned where it may bring effective fire against the breach team, the assault team may attack to destroy the enemy position once it clears the breach sites.
- Once the assault team secures the breach area, the support team will move forward and continue the maneuver as directed by the battalion task force commander.
- The breach team may continue to move with the force, or if designated, some engineer assets may remain behind to continue improving the breaching lanes or reducing the obstacle altogether.

Fire Support

As discussed briefly, the FS plan must provide for the suppression of the enemy positions and obscuration of the breaching sites. During the rehearsal, the company team FSO must call for and adjust effective indirect fire on all known and suspected enemy positions that may influence the conduct of the breach. Likewise, he must communicate with the maneuver commanders continually with respect to the smoke support. The maneuver commanders must know when the screen is thick enough to be effective and how long it will last. The FSO should warn the maneuver elements of the impending loss of the obscuration due to a lack of ammunition or change in weather conditions.

Should the breach also include the assault of an enemy position, the TF FSO should demonstrate his preparedness to support the assault with indirect fires. In particular, he must be able to suppress the position, lift fires upon close assault, and shift fires to cut off the enemy from retreat or reinforcement.

Mobility, Countermobility, and Survivability

The engineers have two primary missions that must be demonstrated during the rehearsal. The first is the reconnaissance of the obstacle and the identification of the breach sites; the second is the conduct of the breach itself. To this end, the battalion task force commander and the engineer company commander will observe the engineers as they perform these tasks. In particular, even if the engineers have discovered an apparent bypass or perhaps a good breaching location, the commander must ensure that those locations fit the battalion's scheme of maneuver. Moreover, those locations should not subsequently lead the battalion into an enemy EA. As for the conduct of the breach itself, the engineer commander will ensure that his subordinate commanders understand their drills for making the breach and that the engineers and maneuver elements work as a team.

Air Defense

The air defense representative must ensure that, as the force slows to accomplish the breach and becomes a potential air target, the Stinger teams and Vulcan platoon adjust accordingly. Also, he will ensure that he is able to provide early warning to the TF as a whole in the event of an air attack.

Combat Service Support

The CSS rehearsal will be conducted concurrently with the maneuver rehearsal. The breach will not generate requirements different from an attack; however, the long-term impact may be significant in that the losses to combat power or supplies incurred during the breach may affect the battalion's ability to conduct its primary mission. Depending on the terrain and the nature of the enemy's obstacle system, the MSR may be diverted through the breach lanes until other engineer assets can create a clear route along an established mad network.

Command and Control

The commander's greatest concern will be his ability to conduct the breach as quickly as possible without significantly sacrificing security. As a result, he must rehearse directing the forces with as few instructions as necessary and, at the same time, look ahead to the continued operation once the breach is complete. Therefore, not only must he properly position his forces for the breach, but he must also ensure that at the completion of the breach his forces will be arrayed in a manner that allows for the smooth resumption of offensive operations.

If the breach will include an assault of an enemy position, the commander must also be prepared to control the operation as in any assault. One of his initial concerns will be the proper application of suppressive fires and the signals used between the assault and support forces to control those fires. The commander must also ensure that the assault force is of sufficient strength to do the job. In this respect he should task the scout platoon to provide as much information as possible concerning the position before the commander commits to the assault. An assault against a significant opponent may limit the battalion's ability to continue the mission.

Execution

Intelligence

Once the battalion task force begins its maneuver, the S2 will continue to update his enemy situation template, based on the reports of the scout platoon. The S2 will want to anticipate the enemy's actions when it identifies the battalion as approaching the obstacle. He will then suggest countermeasures to the commander. Should an obstacle breach be required, the S2 should also ensure the commander is aware of possible dangers to the force as a result of crossing at the designated locations.

Maneuver

When the force encounters an obstacle, the commander relies on the unit in contact to issue an accurate report of the obstacle's location, description, and enemy situation. Once he has been informed of the obstacle,

two actions occur simultaneously: the unit in contact with the obstacle searches for a bypass route, and engineer elements conduct a reconnaissance of the obstacle itself. The engineer reconnaissance should yield the following information:

- DTG of report
- Unit identification.
- Location of enemy and situation.
- Location/dimensions of obstacle.

Ž Minefield information, such as-

- AT and/or AP mines.
- Surface laid or buried
- Antihandling devices.
- Number of rows.
- Depth of minefield.

Ž Information on obstacles other than or in addition to minefield:

- Type (wire, gap, log).
- Dimensions.
- Mined or booby-trapped.
- Location of bypass route.
- Best location for lane reduction.
- Chemicals.

The lead team will also develop the situation. This includes gathering further information about the enemy overwatch positions and obstacles. It includes identifying the best location for lanes and advantageous friendly attack-by-fire positions for the support force. All this information should be included in a report like the one previously illustrated. Remember, the element that encounters an obstacle has the responsibility to find as much information as possible about it and the enemy situation within the limits of its resources.

Once the commander has received this information, he identifies overwatch locations for support forces. (With four maneuver companies per battalion, the commander designates two of them as support forms.) He will then designate the lane locations, ensuring that they support the concept of the operation and do not lead the TF against suspected enemy strength.

Having received the commander's instructions, the support forces will move into position and orient their fires as directed by the commander. If the terrain and enemy situation allow, the support forces should attempt to achieve mutually supporting, interlocking fires, capable of overmatching the breach and suppressing the enemy from different angles. Once in position, the support force will begin to suppress the enemy position with both direct and indirect fires.

The breach force will then move forward under the direction of the TF commander to covered and concealed positions in proximity to the obstacle. The FSO and mortar platoon leader will then ensure that smoke missions obscure the breaching sites from the enemy. Once that has been accomplished, the commander will give the signal for the breach force to begin its mission to clear multiple lanes in the enemy obstacle. The breach force will in turn establish local security for the breach, overmatching as the plows, rollers, MICLICs, or other assets move forward to conduct the actual breach. Engineers will mark the lane using CLAMMS or a field-expedient marking system, and the combat force will move through the lane to secure the far side of the breach. Once the lanes have been prepared and secured, the breach commander will notify the TF commander, who in turn will

direct the assault force to cross the breach sites and secure key terrain on the far side of the obstacle.

Should the assault force be required to destroy an enemy position, the assault force commander will ensure the direct and indirect fire suppression of the enemy is effective. He will direct his assaulting platoons through the breach and to the objective, lifting and shifting the direct fires of the support force as necessary, while his company FSO does the same with the support force's direction of indirect fire.

Once the enemy has been destroyed and the area secured, the assault force commander will notify the TF commander. At this time, he will direct the support forces forward to occupy other hasty defensive positions on the far side of the obstacle, or he may direct the support force to pass forward of the assault force and continue the advance. Meanwhile, the breach force will continue to improve the breach site by constructing more permanent markers, widening the lanes, creating additional lanes, or reducing the obstacle altogether if the resources allow. Some engineer assets may be left behind to assist follow-on forces or merely to hand the obstacle over to them. Otherwise, the breach force will also be called forward to join the TF formation as it continues its primary offensive mission.

Fire Support

The battalion task force FSO will ensure that indirect fires are effectively placed against the known and suspected enemy positions. He should also be on the lookout for enemy elements which reposition as a result of the indirect suppression. The mortar platoon will be used almost exclusively for smoke missions due to its ability to quickly respond to changing battlefield conditions. As the assault force begins its attack of enemy positions, the fires will be lifted and shifted based on the request of the assault force FSO, who at this point in the battle is in the best position to adjust fires and measure their effect. The greatest concern is that indirect fires may be lifted too early and consequently expose the assault force to direct fire; therefore, the support force must pay close attention to the directions of the assault force. Also, redundant control signals should be preplanned in case of the loss of FM communication.

Mobility, Countermobility, and Survivability

Tank-mounted minerollers and plows should be carefully integrated into the in-stride breach operation to maximize the effectiveness of the systems. The breach force should mass its plows into one platoon. The roller, however, may not be mounted due to its slow speed. Rather, it may be transported with the battalion combat trains or perhaps the company combat trains. Usually, the roller will be used only for deliberate breaches or for proofing lanes if the time allows for mounting.

The TF commander must carefully consider where he will use his lane reduction assets. A typical threat MRP strongpoint will not only cover tactical obstacles but also have close-in protective minefield, wire, and gaps. The beach team can create up to three lanes simultaneously, using only the three plow tanks in its attached platoon, if the breach force commander is willing to commit all of his plows to lane reduction. Usually, he commits two to lane reduction and holds the third in reserve. Meanwhile, the four MICLICs from the attached engineer company can then be held for the assault breach through the enemy position and protective works, where a ton of lane-clearing explosives will produce an added shock effect.

Air Defense

The execution of the battalion task force air defense plan will occur as in a movement to contact. Once an obstacle is encountered and a decision to breach has been made, the forces will deploy as previously presented. The Stinger teams will remain with their respective maneuver units throughout the operation, providing protection as required. Those ADA assets retained under battalion control, for example, the Vulcan platoon, may be brought forward in an effort to prevent enemy aircraft from interdicting the force as it crosses the breaching site. Should enemy air attempt to interdict, a warning will be issued over the battalion task force command net and in turn relayed through the companies. In this way, the TF may be able to employ SAFADs. Once the TF has crossed, the Vulcans will revert to their former position in the maneuver formation.

Combat Service Support

CSS will also occur as in a movement to contact. The significant difference lies in the fact that the battalion task force may have to resupply following the breach to continue with the mission. As engineer platoons expend resources conducting the breach, the engineer company must replenish Class V and other

required materials so that engineer platoons can continue to support the lead teams. As an example, MICLIC reloading will be critical to the accomplishment of the next in-stride breach. At the platoon level, the soldiers inside the APCs must prepare demolition charges on the move and repair other equipment, such as grapnels, so that they may be prepared to conduct the next breach as rapidly as the first.

Command and Control

The commander should designate the S3 to move with the support force to assist in initially controlling the direct and indirect fires of the force. The commander will position himself where he can observe and control the activities at the breach site and subsequently follow the operations of the assault force. Therefore, he will be forward, constantly communicating with his S3 and support force commanders to ensure the breach force and assault force get all the support they need. Despite the fact that the operation is conducted as a drill, the commander will be required to issue FRAGOs to convey most of the instructions in terms of placing forces, directing fires, and controlling the operation. This is clearly an operation that requires the commander to be at the decisive point of the battlefield: the breach, the assault, and the continuation of the mission. Figure 6-45 illustrates conduct of an in-stride breach.

As the support forces pass through the lanes and move to join the force on the objective, the commander reorganizes the force and determines if the force has enough combat power to continue the attack. The commander also redistributes assets for follow-on operations. He may have to designate new support, breach, and assault elements. For example, due to combat fatigue and sustained losses, the original breach and assault forces may switch roles with the support forces.

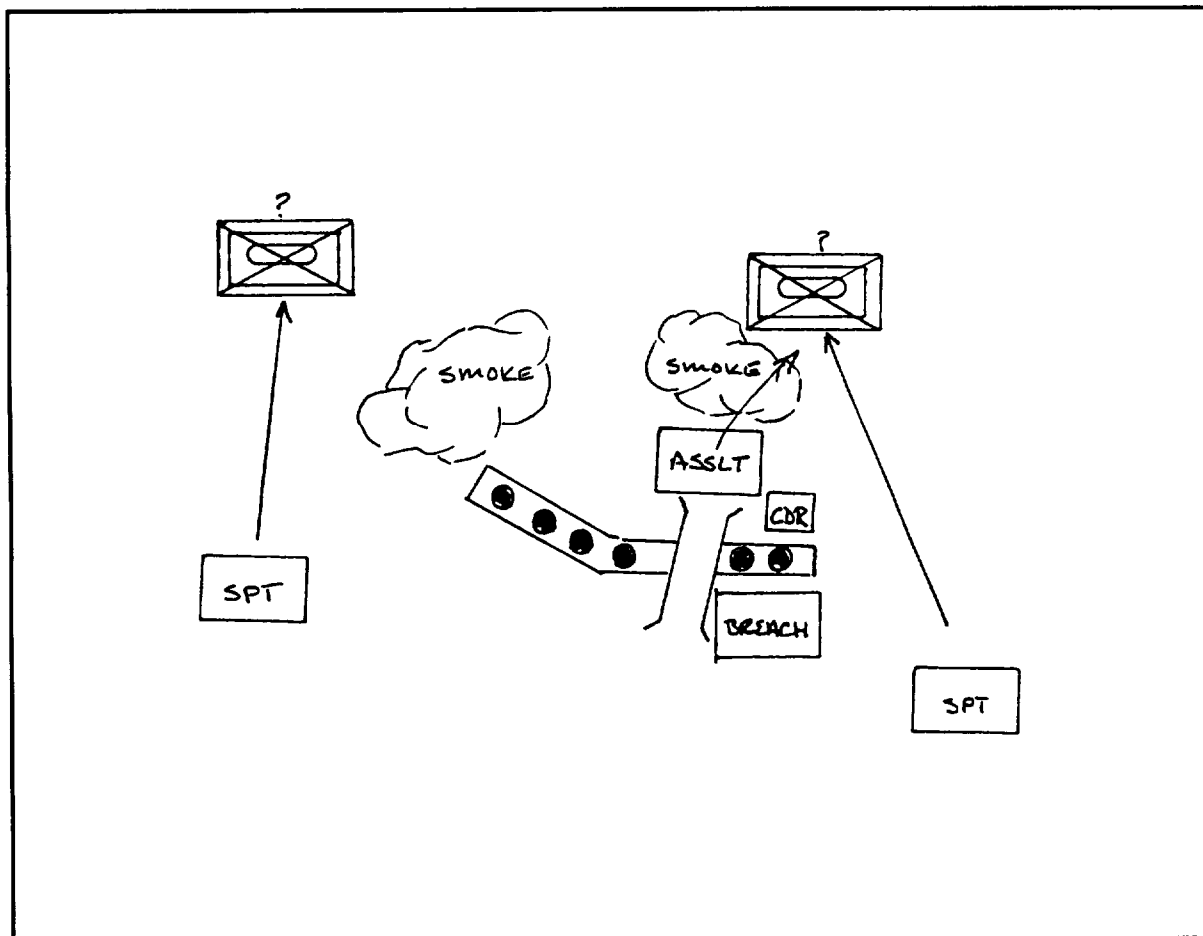


Figure 6-45. Battalion task force in-stride breach.

SECTION III. COMPANY TEAM TACTICAL OPERATIONS

Battle Handover and Passage of Lines

Battle handover and passage of lines are operations in which responsibility for an AO is transferred as one unit passes forward or rearward through another friendly unit. Because of the temporary concentration of forces, the company team is very vulnerable to enemy attack during a passage of lines.

Planning

Intelligence

When planning for a passage of lines, the company commander will rely on the IPB developed by the battalion task force S2. In conducting a rearward passage, the commander simply continues his current mission, analyzing the enemy in terms of his ability to influence the company's movement. In a forward passage of lines, the commander will use the IPB developed for the offensive operation.

Maneuver

For the passage to be conducted smoothly, with as little disruption of each unit's disposition as possible and with the necessary speed to minimize possible enemy interference during the passage, detailed coordination between the stationary and passing units must be accomplished. The company team commander must carefully plan the operation and ensure that detailed coordination and a detailed reconnaissance are both conducted. Specifically, a route reconnaissance is essential to the success of the passage of lines. Liaison personnel from the battalion task force should be exchanged early, and the stationary and passing company team commanders should coordinate the passage in addition to the coordination effected by the company XO at the contact point.

The point to remember about a company's passage is that it is being conducted as part of the battalion passage. Therefore, the battalion staff will expend as much effort as the company to ensure mission success. The battalion commander or XO should ensure that each company understands completely its responsibilities in the conduct of the passage.

Fire Support

The FS plan received by the company commander will include the consolidated target list, which encompasses targets to be engaged by the stationary force. In this regard, battle handover becomes extremely important because both the stationary and passing units must know when they can and cannot call for indirect fire and in which areas. These instructions should be issued by the battalion task force.

Mobility, Countermobility, and Survivability

Generally, the company team commander will not have to consider the mobility of the company during the passage due to the positioning of battalion assets to ensure the lane stays open. However, under conditions of restrictive terrain and limited resources, engineer assets attached to the company should be positioned in the order of march so that they are able to respond to a choked passage lane.

Air Defense

If the company team has an attached Stinger team, it will move with the company as in any column movement. Area air defense will be provided by the stationary force, perhaps augmented by the passing battalion.

Combat Service Support

The company combat trains will move with the company, providing the same support as for any tactical movement, generally making quick on-the-spot repairs or towing the vehicle to higher level maintenance support.

Command and Control

The company commander will examine the route designated by the battalion commander. He will conduct an initial map reconnaissance and assign the company XO to coordinate with the stationary force at the contact point, ensuring the XO has all pertinent information concerning the company (frequency, number of vehicles, and so forth).

The commander will prepare to conduct his route reconnaissance and make initial contact with his counterpart, the stationary company commander, so that he can conduct his own coordination simultaneously with his XO's effort.

Preparation***Intelligence***

In addition to the information the commander will receive upon his XO's return from the coordination meeting, he will also get the latest enemy situation from the stationary unit commander (if executing a forward passage of lines). When combined, this information will allow the passing force company commander to construct an accurate picture of enemy forces within the AOs.

Maneuver

The commander prepares for the passage by conducting a route reconnaissance of the passage lane and any additional designated routes. He will carefully examine the lane capacity, classification and location of any bridges along the route, and possible fording sites and AAs along the route should the force be required to form a laager.

Fire Support

The company FSO will ensure that the platoons each have the most current FS overlay. Additionally, he will ensure that he is able to communicate to the appropriate FS organizations "voice" for each phase of the operation.

Mobility, Countermobility, and Survivability

Company engineers may accompany the commander on his route reconnaissance to assist in the classification of roads and bridges.

Combat Service Support

The company combat trains will prepare for the movement by ensuring the company's vehicles are able to travel the distance, both mechanically and given the existing levels of fuel and POL.

Command and Control. Company team commanders prepare for a passage of lines by using the troop-leading procedures discussed in Chapter 1, *Command and Control*. The information that the company team commander must confirm prior to the conduct of the passage is listed below:

- The disposition of the stationary force.
- The location of the contact points where both units will make contact at a predetermined time. These points are established by the higher commander having authority over both the stationary and moving company teams or, if they are not specified, by the stationary unit commander.
- The location of PPs and passage lanes. Passage lanes must provide clear and unobstructed routes through friendly positions and should be unoccupied or on the flanks of friendly units in position. Multiple routes should be used to reduce the company team's vulnerability, with alternate routes planned and available if required. Passage lanes should be wide enough to permit the company team to maneuver, if necessary, and allow the passing company team to cross the LD/LC deployed. The coordination for the passage must include guides to ensure a smooth passage through the stationary unit. The passing company team must provide the number, type, and order of march of its vehicles to the stationary unit to preclude any confusion.

- The location of the attack position for a forward passage of lines and the location of AAs for a rearward passage. These positions should be located in an area that will not interfere with the stationary unit.
- The location of the CS and CSS elements and the support that will be provided by the stationary unit.
- Detailed information concerning the supporting direct and indirect fires provided by the stationary unit.
- The time and method for the transfer of responsibility for the zone or sector. This is normally designated by the crossing of the LD/LC for a forward passage of lines and by the crossing of the BHL for a rearward passage of lines.
- Traffic control measures.
- Communications information, to include SOI data, pyrotechnic signals, and recognition signals that will be used during the operation.

Execution

Intelligence

As the company team begins to move to the passage lane, the commander will monitor the command net, keeping abreast of changes in the enemy situation. In particular, he will be concerned with how the enemy could strike the company during the passage.

Maneuver

When conducting a passage of lines, the company team commander is responsible for the required coordination. He will usually designate the company team XO to be the liaison and coordinate the passage. A checklist of the information that should be coordinated is listed below:

- Contact points.
- Attack positions (forward passage).
- AAs (rearward passage).
- Passage lanes.
- PPs.
- Traffic control measures.
- Recognition signals.
- FS plan (direct and indirect).
- Obstacles.
- OPs and patrol routes.
- Number and type of vehicles and units to pass through.
- Enemy situation.
- Fire control measures.
- CS and CSS asset locations.
- Time and location of battle handover.
- SOI information.
- NBC status of sector.

After the coordination is made and the company team begins moving to and along the passage lanes, the guides will pick up the company team (at the start of the lane) and guide them along the lane and through the stationary unit positions. It is important to remember that the guides and the lead platoon of the company team will exchange the predetermined recognition signals prior to the passage. For a forward passage of lines, the guides will move the passing company team through until the end of the lane. For a rearward passage of lines, the guides (normally the scout platoon from the battalion task force) will move the company team from the PP to the friendly side of the stationary unit or FEBA.

Fire Support

Integral indirect fire will be called only when the parent organization has completed battle handover and is in control of the AO. Otherwise, indirect fire must be fired through the stationary force's fire control organization. At the company team level, there will appear to be no difference in the way fires are called and adjusted, except that the response time could be longer.

Mobility, Countermobility, and Survivability

The attached engineers will accompany the company team and perform mobility operations as required.

Air Defense

The attached Stinger team and any other air defense assets will also accompany the company team; however, they should not stop to fire during the passage unless it is absolutely essential. Stationary force air defense assets should protect the force during the passage. For example, a Stinger team stopping to shoot or breaking away from the passing column could cause confusion or bottleneck the force and create an even more lucrative air target.

Combat Service Support

The company combat trains should move with the force. In a forward passage, they would bail the company, but in a rearward passage, they would follow one or two platoons and be protected by the remaining platoon(s). This allows them to continue their support while being protected.

Command and Control

The company commander will move with the force and control the maneuver, while the XO establishes contact at the contact point and observes the passage with the stationary force representative.

Relief Operations

A relief in place occurs when a unit is replaced by another unit. It is conducted to maintain combat effectiveness of committed units. A relief in place can occur during offensive and defensive operations. The TF commander will direct when and how the relief will be conducted.

Planning

Intelligence

The company team commander begins his IPB upon receipt of the WO. Once he moves forward to coordinate with the commander of the company that he is relieving, he will attempt to get as much enemy information as possible. Also, he will request a battalion task force IPB product from his S2 so that he understands how his position relates to the enemy's overall scheme of maneuver.

Maneuver

Company teams conduct the relief on forward positions by using one of several techniques. Regardless of the technique chosen, the overall concept of the relief calls for relieving platoons to occupy hide positions and move into the forward fighting positions, while relieved elements begin to withdraw to subsequent positions or AAs. Figures 6-46 through 6-48 illustrate various relief techniques.

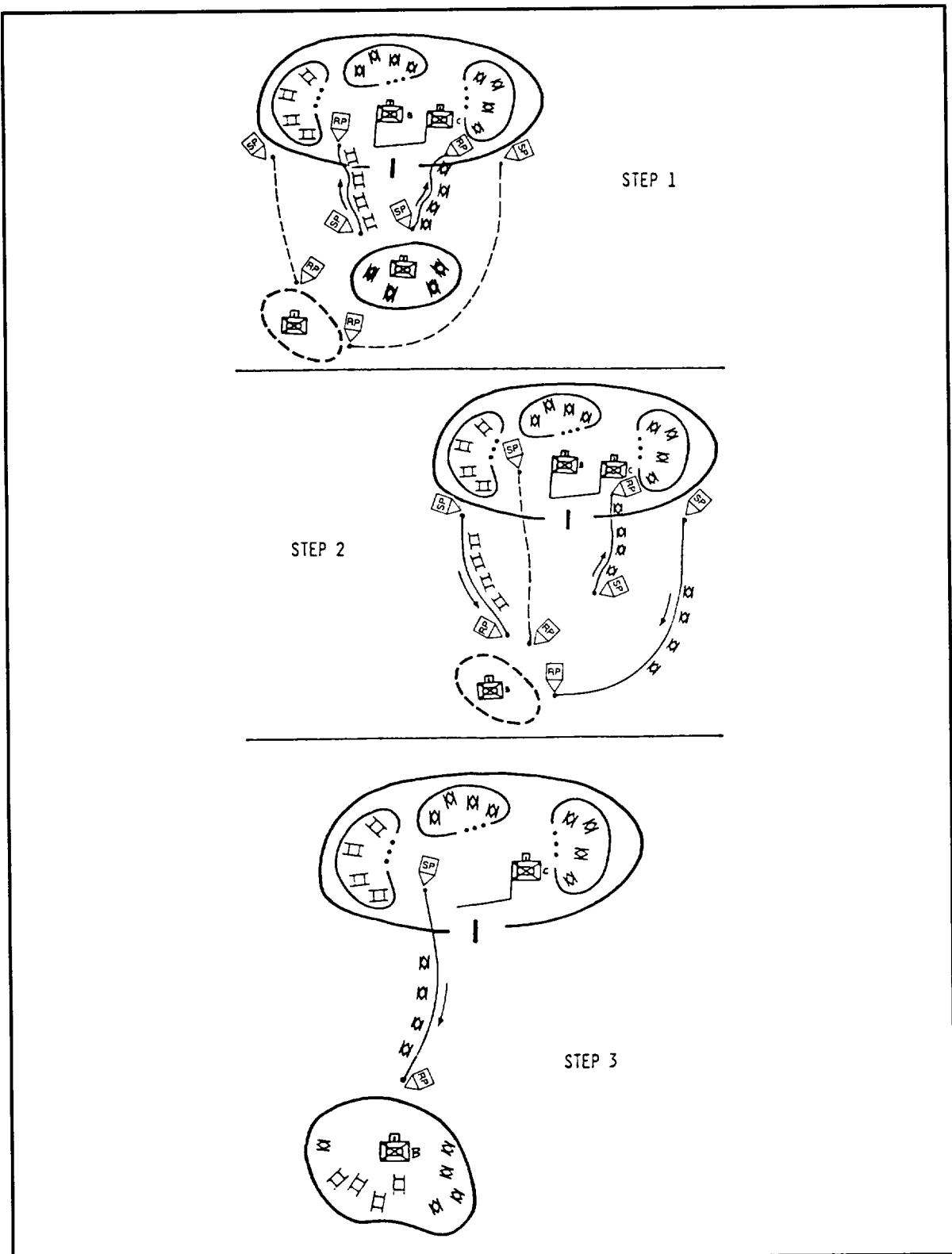


Figure 6-46. Sequential relief by platoons.

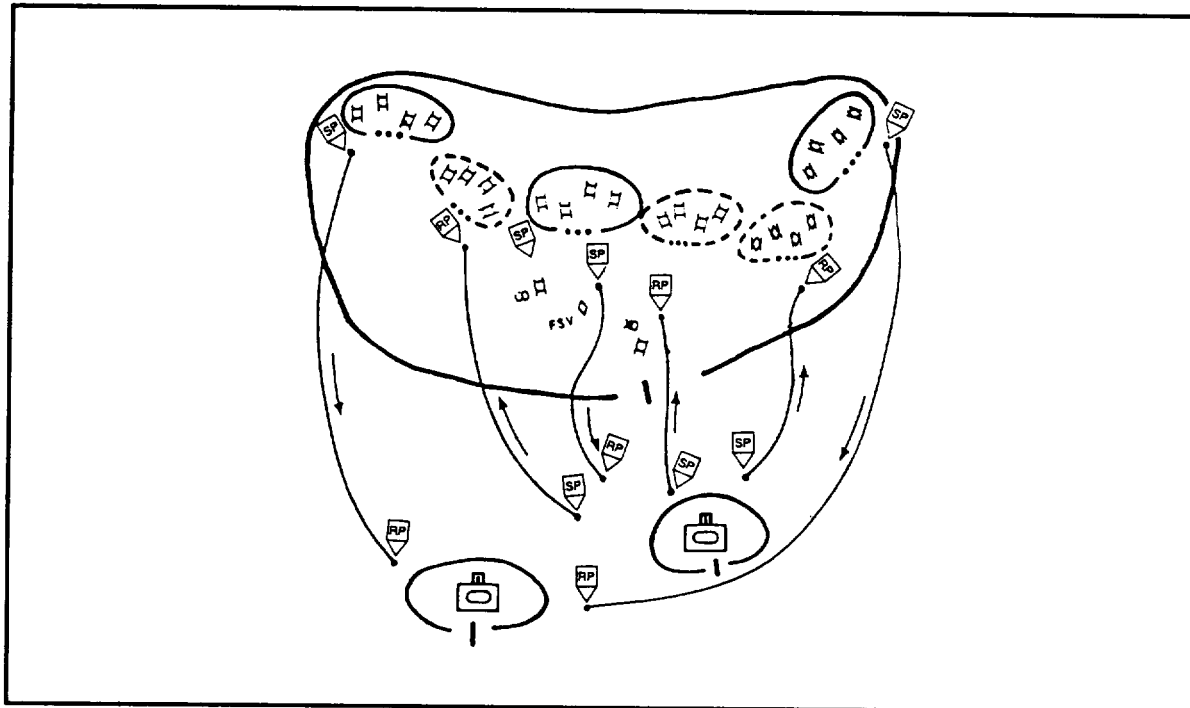


Figure 6-47. Relief in place by alternate platoon positions.

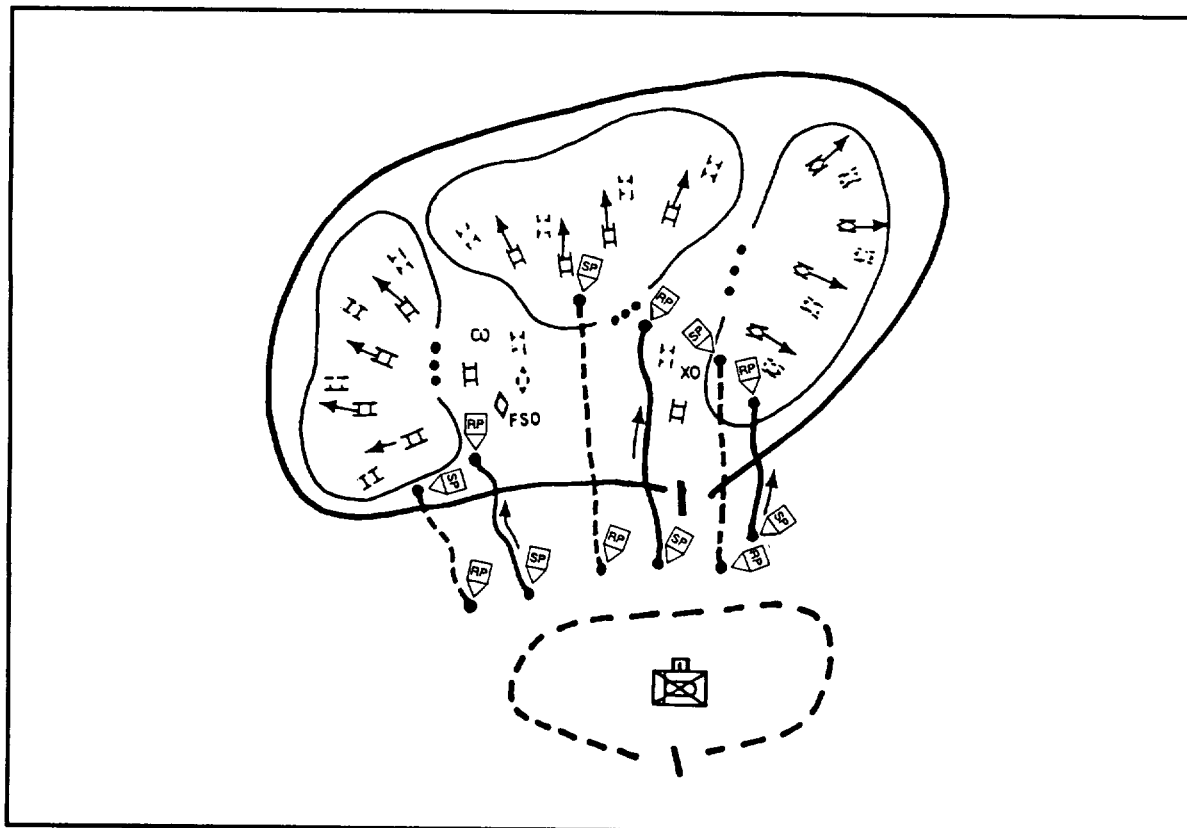


Figure 6-48. Relief in place by alternate vehicle positions.

Sequential relief. This is the most time-consuming method. Company team CPs and combat trains collocate to facilitate the relief and transfer of equipment, excess ammunition, fuel, water, and medical supplies. Platoons relieve each other one at a time. The relieving platoon moves to a position adjacent to the relieved platoon and executes the relief at the squad and individual vehicle level. The relieved elements then move to a platoon or company AA before moving to the rear along a predetermined egress route. Once a relieved platoon clears a specified point (usually an RP), another relieving platoon will start to move to its relieved platoon's location, repeating the process until the incoming company is in position.

A variation of the sequential relief balances the importance of speed and security. The relief is conducted starting with the center platoon, followed by the flank platoons simultaneously, or the opposite. Regardless of the actual conduct, the procedure remains the same.

Simultaneous relief. This method sacrifices security because all units move at one time. The command groups and combat trains collocate, exchanging plans and equipment as they would in the sequential relief. The relieving platoons move along designated routes and relieve the other platoons simultaneously. The relieved elements withdraw immediately once they are relieved.

A variation of this technique is to have relieving platoons occupy alternate positions (platoon or individual) as the relieved forces withdraw from their primary positions. This technique is used when speed is needed. The relieved unit usually occupies an AA in the rear to facilitate C2.

During periods of limited visibility, relieving platoons move into fighting positions overmatched by the relieved platoons. Once forward positions have been occupied the overmatching platoons withdraw. If the outgoing unit plans to depart by squad or section, the incoming unit must occupy positions with elements of the same size.

When a relief is conducted during limited visibility, it may be best not to move the crew-served weapons. This is because it is difficult to re-lay them. The following equipment is normally exchanged:

- Machine gun tripods and other supports for crew-served weapons or equipment.
- wire.
- Emplaced sensors and radar sets.
- M8 alarms.
- Bulky or excess supplies.

Fire Support

The company team FSO will coordinate with the outgoing FSO while the commanders coordinate. Specifically, they will exchange fire plans and, if time allows, visually confirm the location of targets. Any additional information, for example, time of flight or time distance calculations based on NAI/TAI/DP locations, should also be discussed to ensure synchronization of direct and indirect fire.

Mobility, Countermobility, and Survivability

This may be the most time-consuming aspect of the coordination due to the sheer number of items that must be verified. Both hasty protective and planned obstacles must be identified to the incoming engineer platoon leader or the company team commander. Likewise, any additional obstacles, especially those designated for target turnover, must also be closely checked.

Primary, alternate, and supplementary fighting positions, both individual and vehicle, must be noted. This will become important if the company commanders decide to conduct the relief using the alternate positions. Finally, hide positions and routes to the fighting positions must be verified to ensure the vehicles do not damage buried wire or other items located off the routes.

Air Defense

At the company level, the air defense plan will be dependent on the battalion task force plan. For example, if the incoming battalion commander determines, with the advice of his air defense commander, that the best

type of defense is an area defense, then the coordination and liaison for ADA fighting positions would be handled through the outgoing battalion task force's S3 and ADA officer. If the incoming battalion commander decides to have the ADA assets remain attached to the company teams, then those Vulcan/Stinger locations would be coordinated by the company team commanders during their liaison.

Combat Service Support

Although CSS relief usually occurs prior to the relief of combat forces at the brigade and battalion levels, it is because those operations are located apart from the combat forces. At the company team level, where the company combat trains often travel in close proximity or as part of the formation, the trains are relieved after the combat forces. This allows the outgoing force the opportunity to recover its own equipment if required, freeing the incoming combat trains to support their own force immediately upon occupation. Of course, the incoming trains may assist the outgoing trains as necessary to ensure the safe evacuation of all equipment.

Command and Control

The incoming company team commander must reconnoiter the area as he would for any defensive mission. The leaders must reconnoiter each position, sketch range cards, and note the positions of each weapon system. The incoming command group sets up in close proximity to the outgoing command group. Incoming and outgoing commanders must coordinate details and agree on procedures. In particular, they must agree on the location of guides, the route each force is to take, and the overall control measures for the operation. A mechanism must be established to monitor the relief of each vehicle and soldier. Remember, this operation will usually occur at night; therefore, coordination must be thorough.

Preparation

Intelligence

Once the commander issues the order and the company prepares for the relief, he will check with his own NCS to see if he has received all the latest enemy information. He will continue to monitor the battalion command net and ensure that he receives any additional information from the outgoing force while preparations for the relief are being made.

Maneuver

Having completed the plan, the commander will spot-check the platoons to ensure that each platoon leader understands the route that he is to take, where he will link up with a guide, the location that he will occupy, and the final disposition of his platoon following the relief, to include direct- and indirect-fire measures.

A rehearsal is an effective way to ensure that the company can operate with little or no instruction once the relief begins. This will be especially important because execution will be under conditions of limited visibility.

Fire Support

The company team FSO will ensure that each platoon leader has an accurate FS plan from the outgoing force. He will verify contact on his own FS nets and coordinate with the outgoing FSO to determine how and when calls for fire are handled within the company team.

Mobility, Countermobility, and Survivability

The company team engineer platoon leader will check with each platoon, tank, and individual responsible for target turnover and receive an obstacle folder. The engineer will ensure that the responsible parties understand the procedure for each activity and will answer any questions they may have concerning the new obstacle. A rehearsal for turnover should be conducted for each target.

Air Defense

While the company team prepares for the relief, the ADA assets will move into position and establish communication on the appropriate air defense early warning net.

Combat Service Support

The incoming 1SG will ensure that each vehicle is fully uploaded and supplied for the relief and future operations. Any CSS activity required after the relief should be kept to a minimum. The incoming 1SG will

also coordinate with the outgoing 1SG to see if there are any identified shortcomings that require attention from the incoming combat trains. The two trains will collocate as early as possible; however, they will not actually conduct their own relief until relief of the combat elements is complete.

Command and Control

Once the commander has supervised the necessary rehearsals, he will return to the collocated company team headquarters to be brought up to date on any situational changes by the outgoing company commander. Both commanders must be prepared to make adjustments to their plan, as the rehearsal will most likely identify some aspect of the plan that they did not take into consideration.

Execution

Intelligence

Once the relief begins, the incoming commander will divide his attention between the progress of the relief and the enemy situation. Battalion task force reconnaissance elements will be forward to provide early warning; however, the company should still rely on the reports from LPs/OPs and other company-level reconnaissance assets. It is essential that, in the event of an enemy attack, the commanders anticipate the actions of the enemy so they can move their forces into a defensive posture.

Maneuver

During the relief, both units are on the outgoing company team's frequency. The outgoing unit maintains its previous level of radio traffic while the incoming unit maintains radio-listening silence. Once the relief is complete, the relieving unit changes back to its normal frequencies. Although the transfer of responsibility for the position may occur at a time specified by the battalion task force commander, this transfer normally goes into effect when the majority of the forces on the BP belong to the incoming company team. The incoming commander also assumes control over outgoing platoons that have not yet been withdrawn. If an enemy attack occurs prior to the relieving commander taking over responsibility for the position, the remaining elements of the outgoing company team are supported by the fires of the incoming company team.

Fire Support

In the event of an enemy attack, FS is handled as described in the preceding maneuver segment. Calls for fire will be controlled by the outgoing force's fire control organization until responsibility for the sector changes to the incoming commander, FS control also shifts at this time. Regardless of who actually controls the fire at the company team level, there will be little or no difference since calls for fire will be conducted as they would for any operation. In fact, due to the additional number of batteries in support, FS should be both more responsive and of a higher volume.

Mobility, Countermobility, and Survivability

The commander and/or company team engineer representative will monitor the change in responsibility for obstacles, particularly those that are priority targets. As the incoming force receives the obstacle, the guards will verify its condition and report the status to the commander once the turnover is complete.

Air Defense

The air defense assets will remain in position throughout the operation and reposition to support the incoming force only after the relief is complete.

Combat Service Support

The collocated 1SGs will carefully monitor the progress of the relief and respond to any delays resulting from mechanical problems. Any supplies that were not used by the outgoing force may also be transferred to the control of the incoming force. Once all incoming combat forces are in place, the outgoing company combat trains will follow their unit and police any vehicles that have difficulty traveling to the rear AA.

Command and Control

The outgoing unit will normally leave some unit personnel with the incoming unit, the number being dependent on the situation. This is done to exchange and transfer current information and plans until the incoming unit is thoroughly familiar with the area. This exchange of information must include the enemy

situation and current intelligence. Once the operation is complete and enemy contact does not appear imminent, the outgoing commander will depart the sector accompanied by his air defense assets and FSO; his company combat trains will follow.

Hasty Water Crossings

Company team hasty water crossings are executed to maintain the initiative and momentum of the operation. The types of obstacles that could be crossed range from small streams and soft ground to major rivers. The company team may participate in deliberate water obstacle crossings using special equipment from support units if they are on hand. Otherwise, the operation will become deliberate.

Planning

Intelligence

Most of the information that the company team will require concerning the hasty water crossing will be provided by the battalion task force scouts or a lead company team. This information will be collected and disseminated to the company team commander, who in turn will issue an initial FRAGO. This will allow his elements some time to prepare their vehicles for fording or swimming. In addition to the physical characteristics of the crossing site, the single most important aspect of the operation will be the determination of enemy strength at the site. This information will drive the commander's hasty crossing plan and should be provided by battalion task force scouts or other forward reconnaissance elements.

Maneuver

The crossing may be conducted under enemy opposition. If the crossing is made under fire, the infantry will secure the far side of the river with the supporting fire delivered by the BFVs (if not used to take the infantry across) and/or the tank platoons. If the crossing is unopposed, the infantry will still secure the far side, with a support force covering the infantry move; however, to avoid alerting the enemy to the location of the crossing, suppressive fire will not be initiated.

Regardless of the level of opposition, the commander must assume that the near side of the river is mined unless reconnaissance confirms otherwise. The company commander must plan to breach to the river line using the appropriate maneuvers discussed in the "Breaching Operations" portion of this section. Once the river line has been reached and the crossing site is cleared of all obstacles, the breach force will secure the far side of the river. It should also confirm the physical condition of the crossing site.

The commander must plan to position his remaining platoons to overwatch the breach and especially to protect the AVLB should one be needed to cross the obstacle. AVLBs should not be brought forward unless the support force is able to suppress the enemy fire.

Fire Support

When the crossing is under fire, the commander must use preplanned indirect fire and smoke to suppress the enemy and obscure observation of the crossing. The battalion task force scout platoon should be able to provide the commander with the location of enemy elements that may influence the crossing. Suppressive fires should be used only if there is opposition at the crossing site as their use may reveal the location of the crossing site. However, when an opposed crossing is required, the commander should also develop a deception plan (perhaps with smoke) that may divert the enemy's attention from the actual crossing site.

Mobility, Countermobility, and Survivability

The engineers perform two vital missions during the hasty river crossing. The first is the reconnaissance and clearing of the crossing site, conducted by the engineers as part of the breach force. Before any vehicle attempts to make the crossing, it is essential that everything possible be done in advance to lessen the danger of the unforeseen. The second is the actual preparation of the crossing site. This includes marking the crossing site, providing guides, laying an AVLB, and preparing the entrance and exit ramps for the crossing site. Marking sites and providing guides are particularly important if an AVLB is used, especially if the bridge is laid under water. Tanks or other heavy armored vehicles can quickly render the bridge unusable for future operations if they cross it incorrectly.

Air Defense

As the company conducts the river crossing, the commander should be mindful that most of his unit will be stationary during the initial stages of the operation. Accordingly, the company team may become a lucrative air target if identified. Therefore, both active and passive air defense measures should be taken. In particular, the commander should select overwatch positions that are not obvious to enemy ground forces or aircraft. The Stinger team should be sited along the air avenues of approach that lead into the crossing site area to protect against the air threat and also to allow communication on the ADA early warning net.

Combat Service Support

Upon receipt of the company commander's WO, the 1SG should begin to ensure that the unit has the necessary supplies to conduct a river crossing, particularly if some of the vehicles will be required to swim. As an example, the 1SG may want to remind vehicle commanders to check--

- Presence and proper mounting of all access plates.
- Presence and condition of all seals.
- Survivability of bilge pumps.

Also, he may want to ensure that the engineers have the proper equipment to maintain the trafficability of the entrance and exit routes. If the ground is particularly soft, the engineers may wish to quickly emplace pier steal planking or lay gravel. This will lessen the adverse effect of multiple vehicles crossing at the same point along the riverbank.

Command and Control

The commander will complete his plan by identifying each of the platoons with a specific mission during the operation. In many cases, this association may be part of the company team SOP. However, it will be important that each platoon leader understands his role and begins to plan accordingly. The commander will plan to locate himself immediately following the breach force, where he can control the operation, while the XO will control the fires of the support force and assist in the direction of indirect fires.

Preparation

Intelligence

After having issued his order, the commander will continue to monitor the reports of the scout platoon to ensure that he is up-to-date with the current enemy situation. He will want to ensure that enemy movements have not adversely affected his plan and that his FS plan will still be able to adequately suppress the repositioned or reinforced enemy elements.

Maneuver

During his troop-leading procedures, the commander should take the following steps as the company team prepares to negotiate the water obstacle:

- Maintain local security.
- Conduct a reconnaissance of the crossing site and surrounding area.
- Decide on the proper method to use when crossing the water obstacle (use an AVLB or swim/ford the vehicles).
- Supervise preparation of company team vehicles, personnel, and crossing sites (entry and exit points, if required) for the operation.
- Consider the possibility of sending the infantry across first to secure the far side.
- Plan for use of obscurity and deception smoke.
- Plan for use of all available fires to suppress the enemy at the crossing site.

If the time allows, the commander should walk through the operation with the platoon leaders. The platoons will be designated as the assault force (infantry platoon), breach force, and support force. Each platoon leader should describe his location and tasks that he is to accomplish during each phase of the operation. Specifically, the commander should look for the following:

- Breach force.
 - Reconnaissance of breaching site.
 - Location of crossing.
 - Method to mark the crossing.
 - Location of guides.
 - Location of security element on far side of river.
- Assault force.
 - Position during initial breach.
 - Weapons orientation overmatching the breach.
 - Signal to advance.
 - Order of march through the crossing.
 - Objectives to secure on the far side of the river.
 - Orientation of major weapon systems once in position.
- Support force.
 - Location of each element.
 - Weapon systems orientation.
 - Signals to lift and shift fires.
 - Signal to advance.
 - Order of march through the crossing.

Fire Support

The company team FSO should ensure that each platoon leader understands the FS plan, to include any special instructions concerning fire control. Specifically, the FSO will want to ensure that the execution of the FS plan will suppress any enemy elements that can influence the river-crossing operation. Also, he will check the location of the assault force's FPF against the positions they have identified for occupation. As the company team moves to the crossing site, the FSO will continue to monitor the battalion command net, adding additional targets if appropriate as he prepares to engage targets of opportunity.

Mobility, Countermobility, and Survivability

The engineers will prepare for the operation by attaching themselves to the breach force. In particular, the operator of the AVLB (if used) must be in communication with the commander of the breach force. The breach force, which must perform several tasks simultaneously, is critical to the operation; therefore, a rehearsal of breach force tasks should be conducted if possible.

Air Defense

The Stinger team commander should participate in the rehearsal with the platoon leaders. The commander must verify that the Stinger team is positioned to prevent interference with ground operations, yet be effective against the air threat. Because the Stinger team may not be with one of the maneuver platoons, the Stinger team leader must verify that he understands where to be during each phase of the operation, when to move, and whom to follow.

Combat Service Support

The ISG will prepare for the operation by reviewing support procedures for the operation with the platoon sergeants. In particular, he will want to highlight the location of casualty evacuation points on the near side and far side of the river. During the operation, the assault force will have to consolidate casualties on the far side of the river. Due to the continuous one way traffic on the AVLB, there may not be an opportunity to transport the wounded to the rear until the support force crosses. Also, ammunition resupply on the far side of the river must be planned, given the amount of ammunition that may be expended in suppressing enemy defenders.

Command and Control

The commander will ensure that each of his subordinate leaders and attached element leaders understand both their individual mission and how their tasks relate to the larger company operation. In this regard, the commander's intent must be clearly understood. The commander should also review the signals that will initiate each phase of the operation:

- Begin the initial reconnaissance and breach.
- Emplace the AVLB.
- Begin the assault through the breach.
- Lift and shift fires in support of the assault.
- Begin movement of support force for completion.

The commander should also consider his mission following the river crossing. The crossing by itself is not a mission; rather, it is a task that is conducted en route to mission accomplishment. Generally, the faster the company team can continue to move away from the obstacle, the better the situation. The force will no longer be confined to the crossing site area; the increased distance from the site, plus the addition of follow-on forces, will add to the overall security of any bridges that were used for the operation.

Execution

Intelligence

During the execution of the operation, the commander should evaluate not only the immediate enemy situation (at the crossing) but also enemy operations in depth, particularly counterattack forces. His greatest concern will be that the company team will get about halfway across the obstacle when the enemy chooses to counterattack. The company would be very vulnerable. Therefore the commander must ensure the assault force reaches a vantage point from which it will be able to provide the company early warning. Next, he must think about the continuation of the mission and the possible enemy elements that may attempt to prevent the company from breaking out of the obstacle area.

Maneuver

The operation begins with the support force moving forward to establish attack-by-fire positions. Once the support force has suppressed the enemy, the breach force moves forward to clear the lanes of obstacles and secures the far side of the crossing site (see Figure 6-49).

Once a lane is cleared to the crossing site, the mineroller withdraws to a covered and concealed position while the AVLB is brought forward. Under direction of dismounted breach force elements, the AVLB crew lays the bridge and returns the launcher to a covered and concealed position (see Figure 6-50). Remaining elements of the breach force, if initially unable to cross, then proceed across and reinforce security of the crossing site.

With the AVLB in position, the assault force moves across the bridge under direction of guides at the crossing site (see Figure 6-51). The assault force continues forward and establishes hasty defensive positions on the next appropriate terrain. It is important that the assault force commander move far enough away from the crossing site to allow enough space for the support force and other company team elements. This action will allow the company to cross under relative protection.

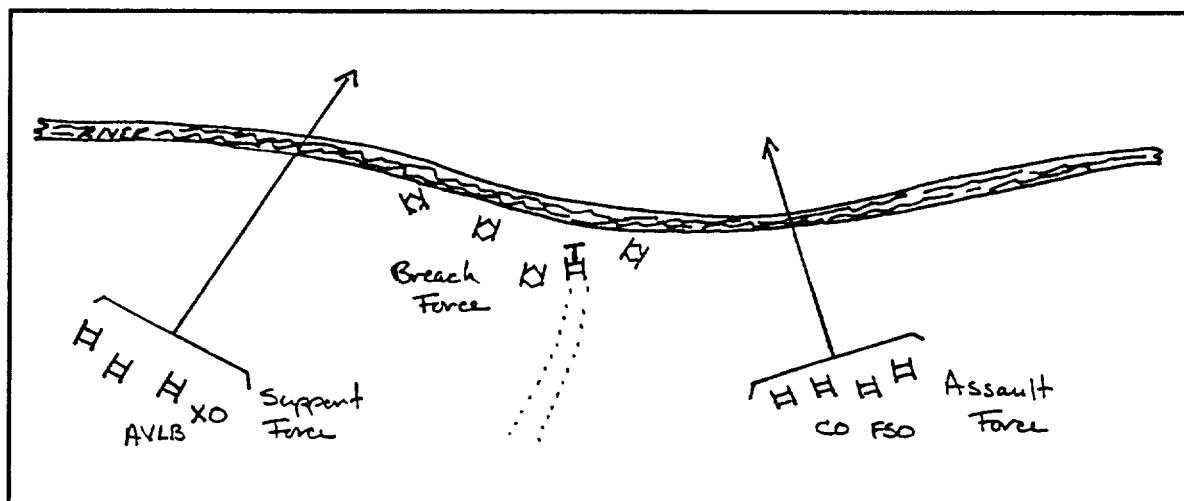


Figure 6-49. Advance of the breaching force.

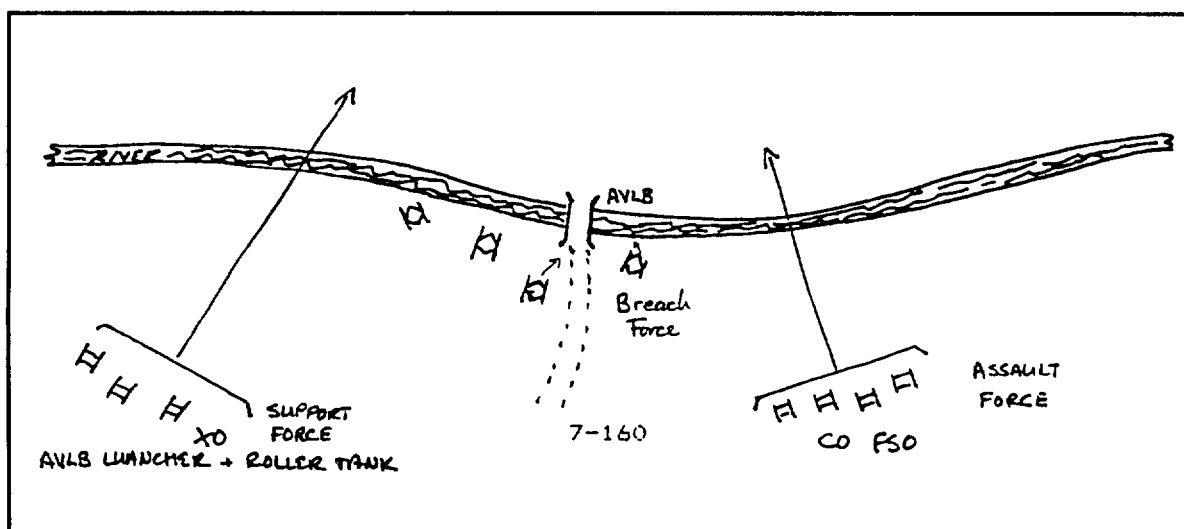


Figure 6-50. Emplacement of the AVLB.

Meanwhile, the support force provides direct FS for the operation, protecting other elements during the crossing. In particular, the commander of the support force must ensure that he controls the direct fires, lifting and shifting throughout the operation as necessary. Once the assault force secures the far side of the river line, the support force moves through the crossing and joins the main body of the company team (see Figure 6-52). Often, the support force will simply pass forward of all the other stationary elements to continue the momentum of the operation.

Fire Support

Prior to the movement of the breach force, the FSO will call for and adjust suppressive fires on all known and suspected enemy positions that may influence the crossing. The FSO will initially be positioned with the commander, in proximity to the assault force. As a lane is cleared to the crossing site and the assault force begins its maneuver to seize defensible terrain, the FSO will shift fires to suppress enemy positions on the objective and those areas that influence the objective. At this point, the commander will be concerned about a possible enemy counterattack therefore; the FSO should ensure the defense of his fire plan is adequate now that he is on the ground. PPFs should be planned along the enemy's most likely AAs. Also, interdicting indirect fires along counterattack routes should be planned and integrated with the LPs/OPs. Once the support

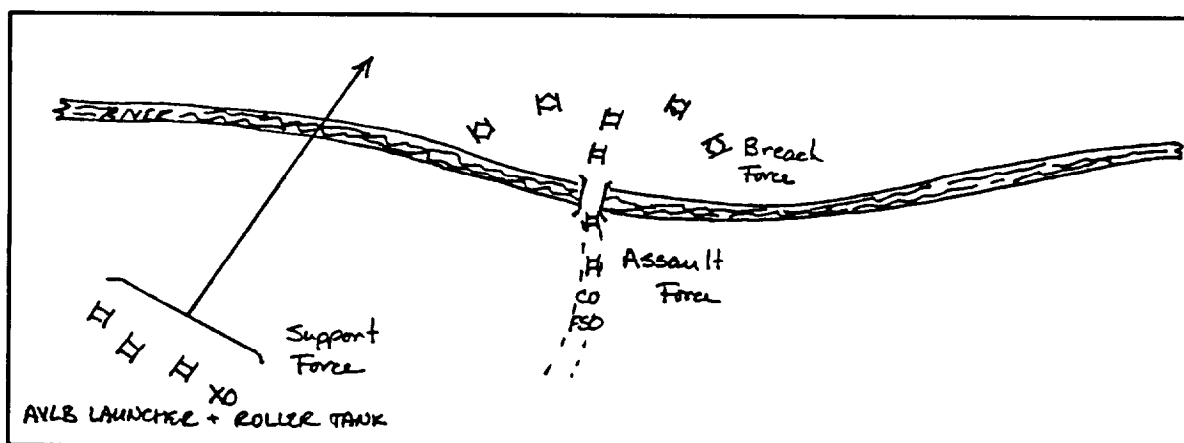


Figure 6-51. Movement of the assault force.

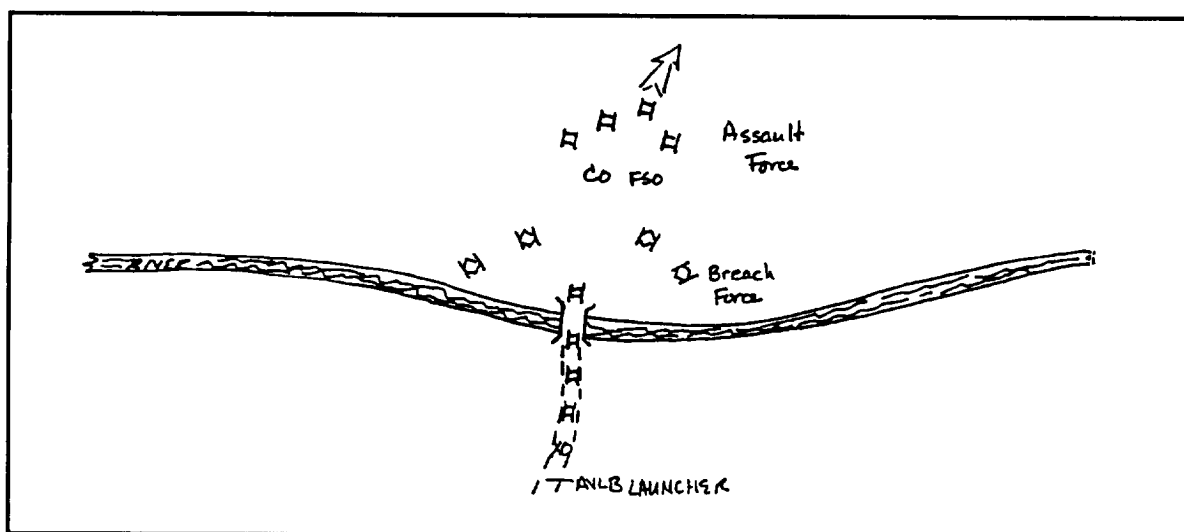


Figure 6-52. Movement of the support force.

force crosses and assumes the role of the lead maneuver element, the commander and FSO will follow, and again the FS plan will orient to the support of offensive operations.

Mobility, Countermobility, and Survivability

Although most of the responsibilities of the engineers were covered in the previous "Maneuver" portion, there are some aspects of their operations that should be further amplified. Despite the best intentions of reconnaissance, the selected crossing site may not possess all the ideal qualities. For example, the engineers may find that the riverbed allows for the emplacement of an AVLB, but the banks will not support it. Chances are, especially under fire, that the AVLB will be laid anyway, knowing that the crossing will not be impeded and the bridge will not be damaged. However, if follow-on forces plan to use the bridge, then the engineers must make arrangements to have the bank reinforced or to have ingress and egress areas for the bridge reinforced with gravel or field-expedient resources.

Air Defense

The Stinger team will protect the force against air interdiction from a position that provides protection from enemy direct fire, yet allows observation of the enemy air avenues of approach. Once the support force begins its movement across the river, the Stinger team will then revert to protecting the company as it would in offensive operations. For this reason, it is best that the Stinger team remain linked to the support force for

the duration of the crossing. If the Stinger team is under armor (usually in one of the company combat train vehicles), then the 1SG must ensure that both he and the ADA team can operate without degrading each other's operations.

Combat Service Support

The company combat trains will remain out of direct-fire range of enemy forces in the vicinity of the crossing site. Remember that because this is not a mission in itself, the CSS plan will address the crossing as a potential problem along the axis while en route to the final objective. The 1SG will be concerned with casualty evacuation and resupply following the crossing, but these concerns become more important at the final objective. CSS support may have a potential problem if the bridge is to be retrieved and no follow-on element plans to use the route. In this case, the 1SG must determine the best way to support the force and reach the MSR. Generally, this will involve the reconnaissance of alternate or lateral routes, a dangerous task if the area has not been cleared by combat forces. Nevertheless, as this operation is offensive in nature, the remainder of the CSS support will be executed as in a movement to contact or a deliberate attack.

Command and Control

The commander will observe and control the operation from a vantage point in proximity to the assault force. In particular, he must assess the success of the breach force and adjust the operation according to its progress. Once the crossing site has been established, the commander must shift his attention to offensive operations, even though the assault force will take up hasty defensive positions beyond the crossing area. In particular, the commander must anticipate the actions of the enemy. He must be prepared to fend off a possible counterattack or to get his force across so rapidly that the enemy will remain off guard and will be unable to offer an organized defense.

The actual river crossing is a drill and should be bested as such. The commander should be able to negotiate a river as any obstacle, with brevity of instructions and the complete understanding of his subordinate commanders. If time allows, a rehearsal should be conducted to reinforce the SOP and to keep the unit alert to the teamwork necessary for rapid and effective execution. Ultimately, however, the commander should control the movement of each force, maintaining the momentum of the operation.

Guard Operations

The guard force protects the main body from surprise, direct fire, and premature deployment. When a company is given a guard mission or is ordered to operate as part of the guard force, it is expected to conduct hasty attacks, delays, and movement to contact operations to maintain the unimpeded movement of the main body. It is important to remember that when a company team is given a guard mission (as part of a larger force's operation), it may require augmentation in order to accomplish all of the tasks inherent in the mission. However, the only actual guard mission that a single company team can accomplish is the advance guard. In other guard missions (flank and rear), the company actually conducts a screen. The smallest force actually capable of conducting a flank or rear guard is the battalion task force. The mission of a company team within this force will be to defend from a BP or in sector. For additional information, refer to the "Guard Operations" portion in Section II of this chapter.

Guard operations can be conducted to the front, rear, or flanks of the main body. An advance guard normally conducts a movement to contact to find and defeat an encountered enemy within its capability. This is normally conducted along an axis or route of advance or in zone. The company team will normally conduct a movement to contact as the advance guard of a battalion task force's movement. Once contact with the enemy is made, the company team conducts its actions on contact in the same manner as it would for a normal movement to contact. The platoons will return fire, report to the company team commander, and begin developing the situation using direct and indirect fire and maneuver. Depending on the situation and the decision of the company team and/or higher commander, the company may launch a hasty attack against the enemy. If the enemy is stronger than the company's ability to destroy it, the enemy force will be fixed, bypassed, and handed over to the main body of the battalion task force. A bypass route should also be identified for the main body to avoid the enemy position.

A flank guard protects the flank of the main body by maneuvering along an axis parallel to the main body. The company may travel in a combat column with an on-order mission to occupy preplanned BPs, or it may occupy a series of platoon BPs, bounding alternately or successively at the same pace as the main body. Other elements screen the area from the flank guard line to the main body while the scout platoon screens farther to the flank to provide early warning to the flank guard force. The point to remember is that, within the flank guard mission, the company team executes a defense from a BP or in sector.

During the advance, the rear guard protects the main body's rear area by conducting delay operations and local counterattacks to defeat enemy forces within its capability. As in a delay, the company team is given a series of BPs, sectors, or combinations of the two from which to conduct the delay. It is important to remember that company teams may be required to defend from these BPs if movement of the main body is slowed or comes to a halt. The rear guard normally follows the main body at a distance determined by the main body commander.

Planning

Because the advance guard is executed as a movement to contact and a rear guard as a delay, this section focuses on the company team's role in the flank guard mission. In this scenario, the battalion commander has designated the company commander as the flank guard commander. Inherent in the flank guard mission are tasks to screen the area from the line of the flank guard to the main body and to protect the force from the flank. To accomplish these tasks, the battalion commander has given the flank guard commander a fourth platoon and placed the scout platoon under the flank guard commander's OPCON.

Intelligence

The driving force behind the battalion commander's selection of a reinforced company flank guard was the battalion S2's IPB and associated information from higher headquarters. With the enemy situation template received during issuance of the OPORD, the commander identifies additional mobility corridors and possible avenues of approach that may lead to his axis of advance. With the scout platoon leader, he selects OP positions farther out from the flank guard axis to provide early warning to the company. Also, a route for the screen platoon will be prepared. This must be carefully planned because maneuver platoons are not generally trained for screen missions. In actuality, the platoon should operate as in a movement to contact, but may require additional guidance due to the terrain or enemy situation.

Maneuver

The maneuver plan is developed with two major factors in mind. The first is the axis taken by the main body; the second is the enemy situation template. The company commander must examine the axis and identify the distance the guard should be placed from it to provide adequate protection and early warning. This determination also includes selection of dominating terrain along previously identified avenues of approach. Next, the commander must choose the best method of movement or protection suited to the situation. As in any guard mission, the greater the level of security, the slower the guard's movement.

While the lead platoon screens the distance from the guard line to the rear of the main body advance guard and the scout platoon screens farther to the flank, actual guard platoons can be maneuvered in three different ways: alternate bounds by BP, successive bounds, or in column until ordered to occupy defensive positions (see Figures 6-53 through 6-55). Alternate bounds are the most secure and slowest; traveling in column with an on-order defensive mission is the quickest and least secure. Thus, based on the speed of the main body and the likelihood of enemy attack, the guard adopts one of the three techniques, or it may use combinations of them as required during conduct of the operation.

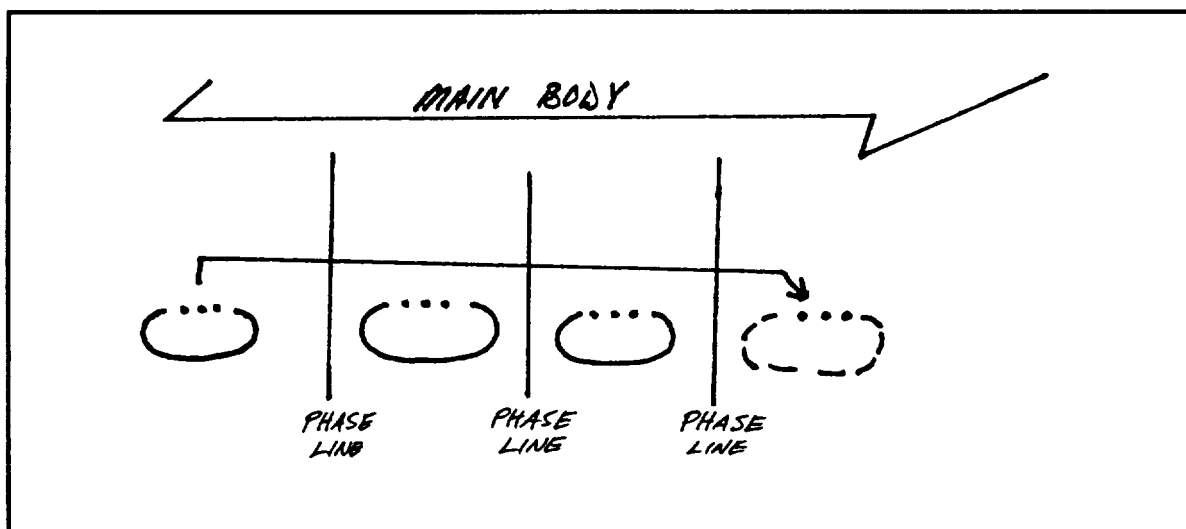


Figure 6-53. Flank guard moving by alternate bounds.

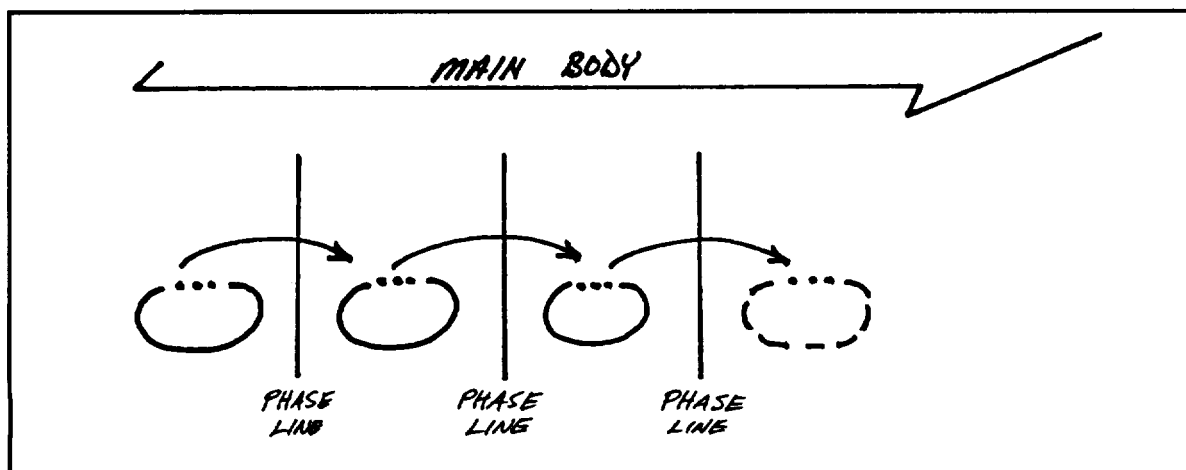


Figure 6-54. Flank guard moving by successive bounds.

Fire Support

Depending on the severity of enemy threat, the battalion task force commander may also place the mortar platoon under the control of the flank guard commander. If so, the mortar platoon can be used in several different ways. It may move behind the lead screening platoon with the mission to assist in fixing enemy elements along the axis. The mortar platoon may also be placed with scouts to augment their ability in slowing any enemy element attempting to attack from the flank. Finally, the mortars may move with the guard platoons, ready to respond to enemy contact to either the front or the flank. Regardless of where the mortars are located within the formation, the commander must ensure they are positioned where their capabilities are used to advantage.

The company team FSO travels with the company commander, who probably follows the lead guard platoon. The FS plan will be a hybrid of both offensive and defensive FS planning. Specifically, the plan is similar to offensive planning in that the force is maneuvering as in an offensive operation; however, as the guard quickly reverts to a defense or delay in sector, the fire plan must also be defensive in nature. As a result, the company team FSO must demonstrate flexibility as the tactical situation can rapidly change from one type of mission to another.

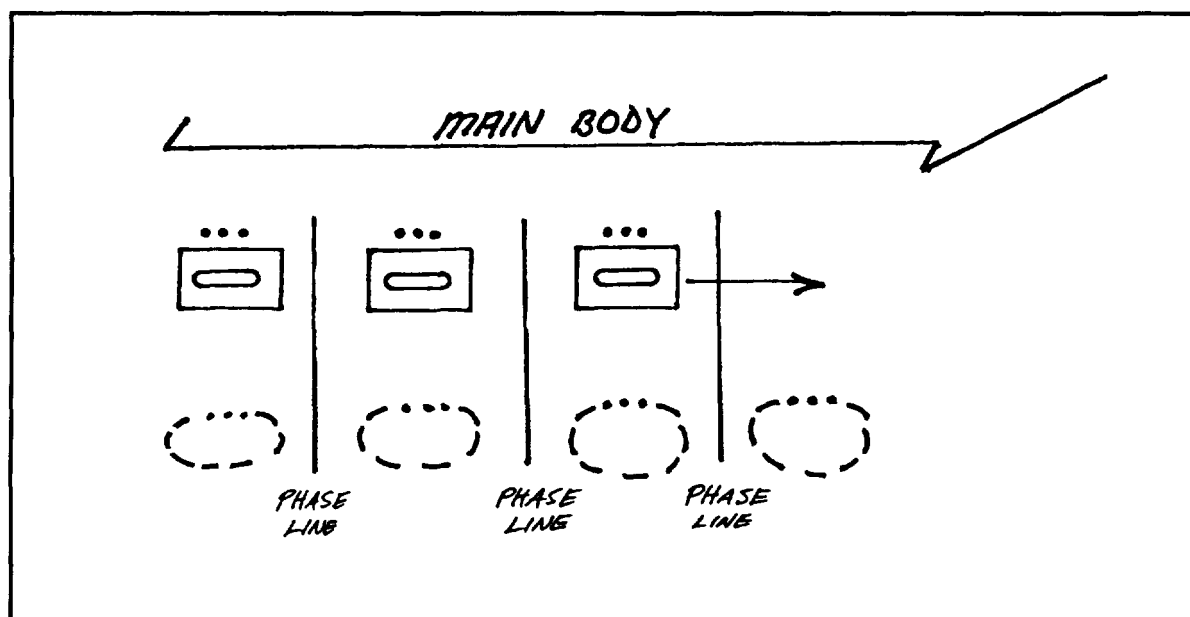


Figure 6-55. Flank guard moving in column.

Mobility, Countermobility, and Survivability

The primary concern for any attached engineer elements is to maintain mobility of the guard. The flank guard must be able to keep pace with the main body. To ensure this, some engineers maybe placed with the screen platoon to reconnoiter obstacles and crossing sites and to classify bridges. Engineer assets move behind the screen or with lead elements of the guard platoons to react to engineer reconnaissance reports. If resources allow, some engineer assets may accompany the scout platoon to establish obstacles designed to slow the arrival of the enemy to the force's flank.

The engineers must be prepared to change mission should the enemy attempt to attack from the flank. In this regard, the engineers will revert to a countermobility mission designed to prevent the enemy from reaching the main body. Therefore, obstacles in depth, emplaced behind the guard defensive line, will become the first priority. Because time is limited, these will probably be rapidly emplaced minefield systems (GEMSS or FASCAM) or point-type demolitions sited along main avenues of approach, as opposed to labor-intensive obstacles.

Air Defense

The Stinger team should be positioned where it can best protect the guard platoons. Generally, the team is located with the combat trains, which should be integrated into the guard line and the main body. However, the team leader must find terrain appropriate to his mission along the length of the axis. If he cannot, the Stinger team must reconcile positions with the company team commander's scheme of maneuver.

Combat Service Support

Company trains must balance mobility with security. Generally, that means they travel in trace of the maneuver platoons, but forward of the trail platoon. The trail platoon is responsible for tying into follow-on forces; therefore, it should not be obstructed by trains elements. If contact with the enemy occurs from the flank, the trains then move to a more secure position between the guard line and main body. CSS operations then occur laterally during the fight,

In planning guard mission CSS operations, the XO and 1SG should prepare for them as a movement to contact, but they should expect to revert to hasty defense. Accordingly, extra ammunition and other rapidly expended supplies should be carried in the company combat trains so emergency resupply can occur responsively. The flank guard should be as self-sustaining as possible because of its position with respect to the rest of the force and the difficulty in resupplying and evacuating casualties and damaged equipment. However,

company trains are simply not equipped to handle the unit's total support needs. Thus, CSS planning should identify and label a series of supply routes perpendicular to the axis of advance, yet appropriate to support a defensive battle on the flank (by intersecting the battalion MSR). These will come into use once the FRAGO to defend has been given.

Command and Control

The commander should plan to follow the lead guard platoon. In this way, he will be able to respond to contact from the front and the flank. The XO should monitor the progress of the screen platoon following in trace. This serves two purposes: the XO can provide assistance to the platoon leader, who may be drawn into a fight, and he becomes an additional element who can observe the sector.

The control of the operation is accomplished through a series of PLs, which become on-order boundaries once contact has been made with the enemy from the flank. The PLs also establish the interval between platoons and assist the commander in gauging the position of the screen relative to his guard platoons. If designated, an axis of advance may be given to the guard platoons to establish their position with respect to the on-order BPs and the screen line of the scout platoon.

Preparation

Intelligence

Once the commander issues the OPORD, he will rehearse the plan with his flank guard elements. In particular, he will want to reconcile the scout platoon's screen against the battalion decision support template and his own decision-making matrix. The commander will role-play the part of the enemy to ensure the scout platoon not only communicates the reports effectively but also understands what actions it must take as a result of each of the enemy's probable courses of action. Also, the commander will want to ensure that the scout platoon can easily occupy each of its assigned positions and keep pace with the guard and the main body.

Maneuver

The maneuver plan must be rehearsed if the force is to move quickly along its assigned route with a minimum of additional instruction. Specifically, if the guard is to move by alternate or subsequent bounds, this maneuver must be rehearsed so that platoon leaders will effectively communicate with one another and understand where they are in relation to the others throughout the operation. If the commander chooses to move in column, he must rehearse the occupation of BPs on order. Regardless of the method of movement, each platoon leader must know his direct-fire orientation for each of the BPs and how his fires fit into the company team direct-fire plan. Other defensive fire control techniques are as important in the guard as in the deliberate defense (trigger lines, engagement criteria, target priority).

It is important for the screen platoon, guard element, and scout platoon to work as a team and to understand their responsibilities to the other. For example, if the scout platoon identifies an advancing enemy element, it may be forced to withdraw through the guard line or move to a position to the flank. Guard platoon leaders must know what the scout platoon is doing and where it is to avoid fratricide. Similarly, the screen platoon must be able to hand over bypassed enemy to the guard and work with the guard platoons to destroy enemy elements that may threaten the main body. Each of these actions should be rehearsed to eliminate confusion during execution.

Fire Support

The FS plan must be rehearsed concurrently with the maneuver plan. Again, elements of the guard must understand where scout platoon elements are positioned so they will not be engaged by indirect fire. The FS plan should be rehearsed by all those who are in an initial position to observe the enemy, specifically the screen and scout platoons. The mortar platoon should rehearse to ensure its section locations are appropriate for responsive fire over the length of the sector and to ensure the platoon will be able to provide the range and effectiveness of fire cited in the FS plan.

Mobility, Countermobility, and Survivability

Engineers will conduct mobility operations as part of the maneuver rehearsal. To eliminate any possible conflict between the mobility and maneuver plans, they should walk through breaching drills and practice

coordination on the move, with engineer reconnaissance teams and the commanders of the breaching assets taking part.

Air Defense

The Stinger team leader should show the commander where he would establish firing positions along the length of the axis of advance. In particular, he must show that he is able to cover the enemy air avenues of approach into the guard force position no matter where it stops. The commander should also ensure that the Stinger team has the ability to warn the force of an impending enemy air attack. This is especially important when on the move.

Combat Service Support

The CSS plan should be rehearsed with the maneuver plan. The ISG should conduct the rehearsal with platoon sergeants to ensure each understands how to request emergency resupply, where to link up, and how much to expect. Evacuation of casualties and equipment should also be rehearsed. With only limited ability to recover damaged or inoperative vehicles, like-vehicle recovery should be covered and collection points identified along the entire axis. Similarly, each element should understand the location of the on-order MSRs running perpendicular to the direction of travel and the signals that open and close them.

Command and Control

From the commander's perspective, the rehearsal should provide a chance to practice controlling the operation and to ensure the XO is prepared to assume command if required. The commander's greatest concern is to maneuver the guard force in a unified manner. He must ensure that screens report each control measure and that guard platoons are able to keep pace with them and the main body. He has a difficult task due to the many elements under his control; therefore, while he commands the actual flank guard, he must rely on the XO to monitor the forward screen and the scout platoon to handle the flank screen and work together with the mortar platoon. In this manner, he may will decentralize control yet maintain enough centralized combat power that he can adequately react to the development of the situation.

Execution

For the purposes of this discussion, the flank guard mission is being performed by a force arrayed as illustrated in Figure 6-56.

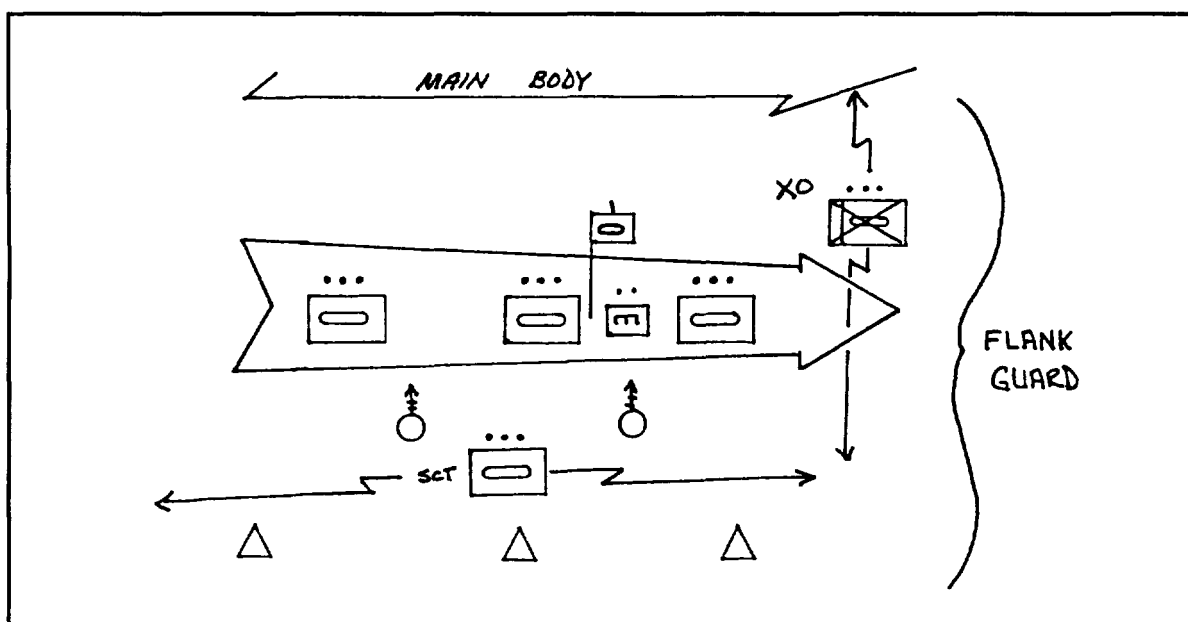


Figure 6-56. Flank guard mission formation.

Intelligence

As the guard begins its movement, the commander will monitor the reports of both the scout platoon and the forward screen. He will rely on the forward screen commander to maintain contact at all times with the main body advance guard to ensure that the area between the guard line and the main body is clear of enemy elements. Likewise, the scout platoon leader will keep the guard commander informed of the enemy situation to the flank. In turn, the guard commander will send periodic reports to the main body commander, to include his assessment of the enemy situation in his area.

Maneuver

As the forward screen crosses each PL, the platoon leader will report his location to the company commander. The scout platoon will also ensure the commander knows when each OP is occupied and evacuated. The commander will control the speed of the guard column so that it maintains an even pace with the main body. Should an enemy attack appear imminent from the flank, the guard commander will instruct the guard platoons to occupy hasty defensive positions in three of the preplanned platoon BPs. The forward screen will slow and continue to maintain contact while the commander reports his actions to the main body commander. The scouts will continue to monitor the situation and report the enemy's advance along the corresponding avenues of approach. If possible, the scouts will remain forward of the guard force to continue to provide intelligence of the enemy in depth. From this point forward, the battle is fought as a defense from a BP.

Should the enemy prove too strong for the flank guard, the commander will revert to a delay in sector mission. He will designate secondary BPs or a second PL from which to defend, allowing the platoon leaders a little more leeway if the terrain is very close. Again, he will report his actions to the main body commander so the bulk of the force can prepare to receive the enemy or so the flank guard can be reinforced by additional combat power. Upon the destruction of the enemy, the flank guard commander will assess the combat strength of his unit and its ability to continue the mission.

Fire Support

The FS plan will be conducted in conjunction with the main body commander's concept. For example, the main body commander may not wish the enemy to know of the position or strength of the force. Therefore, he may not want artillery fired until contact with the enemy is imminent. In this regard, the flank guard's FS plan may not be executed unless the enemy attempts to attack from the flank. As a result, the flank guard will go to ground, and the FS plan takes on an immediate defensive nature.

Regardless of the commander's concept, the FS plan will be executed offensively, defensively, or as a combination of the two. Once the platoons go to ground, the company FSO must ensure that an FPF is planned for the platoon BPs. It will be important that the guard does not become decisively engaged unless the protection of the main body leaves no other recourse.

Mobility, Countermobility, and Survivability

The engineers will conduct breaching drills as required to maintain the mobility of the guard force. Once enemy contact has been established, they will quickly move to prepare obstacles in depth. If the resources and time are available, the FSO will request FASCAM. This will be especially useful forward of the guard line, as the minefield can be covered by direct fire. Once a target has been prepared in depth, its execution must be reported to the members of the guard force so that they know not to use that route. Reserve targets (for example, bridges) should not be executed until the signal is given by the predesignated authority. That authority will ensure that all friendly elements have withdrawn behind the target before it is executed.

Air Defense

The Stinger team will conduct their air defense mission as in a movement to contact. It will monitor the ADA early warning net and move with the force, observing enemy air avenues of approach from preplanned positions along the route. Once contact with enemy ground forces has been established, the Stinger team will locate on the best defensible terrain and continue to protect the force. Should enemy aircraft begin to attack, the Stinger team leader will notify the flank guard as a whole.

Combat Service Support

The company combat trains will move as part of the guard column until contact with the enemy is imminent, at which time the trains will maneuver to a location central and to the rear of the element in contact. In

the case of a flank attack, this will be between the guard line and the main body. From this point forward, CSS operations are conducted as in the company defense. Casualties and damaged equipment will be evacuated to positions of safety behind the platoon BPs or to predetermined locations where they can be met by maintenance and medical support. From there, the evacuation route will extend laterally into the main body and intersect the MSR. Should the guard be required to delay, the trains will be moved in preparation for each new defensive line. Equipment that cannot be recovered will be destroyed.

Command and Control

The commander must rely on the judgment of his subordinate commanders in order to effectively control the operation. He must ensure that once the force moves out, each leader continues to inform the other of his progress and status. Once contact is imminent, the commander must ensure the safe positioning of his reconnaissance assets or their withdrawal behind the guard line. At this point, the commander will control the battle as he would in any defensive operation. In addition to the destruction of the enemy, his charter is to protect the force to the best of his ability; therefore, he must keep the main body commander continually informed of the situation, to include requesting additional support, if needed. Should the flank guard commander be forced to revert to a delay, he must ensure that in his trade of space for time he allows enough time for the main body to prepare for contact. This can be accomplished only through close coordination with the main body commander.

Screen Operations

A company team is given a screen mission to maintain surveillance, to provide early warning of an approaching enemy to the main body, to impede and harass the enemy with supporting indirect fires, and to destroy the enemy's reconnaissance elements within its capability. The operation is designed to obtain information about the enemy and to provide reaction time, maneuver space, and protection to the main body.

A company team may conduct a screen in support of brigade offensive and defensive operations. When given a forward screen mission, the company moves as in a movement to contact; given a flank guard mission, the company actually operates as a screen. Generally, screen missions are accomplished by the scout platoon for a battalion operation or by a cavalry squadron for a division. At brigade level, the commander may direct a battalion task force to provide a screen if the division's security elements are engaged in other missions or have become combat ineffective, or when he believes that the division's security forces will be unable to provide the degree of security required by the brigade.

This discussion will center on a company team that has been given the mission to conduct a forward screen for the brigade's defense. While the division cavalry squadron is forward, the situation dictates that the bulk of the reconnaissance effort will be dedicated to another brigade's sector. As a result, the brigade commander has determined to augment the security of his sector by emplacing his own forward screen.

Planning

Intelligence

The company team commander will begin to plan the operation after receiving the enemy situation and decision support templates from the brigade S2. The brigade S2 will indicate which NAI the company team must observe and when they must be observed. The brigade S2 will not dictate the location of company team elements, nor will he dictate how the company team is to maintain surveillance of the NAI. However, if GSR units will operate under brigade control in support of the brigade's security efforts, these assets should be positioned by the brigade S2, and their locations and missions are integrated with the security actions of the screening company teams. Once the screen force commander positions his elements, he will then inform the brigade S2 of their primary, alternate, and subsequent locations.

Maneuver

When the brigade commander assigns a screen mission to a company team, he should use the following planning principles.

- The brigade commander should designate the general trace of the screen and the time that it must be effectively established. The initial screen line should be forward of the general trace but remain within the range of supporting artillery. Screen lines are depicted as PLs, and passage graphics are also included in the overlay.
- The brigade commander should designate the left and right limits of the screen as well as a PL for the rear boundary. This PL will also become the on-order BHL.
- The brigade commander will confirm which unit has responsibility for the area between the screening force's rear boundary and the MBA. This should be the battalions that occupy sectors behind the brigade screen.

Generally, the best company team configuration for the screen mission is a reinforced mechanized infantry company, for example, three platoons of mechanized infantry and one tank platoon. The ability to place soldiers on the ground to conduct surveillance operations and active patrolling is an essential passive aspect of the screen mission; the tank platoon may be deployed in a manner similar to a reserve, with a mission to destroy the enemy's reconnaissance vehicles. In this respect, the company team operates as a hunter-killer team.

Given this task organization and the brigade commander's guidance, the screen force commander will then plan his operation. The following list illustrates some of the items the commander must specify in his OPORD:

- The PL establishing the initial screen, which should be placed to allow for unimpeded observation from behind the line. OPs may be positioned forward of the line, but only with the permission of the screen force commander. They must remain within the range of supporting fires. The initial screen line in this case may not be an FS coordination line or a CFL.
- The mission to be executed to move the company team to the screen line, usually a zone or route reconnaissance.
- The time needed to carry out the operation.
- The location of the OPs.
- Indirect-fire planning.
- Routes or sectors for rearward displacement.
- Logistical plans.

Fire Support

The company team FSO will prepare for the screen mission as he would a defend in sector mission. Specifically, he will use the enemy situation template as a guide to plan fires that should interdict enemy maneuver elements. Additionally, protective fires will be planned for all screen force positions. This will help prevent screen force elements from becoming decisively engaged with the enemy. Accurate indirect fire will be essential to the destruction of the enemy reconnaissance effort; therefore, a time-distance analysis should be conducted covering the enemy's probable rate of advance and the time of flight of the artillery. If available, COLT teams may be added to the screen force to be used as snipers against enemy vehicles.

Mobility, Countermobility, and Survivability

Generally, the brigade's engineer effort will be dedicated to the MBA forces. If available, some engineer effort may be dedicated to the forward screen; however, the obstacle plan should not be severe enough to drastically alter enemy movement prior to the enemy's becoming engaged by forces within the MBA. The obstacles found forward of the MBA should be designed to temporarily stop reconnaissance elements and assist in their destruction. As a result, point-type targets along restrictive portions of the enemy's avenues of approach are an example of obstacles that may be bypassed, yet offer a target to the weapons covering the obstacle.

Air Defense

Due to the large frontage the company team will be required to cover, one Stinger team may not be sufficient to protect the force. A better alternative is to place two Stinger teams under armor, riding with the flank platoons. This ensures a Stinger gunner on the ground at all times and at each end of the screen. The disadvantage is that the gunners may lose their ADA early warning net unless a radio is provided to them. Also, some other ADA element will have to move forward every 24 hours to update their IFF capability. Nevertheless, the actual enemy air threat will probably not be directed toward their position; rather, the aircraft will be attempting to penetrate the MBA in search of more lucrative targets.

Combat Service Support

The company combat trains will have a difficult time supporting a force that extends across the brigade's frontage. As a result, each of the platoons should be made as self-sustainable as possible. Each vehicle must carry its own commonly used repair parts. Additionally, combat lifesavers should be given additional medical supplies in case they are the only ones available to administer first aid. The ISG may coordinate with the S4s of each of the forward MBA battalions for additional support. For example, the platoon that is screening in front of a particular battalion task force may be able to receive some level of support from that force, especially in terms of casualty evacuation and maintenance support following evacuation.

Command and Control

The commander will have a difficult time controlling a company that is forced to operate across an extended frontage. Just from the communications standpoint, control may be of great concern. As a result, the commander may place himself between and to the rear of the center and flank platoons, while his XO mirrors the position on the other side. The commander can communicate his instructions to the XO, who in turn will ensure they are relayed to the platoons on his side of the sector. In terms of the actual control planning, the commander will designate PLs throughout the depth of his sector. Each PL should correspond to the next screen line. Platoons will bound between PLs under the direction of the commander however, the brigade commander will decide when the screen force may move behind the rear boundary PL.

Preparation

Intelligence

In preparation for the screen mission, the company team commander will ensure that each platoon understands which NAI it is to observe and when. The commander will expect the platoons to aggressively patrol and conduct reconnaissance operations within its platoon sector; however, the responsibilities of the brigade R&S plan must be met. The commander will review with each platoon leader the enemy mobility corridors and avenues of approach that lead into his respective sector. He will emphasize the point that platoons are not to become decisively engaged, yet should do everything in their power to destroy the enemy's reconnaissance assets. When the enemy's reconnaissance formation is too large, they should notify the commander, who will commit the tank platoon (or a tank section) to destroy the enemy.

Maneuver

As mentioned earlier, the screen force will conduct its operations using a hunter-killer team concept. In this scenario, the screen force commander would probably retain one tank section, and the XO would retain the other. In this way, a tank section would be able to respond to enemy reconnaissance vehicles that penetrate the screen on either side of the sector. Although splitting the platoon lessens the ability to mass combat power, it increases the screen force's flexibility by limiting the distance the tanks must travel to reach any portion of the sector.

The commander will rehearse the conduct of the screen by simulating the enemy's movement into the brigade sector. He will ensure that his platoon leaders accurately report enemy sightings at each of the NAI and other locations as appropriate. Moreover, he will rehearse their movement from one PL to the next, paying close attention to how the platoons internally cover their move. He will check weapons orientation, routes of withdrawal, order of march and calls for fire. He will also ensure that the platoons will be able to make the move, yet maintain contact with the enemy. Finally, once the screen mission has been rehearsed,

the commander will conduct a rehearsal for the platoon's rearward passage of lines with the MBA battalions. If possible, he will ask for battalion representatives to participate in this final coordination prior to execution.

Fire Support

The company team FSO will ensure that the FS plan is accurately executed during the maneuver rehearsal. In particular, to ensure separation from the enemy, he should ensure that the platoons call for fire as they move from their positions. He will also verify the proper use of priority targets. This is especially important in that the brigade's artillery may not be firing in support of any other element. As a result, when a lucrative target appears, the artillery support should be both timely and extremely effective. The FSO should be located in proximity to the company team commander, along the enemy's suspected area of main effort. Therefore, he will be unable to observe the entire sector (again, primarily due to the large frontage) and must rely on the platoon leaders and the XO on the other side of the sector to accurately direct and control indirect fires.

Mobility, Countermobility, and Survivability

In conjunction with the maneuver rehearsal, the company team commander will rehearse the execution of reserve targets and other obstacles that have been planned throughout the sector. In particular, he will want to ensure that brigade reserve targets are manned and that the conditions and signals under which they are to be executed are fully understood. In terms of his own targets, the commander will ensure they are executed as the last section clears the area to augment the separation between his force and the enemy.

Air Defense

The conduct of the screen force's air defense will also be included in the maneuver rehearsal. Each Stinger gunner should demonstrate where he is to be positioned throughout the maneuver to ensure that a Stinger gunner is on the ground and ready to shoot at all times.

Combat Service Support

The ISG will demonstrate where the company combat trains will be located during each phase of the operation. He will rehearse his ability to move in preparation of the screen force's displacement to its next PL and his ability to evacuate wounded and damaged equipment. Because he will be extremely limited in the latter area, the platoons must also demonstrate their plan to evacuate damaged vehicles and to treat and stabilize the wounded and evacuate them to the MBA.

Command and Control

The commander will practice his control of the operation during the rehearsal. Due to the large frontage, he will be unable to actually see much of the battlefield and therefore will rely heavily on the reports of his platoon leaders and XO. Nevertheless, he must know where his units are at all times during the operation. A technique during the rehearsal is for the commander to have his back to the other participants and practice controlling the operation from his map and operational graphics. In this way, he will be better able to judge the quality of his subordinates' reports and his own ability to control the operation.

Execution

Intelligence

Once the company team begins its screen mission, the commander will monitor the reports of his platoons. He will have to do his own IPB to piece together what type of enemy reconnaissance elements are entering the area. He will send all reports to higher headquarters as quickly as possible, so that the brigade S2 can complete his enemy situation template. The brigade S2 should also attempt to predict for the screen force commander the type and location of the next enemy force he can expect to face. As a result, the screen force commander and brigade S2 will work together in an effort to gain as much information as possible about the enemy before it reaches the MBA.

Maneuver

The execution of the screen will essentially look like a mechanized infantry company on line, extending at intervals the width of the brigade sector. As the scout elements identify enemy reconnaissance vehicles and

attempt to remain undetected, the enemy will be engaged by indirect fires at maximum range. As the enemy pressure increases and threatens the security of the OPs, the platoons will request permission to move to the next screen line.

Once the company team commander has given that permission, two vehicles from each platoon will move back to the next screen line under the protection of the remaining sections (see Figure 6-57). When moving to the next screen line, emphasis must be placed on moving rapidly and maintaining visual contact with the enemy. Prompt accurate reporting will be essential to prevent decisive engagement and to keep the platoons from being overrun, bypassed, or cut off. Nevertheless, some enemy reconnaissance elements may slip between the elements of the screen, though in the best case they will not go undetected. If they are detected, the platoon leader will immediately notify the screen force commander, who will direct a tank section to wait in ambush for the enemy reconnaissance element. Therefore, as long as the screen line elements can keep tabs on the enemy, minor penetrations of the screen line can be taken care of without a significant impact on the force's ability to continue the mission. Once the brigade commander is satisfied with the work of the screen force, or when it appears the force will become quickly engaged by the enemy, the brigade commander will give his permission to the force to move behind the rear boundary, hand over the battle to the forward battalions, and execute a rearward passage of lines.

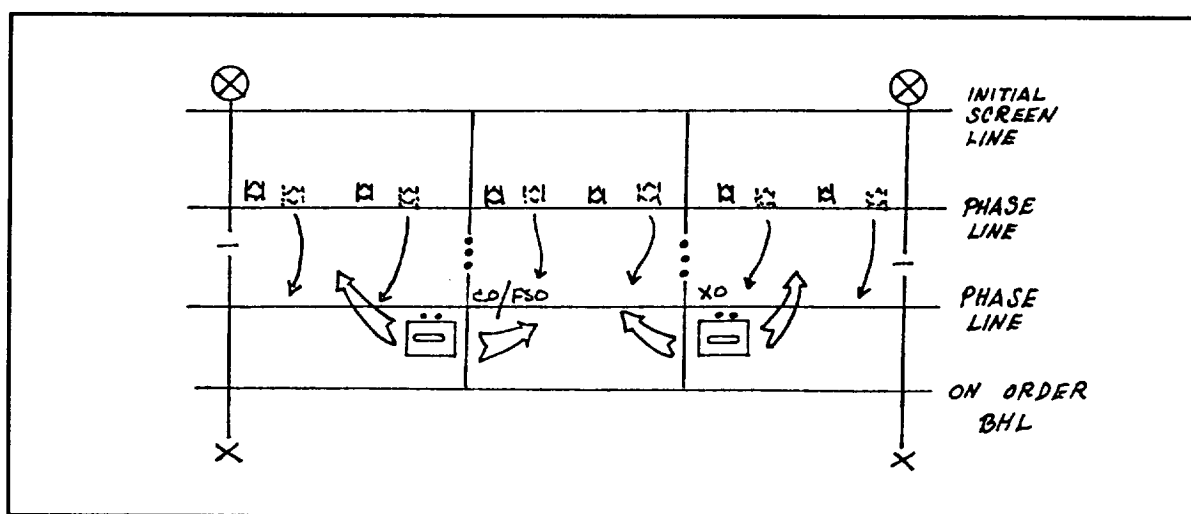


Figure 6-57. Company team conducting a forward screen for a brigade.

Fire Support

The FSO and the platoon leaders will execute the FS plan as rehearsed. Enemy elements will be engaged at maximum range. In this respect, COLT teams can be especially effective using Copperhead munitions to "pick off" the enemy's reconnaissance vehicles. Should the enemy attempt to penetrate the screen line or become intermingled with the screen force, the platoons must be prepared to call for close-in artillery to extirpate themselves from decisive engagement. This is particularly important during moves to subsequent screen lines, where the enemy may observe the move and attempt to press what it feels to be an advantage. This is one more reason to accomplish the move with all possible speed.

Mobility, Countermobility, and Survivability

As the enemy nears the screen line, prepared demolitions should be executed to confuse or expose enemy reconnaissance elements so they can be destroyed by direct fire. Prepared bridges are a good example of how an obstacle sought by the enemy can be destroyed as it is approached. If the area leading to the bridge is open and easily covered by direct fire, the enemy reconnaissance element will quickly find itself exposed with only one tactical recourse: to back up under fire. Similarly, point targets, sited along restrictive terrain and not readily visible to the enemy, will surprise the enemy reconnaissance elements and also place them in a vulnerable position. When this is executed properly, the enemy will be unable to maneuver and will become relatively easy targets.

Air Defense

The Stinger gunners will move as members of their assigned vehicles since they should be placed under armor. As one Stinger teammate moves with his section to the next screen line, the other remains in position, at the ready to cover the move. The same process occurs as the other teammate begins his move. Once the company team has been directed to move to the rear, the Stingers will provide protection as in any retrograde operation.

Combat Service Support

The 1SG will maintain a central location behind the screen line, responding to the calls for the evacuation of wounded and, to a lesser extent, of damaged vehicles. Generally, if a vehicle is hit and casualties inflicted, the platoon will be required to stabilize the casualties and recover the vehicle using its own assets. Once in position along the next screen line, the damaged vehicle will be removed to a covered and concealed position behind the platoon. Next, the platoon sergeant will request medical and maintenance support, at which time the ambulance and M88 will move forward to that position and conduct support operations. As the force prepares to move to its next screen line, the 1SG will move the trains to the rear of the new screen line and again prepare to support. This process will continue throughout the operation until the commander receives permission to conduct a rearward passage of lines into the MBA.

Command and Control

The commander will monitor the reports of the platoons in contact and attempt to position himself where he is in the best position to observe the action on his side of the sector. He will remain in contact with the XO to develop a clear enemy picture across the entire frontage of the sector. In particular, he should concentrate on the destruction of the enemy reconnaissance vehicles therefore, he will pay particular attention to the calls for fire and the results of those fire missions. He will commit the tank reserves as needed to destroy enemy penetrations of the screen line and must be prepared to send them into a counterattack role should one of the platoons become decisively engaged.

Above all, the commander will make the determination when to move from one screen line to the next. He will issue FRAGOs as required to control that movement, but mostly he must rely on the ability of the platoon leaders to accomplish the move without his assistance. As the force moves closer to the rear boundary, the commander will ensure that the brigade commander is aware of the situation. Depending on the brigade commander's instructions, the screen commander will control the speed of the movement, the volume of indirect fire directed toward the enemy, and the length of time the screen will remain in place along each PL. He must ensure the force does not become intermingled with the enemy and should allow sufficient time to conduct an orderly withdrawal into the MBA.

Ambush Operations

An ambush is a surprise attack by fire from concealed positions on a moving or temporarily halted enemy. It may include an assault to close with and destroy the target, or the attack may be by fire only. It does not require that ground be seized and held. A company team may conduct an ambush as part of battalion task force rear area, defensive, retrograde, or offensive operations.

Ambushes are generally executed to reduce the enemy force's overall combat effectiveness. Destruction is the primary purpose of an ambush since enemy personnel killed or captured and equipment and/or supplies destroyed or captured will critically affect the enemy force. Harassment, the secondary purpose, diverts the enemy from other missions. A series of successful ambushes causes the enemy to be apprehensive, less aggressive, overly cautious, and therefore reluctant to go on patrols or to move in convoys or small groups.

Planning

Intelligence

Surprise is the key element of the ambush. If it is not achieved, the ambush will fail. As a result, a detailed knowledge of the enemy is absolutely important. This does not have to be a time-consuming process, however. For example, if reconnaissance elements report the size, description, location, direction of travel, and arrival time of an enemy element at a certain point, the ambush party may have enough time and

information to prepare an ambush. Therefore, it is important that the company team conducting the ambush maintain communications with the reconnaissance elements (usually the scout platoon) that observed the enemy.

Maneuver

Once a company team receives a mission to conduct an ambush, the commander will determine which type of ambush is best suited for the operation. Essentially, he has two types to choose from:

- A point ambush is one in which the ambush patrol deploys to attack a target in a single kill zone.
- An area ambush is one in which the ambush patrol is deployed at multiple, related point ambushes.

Either of these types of ambushes may be conducted as a hasty or deliberate operation. Generally, a hasty ambush is more of an immediate action drill done at relatively close range, while the deliberate ambush is characterized by more detailed information of the enemy. Doctrinally, the ambush is planned in terms of the following elements:

- Assault element. This is the part of the company team designated to fire into the kill zone and/or assault the enemy if required.
- Support element. This part of the company team supports the assault element by firing into and around the kill zone. The support element will fix the enemy within the EA, almost as a blocking force, while the assault force fires from the flank. The support element will also cut off the enemy's flank escape routes once the enemy has been stopped within the kill zone.
- Security element. This part of the company team provides early warning and security to the other elements of the ambush patrol. It secures the ORP and blocks enemy avenues of approach into and out of the ambush site.

Given a point ambush mission, the commander will assign each of his platoons one of the three missions described above. Usually, a tank platoon will be given the support element mission, either a tank platoon or a mechanized infantry platoon given the assault element mission (depending on the type of target), and an infantry platoon given the security mission.

Fire Support

The company fire plan must be completely integrated into the obstacle and direct-fire plans to isolate the enemy within the kill zone, to prevent escape and reinforcement, and to inflict maximum damage through massed fires within the kill zone. Fires should also be planned in support of the security elements to deny enemy reinforcement or relief from other follow-on elements.

Mobility, Countermobility, and Survivability

Obstacles should be sited to augment the effect of the support force and the assault force. Therefore, a blocking obstacle should be placed between the support force and the location at which the lead enemy element will be engaged. The obstacle must not be visible to the enemy, or surprise may be lost. Similarly, obstacles parallel to the enemy's direction of movement will allow enemy movement into the kill zone; however, once the ambush begins, they will prevent lateral enemy movement. This will deny escape and prevent the enemy from closing with the assault force. Like the blocking obstacle, the flank obstacles must be properly camouflaged to avoid detection.

Air Defense

Due to the stealthy nature of the ambush, active air defense must be avoided at all cost. Should a Stinger team be forced to engage an enemy aircraft in the vicinity of the ambush site, the operation should probably be aborted. As a result, the company team commander must make maximum use of passive air defense measures; camouflage is essential.

Combat Service Support

The company combat trains will be located at a covered and concealed location that has access to the ORP. It is important that the trains be hidden from enemy observation. Due to the short but violent nature of the operation and the stealth required to make it a success, CSS operations must be conducted prior to the

force moving to the ORP and after the completion of the mission. Casualties must be transported initially by the ambush elements until they can meet with ambulances at the ORP. Sometimes the trains may move forward to the ambush site at the completion of the mission, but this is only done when the area is secure from additional enemy activity. Otherwise, the company team moves in quietly, conducts the ambush, and withdraws quickly.

Command and Control

The ambush commander's control of all aspects of the operation will be critical. He must ensure that his control measures allow for the following:

- Early warning of target approach by OPs.
- Withholding fire until the target moves into the kill zone.
- Opening fire at the proper time.
- Engagement criteria and target priority (which weapons shoot which targets and in what order).
- Appropriate actions to be initiated if the ambush is prematurely detected.
- Lifting and shifting of fires.
- Timely and orderly withdrawal to an easily recognized rallying point.

Preparation

Intelligence

In preparing for the ambush mission, the commander will ensure that the location of his security elements will provide the early warning required for the operation. He will ensure that the ambush site is prepared in such a manner that all obstacles and firing positions are not visible to the enemy and that all courses of action open to the enemy have been considered for ambush contingency planning. Specifically, the commander will ensure that all avenues of escape have been targeted and covered by fire and that the force has a viable plan for breaking contact under control should the ambush be detected prematurely.

Maneuver

The commander will rehearse the operation with his company team to ensure that each element understands its mission and responsibilities. Essentially, there are two basic types of ambush formations from which the commander may choose when given a point ambush mission: the line ambush and L-shaped ambush.

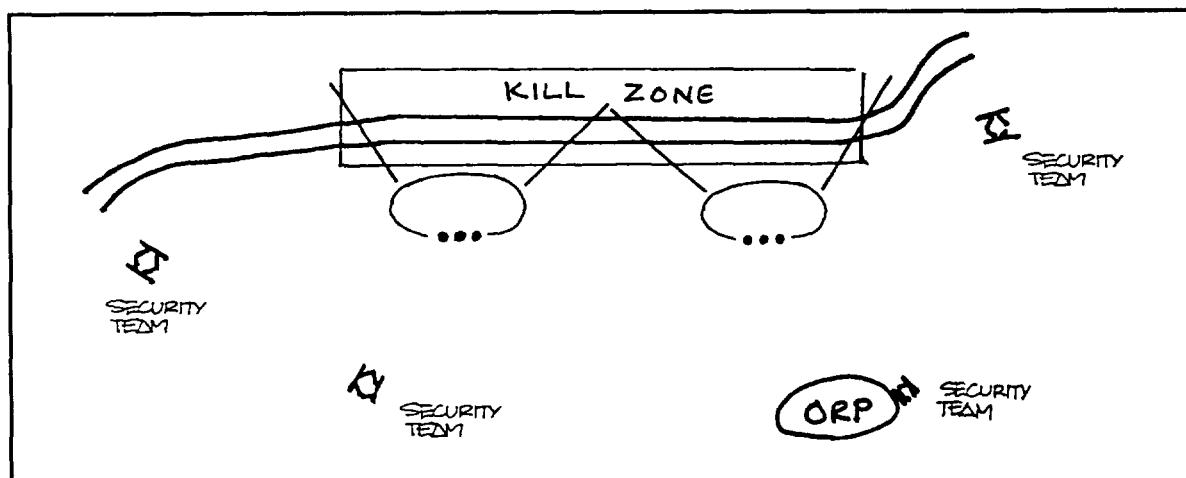


Figure 6-58. Line ambush formation.

Line ambush. This is characterized by the assault and support elements positioned on line, parallel to the target's direction of movement (see Figure 6-58). In this technique, all of the fire into the kill zone will be flanking fire. Additional considerations in preparing a line ambush include the following:

- The size of the kill zone is restricted to the area that assault and support elements can cover with a high volume of fire.
- The target should be contained in the kill zone. Obstacles, mines, explosives, and direct or indirect fire will prevent the target from leaving the kill zone.
- To prevent the target from attacking into the assault and support elements, obstacles and mines must be placed between the kill zone and the elements. The lane must be left open for the assault force to attack once fires have been lifted.
- The line ambush should not be used if the target is sufficiently dispersed to the point that it is larger than the kill zone.

L-shaped ambush. This is a variation of the line ambush, differing in that it offers interlocking enfilade fire into the kill zone (see Figure 6-59). The assault element forms the long axis of the "L"; the support team forms the short axis of the "L" at a right angle to the assault team. The same considerations apply for the L-shaped ambush as for the line ambush, with these additions:

- The fires of the support team must be shifted out of the kill zone to allow the assault element to attack into an isolated kill zone. Support fires may be stopped, but this can open the backside of the kill zone for target reinforcement or escape.
- Placement of the support team depends on the siting of the ambush kill zone. It is more advantageous to surprise if the fires of the support team strike the target from the rear.

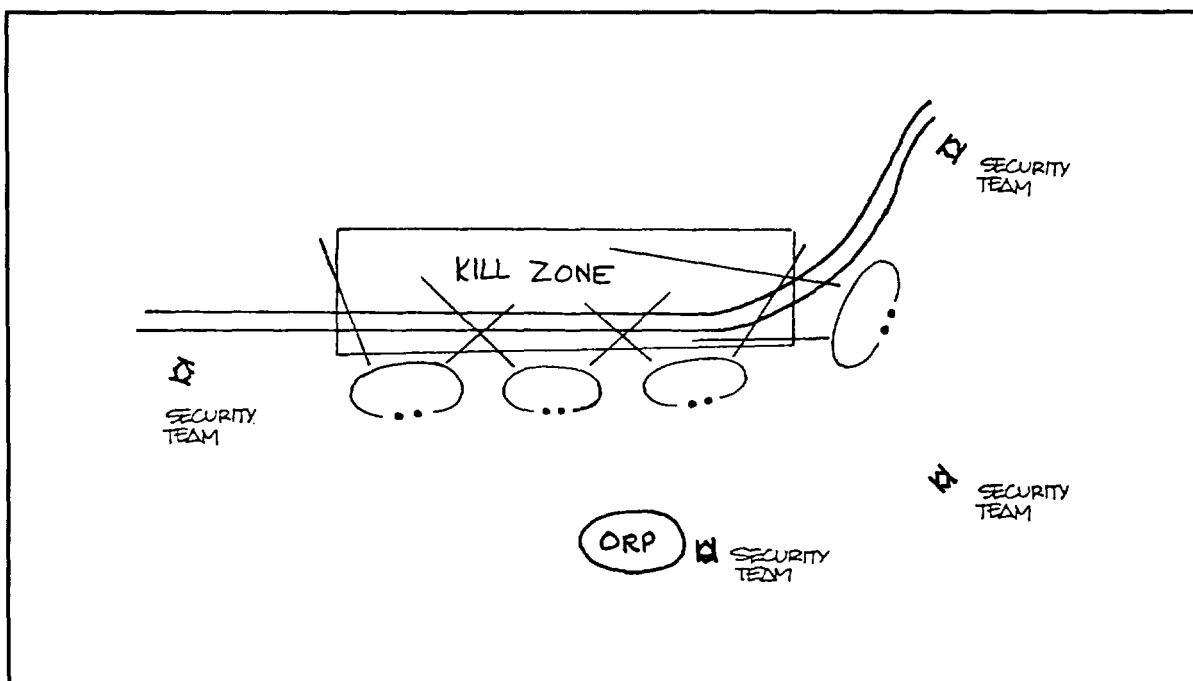


Figure 6-59. L-shaped ambush.

Area ambush. When the company team has an area ambush mission, the commander should remember that it is a series of point ambushes, organized within a given area. An example is illustrated in Figure 6-60. Within the AO should be several suitable ambush sites, preferably a central ambush site surrounded by other

outlying sites. This type of ambush is usually associated with a screen mission (see the “Screen Operations” portion of this section). Additional considerations for conducting an area ambush include the following:

- The security teams must accurately and quickly pass information about the size, composition, route, direction, and speed of the enemy to the assault and support teams.
- More security teams are needed for an area ambush.
- All of the ambushes should be conducted as simultaneously as possible, or the enemy may be alerted to the ambush.
- If the ambushes are not simultaneous, then those forces involved in the earlier ambushes should immediately reposition themselves.
- The withdrawal of the ambush force of an area screen is more complicated; it must be done in a slower, more deliberate manner.

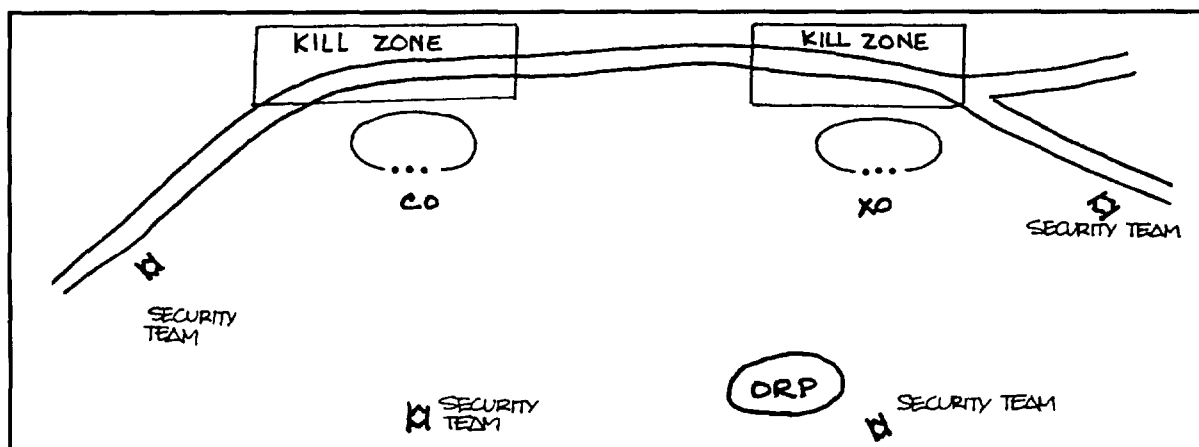


Figure 6-60. Area ambush of a supply route.

Preparing for the ambush. Once the commander conducts a rehearsal appropriate to the type of ambush that the company team will execute, the unit will begin to prepare for the operation following these steps:

- The ambushing force moves to and establishes the ORP.
- The commander and selected element leaders conduct a leader's reconnaissance of the ambush site.
- The plan is confirmed or modified.
- The security elements are moved into position.
- Support and assault elements are moved into position.
- The ambush site is prepared.

Fire Support

The company team FSO will rehearse the FS plan during the ambush rehearsal. He will ensure that each element is able to employ effective indirect fires in support of its mission. For example, the security element will call for fires that deny enemy reinforcement of the ambush area, while the assault and support forces will call for fires to augment the direct fires within the kill zone. With respect to the latter, indirect fires should be synchronized as much as possible with the direct fires so that, when the ambush begins, the artillery will land as the direct-fire elements begin to fire.

Mobility, Countermobility, and Survivability

The obstacles will be checked in preparation for the ambush to make sure that they are properly sited and camouflaged. Prepared demolitions for the security force will also be checked. These targets would be executed to further deny enemy reinforcement or escape. However, they should not be executed until the actual ambush begins, as they could alert the enemy to an impending ambush.

Air Defense

The Stinger team will be sited where it can provide protection from air attack if necessary. The Stinger team should not be visible from the ground or, for that matter, to aerial reconnaissance elements. Rather, it should be well camouflaged and prepared to execute, but only as a last resort to avoid aborting the ambush.

Combat Service Support

The 1SG will ensure that all platoons have all the necessary ammunition, fuel, and other supplies needed to sustain operations from the moment they leave for the ORP until their return. Due to the short duration of the operation, CSS should not be a problem except in the area of medical support. In this regard, the 1SG should ensure that each combat lifesaver has enough supplies to treat and stabilize wounded until they can be evacuated by the medics.

Command and Control

In preparing for the ambush, the commander should ensure that his signals for controlling the operation are both understood and redundant. There are four important signals needed to control an ambush:

- A signal used by the security teams to alert the ambush patrol leader of the enemy's approach. Usually, a brief, prearranged FM signal is used. The landline can be used when it is secure and in no danger of detection.
- A signal to start the ambush. This is driven by the ambush patrol leader or by someone designated by the patrol leader. This must be a casualty-producing signal, such as a main gun shot or the detonation of explosives.
- A signal to shift fire when the target is to be assaulted. FM or visual signals may be used, but whatever is selected, it must be received and understood by all of the assault force simultaneously to ensure unity of effort.
- A signal to withdraw. This also may be via either FM or visual signal. Generally, FM is given first priority because that is usually what the unit is most familiar with; visual signals (such as flares) are reserved for backup measures.

Execution

Intelligence

The company team will begin the operation by moving to the ORP. From there, the ambush patrol leader will move forward and conduct a reconnaissance of the ambush area to confirm the plan. Next, the security elements will move into position where they can secure the ORP and the flanks of the ambush site.

Once the security elements report that they are in position and prepared to execute their mission, the support and assault elements will move from the ORP to their respective positions. If possible, the support element will overwatch the assault element's movement to the ambush site. Otherwise, they will move at the same time.

Once all elements are in position, the patrol awaits the target. When the target approaches, the security team alerts the ambush patrol leader. The security team leader should report the direction of movement, size of the target, and any special weapons or equipment the enemy has. This information is passed to all elements of the ambush patrol.

Maneuver

When the majority of the enemy force is in the kill zone, the patrol leader will signal to initiate the ambush. The support force will initiate fires destroying the lead enemy vehicles, while the assault force sweeps the length of the enemy formation, destroying the remaining vehicles from the flank. If possible, the assault element weapon system farthest from the support force should destroy the enemy trail vehicle first. This will ensure the enemy is trapped within its own wreckage.

On order from the ambush patrol leader, the support force will shift its fires to the enemy's flank, away from the assault element. This will further seal off the kill zone from enemy retreat. Meanwhile, if the conditions allow, the ambush commander will signal the assault force to move forward and destroy any remaining resistance. Once the enemy has been destroyed and the ambush mission is complete, the ambush patrol commander will signal to cease fire and withdraw to the ORP. The order of withdrawal will usually occur with the assault element moving first, followed by the support element, and the security element last. Once at the ORP, accountability of men and equipment will be made, and the force will quickly move to link up with the company combat trains under the protection of other maneuver elements.

Fire Support

As the lead enemy element approaches the trigger line, the ambush commander will call for indirect fire. If properly planned, the artillery should land at the same time the commander initiates fire, just as the lead element reaches the trigger line. The artillery will augment the shock of direct fire engaging the enemy formation. The FSO must also lift and shift the indirect fires as the commander gives the signal to shift direct fires. This is to prevent fratricide when the assault force moves into the kill zone to complete the ambush.

Mobility, Countermobility, and Survivability

The ambush patrol commander may choose to initiate the operation by executing demolitions once the enemy's lead element reaches a specific point within the kill zone. This target should be designed to destroy the lead vehicle and deny follow-on assets the ability to bypass and escape. The other obstacles (such as minefields) should contain both vehicles and personnel within the kill zone. Should other enemy elements attempt to relieve or reinforce the attacked element, the security teams may detonate point targets (bridges) to deter the enemy. The ambush patrol leader must be notified if demolitions are executed by the security teams, as it may have an impact on friendly withdrawal from the ambush area.

Air Defense

The Stinger team will remain in position throughout the operation. However, once the ambush has been initiated, the team should be prepared to engage enemy aircraft that may attempt to assist the ambushed force.

Combat Service Support

The company combat trains will remain in place until the operation is complete, at which time they will either move to the ORP or be joined by the company elsewhere. Damaged vehicles should be towed by like vehicles; casualties will be treated and stabilized by combat lifesavers until they can be transferred to the medics and evacuated via ambulance. Following the linkup, CSS operations will occur as in any tactical operation.

Command and Control

The company team commander, serving as the ambush patrol commander, will be critical to the conduct of the operation. His signals will initiate the action and control it until completion. It will be his responsibility to ensure that the positioning of weapons, fire control, and volume of fire are such that, upon execution, the enemy will be so overwhelmed and shocked that it will not be able to return fire. By properly planning, preparing, and executing the mission, the commander not only will ensure the destruction of the enemy but will also safeguard the lives of his own men. The action will be over literally in seconds; therefore, the commander must ensure that his force can accomplish the mission with precision and without hesitation.

Breaching Operations

In-stride breaches are conducted to maintain the momentum of the operation. In conducting the in-stride breach, the company team will use the equipment it has on hand. Normally, this will consist of the three mineplows and one mineroller in its organizational equipment.

Planning

Intelligence

The company commander will be notified of the obstacle by the battalion through reports received by the scout platoon or other forward reconnaissance elements. He should receive the same detailed information as listed in the "Breaching Operations" in Section II of this chapter. Despite the best reconnaissance, however, the lead platoon of the company may encounter an obstacle not previously detected. In this case, the platoon would be required to reconnoiter the obstacle to the best of its ability.

Maneuver

The company team will probably encounter numerous obstacles as it maneuvers across the battlefield. Soviet-style doctrine calls for the extensive use of minefields and other obstacles in their defense. Regardless of the type of obstacle employed, the purpose is the same: to canalize the attacker, to impede or stop the attacker's movement, or to force the attacker to expose a flank or other vulnerable area to enemy fire. To counter the enemy's use of obstacles, the company team must develop and practice breaching drills until they become second nature. The application of these drills, either as part of a battalion task force breaching operation or as an independent operation, will enable the company team to successfully breach enemy obstacles.

The step-by-step fundamentals of breaching obstacles areas follows:

- Detect the obstacle, reconnoiter it, and search for a bypass.
- Suppress all enemy positions with direct and indirect fires.
- Obscure enemy observation of the obstacle area with smoke.
- Initiate the company team's breaching drills (designate and deploy the support team, breach team, and assault team).
- Secure the far (enemy) side of the obstacle.
- Breach or neutralize the obstacle.
- Move company team elements through the obstacle.
- Continue the mission.

The company team commander must carefully decide whether to bypass or breach the obstacle. Bypassing the obstacle may lead the company team in the direction the defending enemy desires, namely, into a fire sack. Breaching an obstacle, on the other hand, is a time-consuming procedure that may result in numerous casualties. If the commander decides to conduct a breach, the company team normally will conduct a hasty breach using the equipment that is on hand. If the necessary equipment is not available or operational, the company team will either occupy hasty defensive positions and wait to participate in a battalion task force deliberate breaching operation or try to force through the obstacle. In some situations, against certain types of obstacles, forcing through an obstacle may be the best method available; however, it is definitely the least desirable method for breaching a minefield. Normally, the company team commander would only force through a minefield and accept the resulting casualties as a last resort.

Breaching fundamentals are applied regardless of the type of obstacle or the composition of the company team. Once the commander has determined to conduct an in-stride breach, he will organize the company team into a support team, breach team, and assault team, as follows.

- Support team. Normally, this is the lead platoon, which is a tank platoon. It will probably make the initial contact and must be capable of laying down a base of fire for the other forces.
- Breach team. Normally, this is a tank platoon equipped with at least a mineplow and perhaps a mineroller.
- Assault team. Normally, this is a Bradley platoon that is capable of assaulting through the obstacle to seize an objective or other key terrain that will allow the breach to be secured. They may conduct their operation either mounted or dismounted as required.

Fire Support

The company FSO will be the key individual to ensure the accurate placement of suppressive indirect fires on enemy positions and the proper positioning of smoke. It is important to remember that the smoke should not be placed on the breach site. That will merely mark the location for the enemy and draw fire. Rather, the smoke should be planned on the enemy position or placed between the enemy and the breach, close enough to the enemy that it obscures a large field of view. His next challenge will be the maintenance of the suppression and the smoke screen. Therefore, while the breach is taking place, the FSO must be prepared to observe the enemy in case it repositions as a result of the suppression. The FSO must also be able to continuously monitor the smoke screen to ensure that it remains effective throughout the operation.

Mobility, Countermobility, and Survivability

In this example, the company team does not have engineer support and must accomplish the in-stride breach using its own organic assets. As fielded, each tank company will receive one mineroller and three mineplows. Generally, each of the tank platoons will designate a tank (not the platoon leader's or platoon sergeant's) to carry the mineplow. In maneuvering, the mineplow may be carried in the "up" position with little effect on the tank's ability to maneuver. When lowered for use, the plow can clear a lane 77 inches wide under each of the two plows, leaving a 26-inch wide uncleared area between. A "dog bone" between the plows will detonate tilt rod mines. A tank equipped with a mineplow may also tow a MICLIC. When used together, the MICLIC clears the lane initially, while the plow is used to proof the lane.

When the mineroller is mounted to the another tank in the platoon, it is used to proof the lane cleared by the mineplow. It will not detonate single and double impulse or pressure mines located between the plowed lanes. The roller has an even greater gap than the plow, 72 inches, between sets of wheels. A tank equipped with a mineroller is slowed significantly and has reduced mobility; therefore, the roller is normally carried on a lowboy in the combat trains until needed.

Air Defense

The Stinger team leader will plan to provide protection for the company team as he would in any offensive operation. His major concern will be that, as the platoons maneuver to conduct the breach, the stationary platoon (support team) and perhaps even the breach and assault teams may become lucrative air targets until the lane is actually prepared. As a result, the Stinger team leader must identify a position that covers the possible enemy air avenues of approach into the area and allows for the protection of the force.

Combat Service Support

In planning for the breach, the 1SG will have several concerns. First, he must ensure that the support team has enough ammunition to sustain its suppressive fires against the known and suspected enemy positions. He must also plan for the evacuation of casualties and damaged equipment, particularly those that are involved in the breach and the assault. In this regard, the support must be planned similar to movement to contact, where the force sometimes fights both offensively and defensively. If the mineroller is required, the 1SG must identify a covered and concealed position, in proximity to the obstacle, where the roller may be mounted to a tank.

Command and Control

While the in-stride breach is conducted primarily as a drill, there are aspects of the operation that will require the clear, terse, and anticipatory directions of the commander. For example, the commander should place the support team and designate its orientation, ensuring that it can accurately suppress the enemy while

at the same time overwatching the activities at the breach site. Usually, he will have the XO (and sometimes the FSO) remain with the support team to ensure that both direct and indirect suppression are effectively controlled. The commander will place himself with the breach team to ensure the location of the lane does not lead the company team into danger on the far side of the obstacle. Once the lane is open, he is then in an opportune position to control the assault of the enemy position. He will follow the assault as he would any hasty attack; at the same time, he will position himself to resume the original offensive mission. He will direct the support team forward to secure the breach and then assess the company's ability to continue.

Preparation

Intelligence

In preparation for the breach, the commander will ensure that the lead platoon, which has encountered the minefield, develops the situation to the point that enemy elements, or suspected enemy positions, covering the obstacle are identified. Also, a reconnaissance of the obstacle itself should, as a minimum, yield potential breach sites and perhaps a bypass route. When a platoon does reconnoiter an obstacle, the commander should ensure that he gives it a left and right limit for its reconnaissance effort and a specific area that it should examine for potential breach sites. If he does not do this, the lead platoon could become separated and fragmented from the rest of the company team. All pertinent information will be reported to the commander, who may choose to move forward in an attempt to conduct his own reconnaissance. In particular, he will want to ensure that his company does not fall into an enemy trap if it breaches the obstacle.

Maneuver

The actual preparation for the breach requires the commander to issue a FRAGO to the company to initiate the in-stride breach drill or to assign each of the three platoons as one of the required forces in the breaching operation. Once each of the elements understands its mission, it will conduct its own preparation as follows:

- The support team—
 - Assigns primary and alternate positions and sectors of fire.
 - Establishes a method of fire control and restrictions.
 - Identifies tentative locations for the XO and the FSO.
 - If a far side objective has been identified by the company team commander, makes tentative plans to maneuver from the support position to the objective.
- The breach team-
 - Moves to a covered and concealed position short of the breaching site.
 - Checks all breaching equipment (plows and rollers) and prepares the MICLIC for firing.
 - Prepares the marking system for emplacement and identifies the marking team.
 - Identifies the near-side security team and sector of fire.
 - Identifies the breach team (plow and roller tanks).
 - Confirms the location of the breaching site.
 - Identifies the tentative platoon location on the far side of the obstacle and establishes direct-fire orientation.
- The assault team—
 - Moves to a covered and concealed assault position to the rear of the breach team.
 - Identifies a route from the assault position through the breach to the platoon's objective.
 - Makes tentative plans for the platoon's attack of the objective.

Fire Support

The FSO will prepare for the operation by planning the suppressive fires onto the known and suspected enemy positions as well as the smoke missions. He will check with the mortar platoon to verify its ability to provide the smoke, including limitations as to size, thickness, and duration. He will link up with the company team XO, and together they will maneuver to join the support team. From the support team position, he will confirm the FS plan and inform the commander.

Mobility, Countermobility, and Survivability

If a roller is to be used to proof the lane, the lowboy will be brought forward to a covered and concealed position where it will be met by the roller tank. It takes about 45 minutes to mount a roller to a tank; therefore, the commander may wish to initiate this as soon as possible to save time. Once the roller is attached, the roller tank will rejoin the breach team, where it will be positioned to follow the plow tank.

Air Defense

The Stinger team leader will move into position and closely monitor the ADA early warning net. Even if the company team has not yet been identified by the enemy on the ground, it may still be observed from the air. Therefore, while the rest of the company prepares for the breach, the Stinger team should already be in position, protecting the force from interdiction.

Combat Service Support

The 1SG will direct the lowboy into position if the commander decides to use the roller. The remainder of the trains will move to a covered and concealed position from which they will be able to support the operation. The 1SG and the medics will identify evacuation routes to both the support team's position and the breaching site. The M88 should also be prepared to assist in keeping the breaching lane clear by removing damaged or destroyed vehicles that may block the lane during the operation.

Command and Control

The commander will move forward where he can observe the breach and the assault. He will coordinate with the XO and FSO, located with the support team, to ensure signals are understood for controlling fires during the operation. Also, he will request any additional information concerning the enemy that the support team may have been able to acquire.

Execution

Intelligence

Once the commander gives the order to initiate the breach, he will monitor the effectiveness of the support team to suppress the enemy position. From his perspective, he may be able to observe the enemy's attempt to reposition, in which case he will notify the XO, FSO, and support team commander. More important, he must assess the enemy's ability to affect the breach team as it begins to create the lane. If necessary, he may direct the assault team to provide additional suppression should the enemy resistance seem stronger than expected; however, he must caution the assault team to closely monitor its ammunition consumption to ensure it will have enough when needed to conduct the assault.

Maneuver

The support team will suppress the known and suspected enemy positions while the FSO augments the fires with indirect suppression and adjusts the smoke screen. Simultaneously, the breach team security elements will suppress any close-in enemy positions as the plow tank moves forward to create the breach. The plow should be lowered not more than 125 meters from the first identified row of mines when the reconnaissance is not clear about the exact dimensions of the minefield; it should be lowered no closer than 50 meters when the reconnaissance is accurate. A point to remember is that while it is preferable for the plow tank to create a lane perpendicular to the minefield, the terrain and enemy situation may dictate otherwise. The plow tank commander must be prepared to drive using the terrain as protection from enemy direct fire as he creates the lane. This technique may make the lane more difficult to mark, but it may also ensure lane completion. While the plow tank creates the lane, the roller tank (if designated) will follow behind to proof the lane.

Once the plow and roller tanks have established a breach lane, they will move to hasty defensive positions on the far side of the obstacle. The security element in turn will travel across the lane, mark it, and join the plow and roller tanks to complete the local security on the far side of the breach.

After the breach lane is complete and local security is in place, the assault team will move through the lane and begin its assault against the enemy position. If possible, the breach team should allow enough space for the assault team to get into formation before it moves from the immediate breach lane area.

At this point, the operation is conducted as an attack with both the support and breach teams providing continuous suppressive fires on the enemy position. As the assault team nears the position, the other two platoons must lift and shift their fires to other positions. Once the support team's fires have been masked and it is no longer able to provide effective suppressive fires, it will be instructed to move forward and either join the breach team or reinforce the assault team as it completes its assault and mop-up.

Once the enemy has been destroyed and the breach lane cleared and marked, the commander will assess the company's combat strength and cross-level supplies. He will await the higher commander's instructions to continue the mission or improve the breach and assist in the forward passage of follow-on forces.

Fire Support

The company team FSO will adjust the indirect fires for both the suppression of the enemy position and the obscuration of the breach site. As the assault team moves into the final assault, the FSO will lift the fires in the direction of the assault team commander and shift them to other potential enemy positions that may be able to influence actions on the objective.

As for the smoke screen, the greatest concern will be the sustainment of the smoke long enough to complete the breach and perhaps long enough to get the assault team across without its drawing enemy fire. A screen of this duration, however, requires a lot of smoke ammunition, particularly if it is being shot by the mortars. If the screen cannot be maintained, the FSO must notify the company commander and the platoon leaders in advance. Usually, the FSO will be able to tell these elements how long they can expect to have smoke before the operation begins. This will, of course, directly affect the speed of the operation.

Mobility, Countermobility, and Survivability

When conducting the breach, the plow and roller tanks must be prepared to join the assault once joined by the remaining two tanks in the platoon. This happens when the enemy position is very close to the actual breaching lane and the enemy commander attempts to remain by the far side of the obstacle, placing the breach team in jeopardy. When it occurs, the assault team will follow the breach team as a reinforcement. All other activities occur as previously described.

Air Defense

The Stinger team leader will continue to provide protection throughout the operation. The team will continue to move with the support team once it is called forward.

Combat Service Support

The ISG will control company team CSS operations throughout the in-stride breach in the same manner as in any offensive operation. The only significant difference will be that, once the breach team moves out, the trains will move to occupy its position. This will place the trains in the best position to support the operation and deploy the M88 if necessary to keep the lane open. Once the support team moves through the lane, the company trains will follow to the other side if it has been secured from enemy direct fire and observation.

Command and Control

The company commander will initially follow the breach team to ensure that he knows exactly where the lane has been emplaced. He will then follow the assault team to help in the direct and indirect suppression of the objective. He will determine when to move the support team forward and direct the breach team to reposition as required once the assault team has begun the attack. To ensure that the area is protected against enemy counterattack, he will position both the breach and support teams accordingly.

Chapter 7

COMBAT SUPPORT

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The application of superior combat power at the decisive time and place determines the outcome of the battle. The commander uses his CS assets to enhance the capabilities of his maneuver units and to weight his main effort. Knowing CS capabilities, assigning them appropriate missions, and synchronizing their operations are essential to the application of superior combat power at the decisive time and place.

Commanders cannot view CS as something to be added to the plan to make it better, as an afterthought made to adhere to an already completed scheme of maneuver. That kind of “add-on” approach reduces critical CS elements from combat multipliers to mere combat additives. To be most effective, CS must be an integral part of the plan. CS representatives (for example, the FSO or engineer) must be involved from the outset in the staff planning sequence. The commander’s intent must clearly articulate what he wants to do to the enemy; the CS elements can then prepare their employment recommendations. These allow the commander to select a course of action that synchronizes maneuver, fires, and CS into a cohesive battle plan.

SECTION I. BRIGADE COMBAT SUPPORT

Fire Support

Fire Support System

General

FS is the collective and coordinated use of indirect-fire weapons, armed aircraft, and other lethal and nonlethal means in support of a battle plan. FS includes mortars, field artillery, naval gunfire, and air-delivered weapons. Nonlethal means are EW capabilities of MI organizations, illumination,

and smoke. The force commander employs these means to support his scheme of maneuver, to mass firepower, and to delay, disrupt, or destroy enemy forces in depth. FS planning and coordination exist at all echelons of maneuver. FS destroys, neutralizes, and suppresses enemy weapons, enemy formations or facilities, and fires from the enemy rear area.

FS enhances the maneuver commander's combat power by—

- Destroying, suppressing, and neutralizing targets. A discussion of these terms follows under the heading "Lethal Attack Characteristics."
- Obscuring the vision of enemy forces.
- Isolating enemy formations and positions.
- Slowing and canalizing enemy movements.
- Killing or disabling the enemy at ranges greater than for direct-fire weapons.
- Screening with smoke or isolating areas with scatterable mines.
- Reducing the effect of enemy artillery by active counterfire.
- Interdicting following enemy echelons.

Components

The FS system supporting the heavy forces is the collective body of target acquisition and battlefield surveillance; attack systems (lethal and nonlethal) and munitions; C2 and coordination systems and facilities; technical support (meteorological and survey); and the personnel required to provide and manage FS.

Attack systems. The attack could be lethal or nonlethal (such as smoke, illumination, and offensive EW). Assets normally available at brigade level and below are field artillery, mortars, TACAIR support, communications jammers, and naval gunfire. ADA and engineer assets may also become important components of the FS system.

Field artillery. The field artillery mission is to destroy, neutralize, or suppress the enemy by cannon, rocket, and missile fire and to help integrate all FS into combined arms operations. Normally, one field artillery battalion is in DS of a maneuver brigade. However, more artillery battalions can be assigned the mission to reinforce the DS battalion.

Advantages. Field artillery—

- Adds depth to the battlefield. The field artillery can strike and destroy the enemy deep before he can influence the battle.
- Offers various ammunition and fuze combinations.
- Gives continuous fire in all weather conditions, day or night, and from all types of terrain.
- Shifts and masses fires quickly.
- Is as mobile as maneuver forces.

Disadvantages. Field artillery—

- Is an area fire weapon. In some cases, however, point targets can be destroyed by using guided or homing field artillery projectiles. These projectiles are expensive and limited in quantity. They must be used only against high-payoff targets.
- Has a limited ability to survive enemy ground, air, and artillery attacks. Weapons can be detected because of their large signature from communications and firing. Therefore, artillery must displace periodically.

- Is not well suited for use in direct-fire mode.
- Has limited ability to bring timely and accurate massed fires on moving targets without detailed coordination and planning.
- Must be observed fire to be effective.

Lethal attack characteristics. The maneuver commander must decide what effect FS must have on a particular target. The three types of effects are—

- Destruction. Destruction puts a target out of action permanently. Direct hits are required to destroy hard material targets. Usually, destruction requires large expenditures of ammunition and is not considered economical.
- Neutralization. Neutralization knocks a target out of action temporarily. It does not require an extensive expenditure of ammunition and is the most practical type of mission. Most missions are neutralization fire. Ten percent or more casualties may neutralize a unit.
- Suppression. Suppression of a target limits the ability of the enemy personnel in the target area to perform their jobs. The effects of these fires usually last only as long as the fires are continued. Suppression requires a small amount of ammunition; however, since its effects are not lasting, it is unsuitable for most targets.

Indirect fires. These are divided into two categories:

- Observed fire. Observed fire is fire for which the points of impact can be controlled by an observer. The most economical use of indirect fire weapons is attained by ensuring fire is observed when accuracy cannot be guaranteed.
- Unobserved fire. Unobserved fire is fire for which the points of impact are not observed. It involves predicting where targets are, or will be, and placing fire on them. Use of unobserved fire requires follow-up activity to assess effectiveness.

Field artillery organization. The division commander normally places at least one field artillery battalion in DS of a committed maneuver brigade. Additional field artillery units may reinforce DS battalions and/or provide GS reinforcing fires to the brigade based on availability and priorities of the division battle. The organization of a DS field artillery battalion is shown in Figure 7-1.

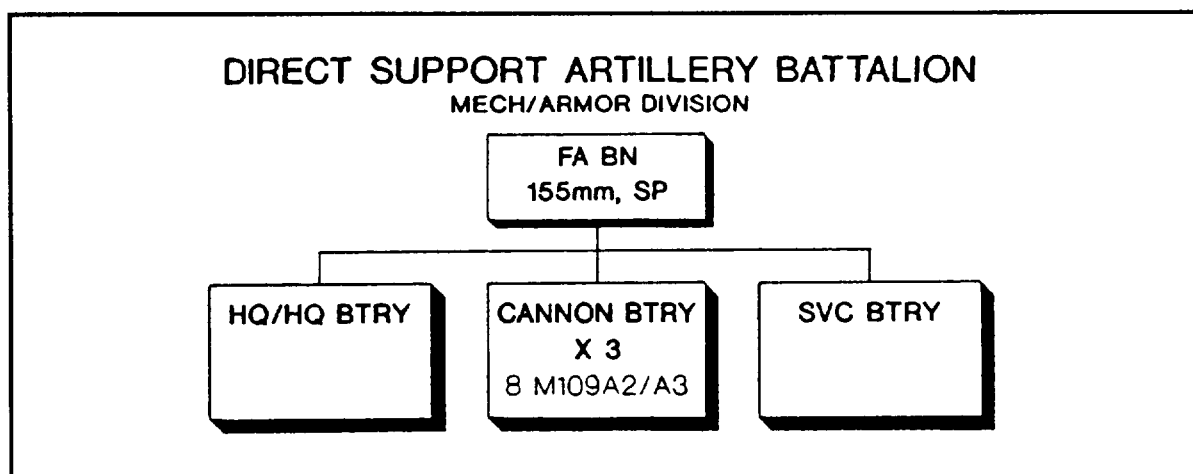


Figure 7-1. Direct support artillery battalion (heavy brigade).

Positioning. The DS artillery battalion usually deploys with each firing platoon and firing battery headquarters in a separate location (split battery operation) and a main CP and combat and field trains. The field trains normally operate in the BSA to increase its responsiveness.

The maneuver commander must allocate sufficient position areas for all artillery units operating in his zone of action. Primary, alternate, and supplementary positions must be allocated throughout the zone for up to 11 units per artillery battalion to prevent them from interfering with the scheme of maneuver. The field artillery battalion commander is responsible for positioning his units, but he needs a general area and guidance from the maneuver commander. Artillery units generally require firm ground, a good internal road network, defilade, cover, concealment, and defensibility. Field artillery batteries do not always operate split battery; often, a battery headquarters will be with a platoon.

Depending on the tactical situation and terrain, a field artillery unit will move much like maneuver units. If enemy contact is not likely, it may move in column or wedge formation. If contact is probable, battery-size units will move independently, but movement will be coordinated so that one battalion or battery can provide FS to the force while another is on the road. Finally, if contact has occurred or is very likely, artillery units can move either by bounding or infiltration by battery, platoon, or individual gun.

Characteristics and capabilities of US field artillery and mortars are in Figures 7-2 through 7-5.

WEAPON	RDS ON VEH	RDS BULK LOADED	RANGE (METERS)	WEIGHT (POUNDS)	TIME TO EMPLACE (MIN)	MAX RATE OF FIRE NO RDS/GUN FIRST 3 MIN	SUSTAINED FIRE RDS PER MIN/ GUN	NO OF WEAPONS PER UNIT	AMMUNITION	
									TYPES	FUSES
105MM HOW TOWED L119	40	150	14,600	4,100	3	6 RDS/MIN	3 RDS/MIN	LT INF 18	WP HE HEAT-T CML ILLUM SMOKE ICM APERS HEP-T	MT PD VT MTSQ
105MM HOW TOWED M101A1	40	150	11,000		3	10RDS/MIN	3RDS/MIN	AIRBORNE & AIRMOBILE BN 18		
105MM HOW TOWED M102	40	150	11,500	3,170	3	10RDS/MIN	3RDS/MIN			
155MM HOW TOWED M114A2	28	161	14,600 RAP-19,300	12,700	5	4RDS/MIN	1RD/MIN	INF DIV BN 18 CORPS BN18	FASCAM HE, WP CML DP-ICM, RAP ADAM, RAAM NUC COPPER- HEAD HC, ILLUM	PD, CP MTSQ VT, MT
155MM HOW SP M109A2/ A3	28/36	206	18,100 24,000 (RAP)	53,940	1	4RDS/MIN	1RD/MIN	ARMD & MECH DIV BN24 CORPS BN24	ILLUM HC NUC HE RAP DP-ICM ADAM RAAM, CML COPPER- HEAD	CP PD MT MTSQ VT
155MM HOW TOWED M198	TBA	TBA	24,000 30,000 (RAP)	15,800	5	4RDS/MIN	1RD/MIN	CORPS BN 24 INF DIV 24 LT INF DIV 8	HE, RAP DP-ICM ADAM RAAM NUC, HC, WP COPPER- HEAD	CP, PD VT MTSQ MT
203MM HOW SP M110A2	2	138	23,000 29,000 (RAP)	62,500	2	4.5	1RD/MIN	CORPS BN 24	DP-ICM HE NUC CML RAP	CP MT VT MTSQ CP, PD
MLRS	12	96	30KM	54,000		N/A	N/A	9SPLL/BTRY AR/MECH/INF DIV 27/CORPS BN	M-77 DP-ICM	REMOTELY SETTABLE ELECTRONIC TIME FUSE

Figure 7-2. Firepower capability of US artillery.

Weapon	Rds on Veh	Rds Bulk Loaded	Range (Effective)		Weight Lbs	Time to Emplace Min	Rate of Fire Rds/Min	Ammo	No of Wpns Per Unit
			Min	Max					
81-mm M29 M125A1	115	41	70	4,750	97	7	5 sustained 30 max	HE WP Illum	3 per Co H series
107-mm M30 M106A1	83	101	920	6,800	672	7	2 sustained 20 max	HE, WP Illum CS.	6/Tk/Mech Bn
181-mm M252	115	41	100	5750	87	5	15 sustained 30 max	HE WP Illum	4 per Lt Inf Bn (L-series TOE)
M224 60-mm			50	3,500 **1,000	45	3	15 sustained 30 max	HE, WP Illum, CS, HC	2 per Inf Co

Figure 7-3. Firepower capability of US mortars.

PLANNING DATA FOR SMOKE						
DELIVERY SYSTEM	TYPE ROUND	TIME TO BUILD EFFECTIVE SMOKE	AVERAGE BURNING TIME	AVERAGE OBSCURATION LENGTH (METERS PER ROUND)		
				WIND DIRECTION		
				Cross	Quartering	Head/Tail
155 mm	WP	1/2 min	1-1 1/2 min	150	75	50
	HC	1-1 1/2 min	4 min	350	250	75
105 mm	WP	1/2 min	1-1 1/2 min	75	60	50
	HC	1-1 1/2 min	3 min	250	175	50
107 mm	WP	1/2 min	1 min	200	80	40
81 mm	WP	1/2 min	1 min	100	60	40
60 mm	WP	1/2 min	1 min	75	50	40
NOTE: All rounds are fired as standard missions with parallel sheafs under favorable conditions.						

Figure 7-4. Smoke capability of US artillery and mortars.

Illumination					
TYPE	RATE OF DESCENT (FEET PER SECOND)	BURN TIME SECONDS	RATE OF CONTINUOUS ILLUMINATION (ROUNDS PER MINUTE)	AREA ILLUMINATED (METERS)	CANDLE- POWER
107-mm/ M335A2	12	90	2	1,500	850,000
105-mm/ M314	30	60	2	1,000	450,000
155-mm/ M485	15	150	1	2,000	1,000,000
81-mm/ M301	18	60	2	1,200	750,000
60-mm	9	25	4	800	250,000

Figure 7-5. Illumination capability of US artillery and mortars.

Mortars. The mission of battalion mortars is to provide immediate and close supporting fires within the battalion task force sector. When planning for the employment of mortars, commanders should assign a mission that supports the close and rear battle. Mortars are very effective against lightly protected personnel and for obscuration, illumination, suppression, and close-in defensive fires. Movement of mortars can be controlled by either the FSO or the S3. Characteristics and capabilities of US mortars are listed in Figures 7-2, 7-3, and 7-4.

The advantages of mortars are that they—

- Are the most responsive FS asset of the battalion; therefore, they are ideal for responding to immediate suppression and immediate smoke missions.
- Have a high trajectory and are ideal for attacking targets on reverse slopes.
- Have a high rate of fire. This makes them ideal for providing continuous illumination missions.
- Are an all-weather, day-or-night system.
- May be emplaced almost anywhere.
- Have a variety of shell-fuze combinations.

The disadvantages of mortars are that they—

- Are easily detected by radar.
- Are not as precise as field artillery and are affected greatly by strong winds.
- Have a short range, so they must be positioned close to the battle.
- Have a long time of flight because of the high trajectory.
- Carry limited amounts of ammunition.
- Are not directly linked with TACFIRE.

Tactical air support. The Air Force provides the Army with five types of air support: CAS, TAR, tactical airlift, EC, and AI. BAI is also included as a subset of AI. CAS, TAR, and BAI are detailed here (tactical airlift, AI, and EC are normally allocated at higher than brigade level). Figure 7-6 depicts the types of TACAIR support.

CAS is defined as air attack on hostile surface forces that are in close proximity to friendly troops. CAS can be employed to blunt an enemy attack, support the momentum of the ground attack, or provide cover for friendly movements. For best results while avoiding mutual interference or fratricide, aircraft are kept under "detailed integration" (part of the Air Force's TACAIR control system). The effectiveness of CAS is directly related to the degree of local air superiority attained. Until air superiority is achieved, competing demands for CAS and CA operations for available aircraft may limit sorties apportioned for the CAS role. CAS is the primary support given to committed brigades and battalions. Nomination of CAS targets is the responsibility of the commander, ALO, and S3 at each level.

TAR is designed to furnish timely and accurate information on the location, composition, activity, and movement of enemy forces. The mission will be flown by high-performance aircraft at high or low altitude, day or night, and in all weather conditions. The inherent nature of air reconnaissance means that it is best used in support of operations 12 to 24 hours ahead and, for that reason, is usually tasked to division level and higher. The brigade S2 requests TAR in support of his intelligence collection process.

BAI, a subset of AI, consists of attacks against close-in targets that are expected to have a near-term effect on the battlefield but are not in proximity to friendly troops. The principal difference between these two variants lies in the manner and level at which targets are nominated and approved. Although BAI capability is limited for the brigade during a deep battle, divisions and below are seldom allocated BAI sorties because of the planning time required. When such an allocation is made, the brigade S2 and S3 work together to nominate BAI targets.

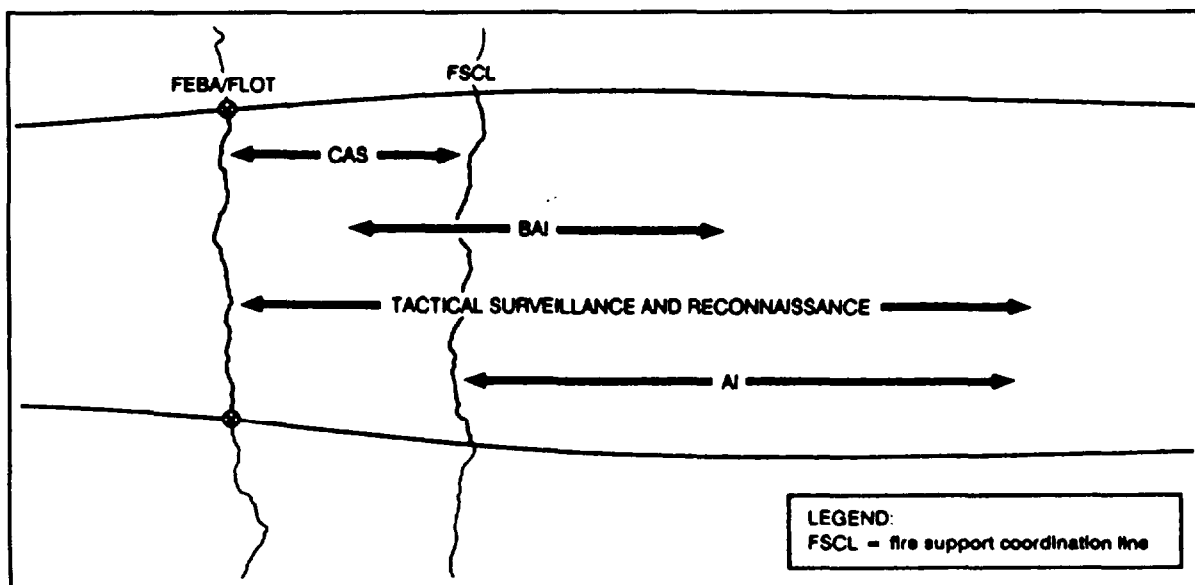


Figure 7-6. Types of tactical air support.

To ensure the proper integration and planning of both ground- and air-delivered FS, the battalion commander collocates his Army and Air Force FS personnel. The FSE from the DS field artillery battalion and the TACP from the Air Force work closely together to ensure the battalion receives the FS it requires. The duties of the FAC are carried out by the ALO or controller-qualified enlisted personnel assigned to the TACP.

The TACP at battalion level and above advises the Army unit commander on the capabilities, limitations, and employment of TACAIR. It also calls in requests for CAS and controls it once it comes on station. At battalion level, the TACP consists of an ALO and two ETACs. These personnel can operate on foot, from ground vehicles, or from fixed- or rotary-wing aircraft. Although not a part of the TACP, there is one other player in this system. The TAC-A normally operates from a fixed-wing aircraft clear of enemy surface-to-air weapons. He coordinates the aircraft that are engaged in CAS but normally does not provide terminal attack

control. In the absence of a TACP, Army unit FSEs can provide emergency request and control of CAS aircraft.

Planned missions are those for which a requirement can be foreseen. They permit detailed planning, integration, and coordination with the ground tactical plan. In the defense, CAS can be used to thicken fires in a decisive EA. In the offense, CAS can be planned to strike an anticipated enemy counterattack in the vicinity of an objective. Inherent in such planned CAS missions is the possibility that the target will not appear at the place and time that was expected. Such missions would then be released and used to fill requests for immediate CAS elsewhere on the battlefield. Planned CAS missions are most desirable because munitions can be tailored to the target and complete mission planning can be accomplished.

Requests for planned CAS missions originating at the maneuver battalion level are forwarded to the brigade FSE over the maneuver brigade FS net or by any other means available. When the request is received by the FSE, it is reviewed by the S3-Air, the FSO, and the ALO. They determine the suitability of the targets for air attack and consider potential airspace conflicts. The FSO may decide that it would be better to use another weapon system against that target. As a minimum, he will integrate CAS and BAI into his FS plan. The S3-Air will then add the request to the file for planned CAS missions, eliminate duplications, and assign target priorities. He then forwards the consolidated request to the division G3-Air or separate brigade FSE over the division OI net or through the multichannel system. At the division main CP, requests are processed in essentially the same manner as at the brigade and battalion. Consolidated requests are coordinated by an assistant G3 with the division FSCoord and ALO. The requests are then separated into CAS and BAI lists and forwarded to the corps G3-Air.

Immediate missions are executed in response to requests from supported ground maneuver commanders to fulfill urgent requirements that could not be foreseen. Details of such missions are normally coordinated while the aircraft are in the air. Immediate mission requests are normally processed through Air Force channels. Before requesting immediate CAS, the following points should be considered:

- Target type. CAS is most effective when attacking exposed and/or moving enemy forces and air defense assets.
- Enemy air defenses. Both AAA and SAMs are systems that may require suppression before CAS can be effective.
- Target acquisition. Well-camouflaged or small stationary targets are difficult for pilots to acquire. These kinds of targets will require some kind of marking for identification. The use of an FSE or COLT to laser-designate a target can help target acquisition.
- Day or night observation. For night missions, the FSO should give special attention to target identification and the use of heavy mortars and artillery to illuminate the target.
- Time available. Response and station time for CAS aircraft can vary from a few minutes to more than an hour. The TACP will normally have the most up-to-date information.

Requests for immediate CAS missions that originate at maneuver company level are forwarded to the battalion FSE and to the ALO. Based on direction from the S3 and FSCoord, the ALO can make the request through the TACAIR request net from the TACP directly to the ASOC. The TACP at each level monitors the request and acknowledges receipt. Silence by an intermediate TACP indicates approval of the request by the associated Army echelon. If any echelon above the requesting echelon disapproves the request, the TACP at that echelon notifies the ASOC and the initiating TACP, giving the reason for disapproval. When the request is approved, the ASOC orders the mission flown. Immediate missions involve launching general alert aircraft using air alert sorties and/or diverting aircraft from other missions. Figure 7-7 depicts the planned and immediate CAS request net.

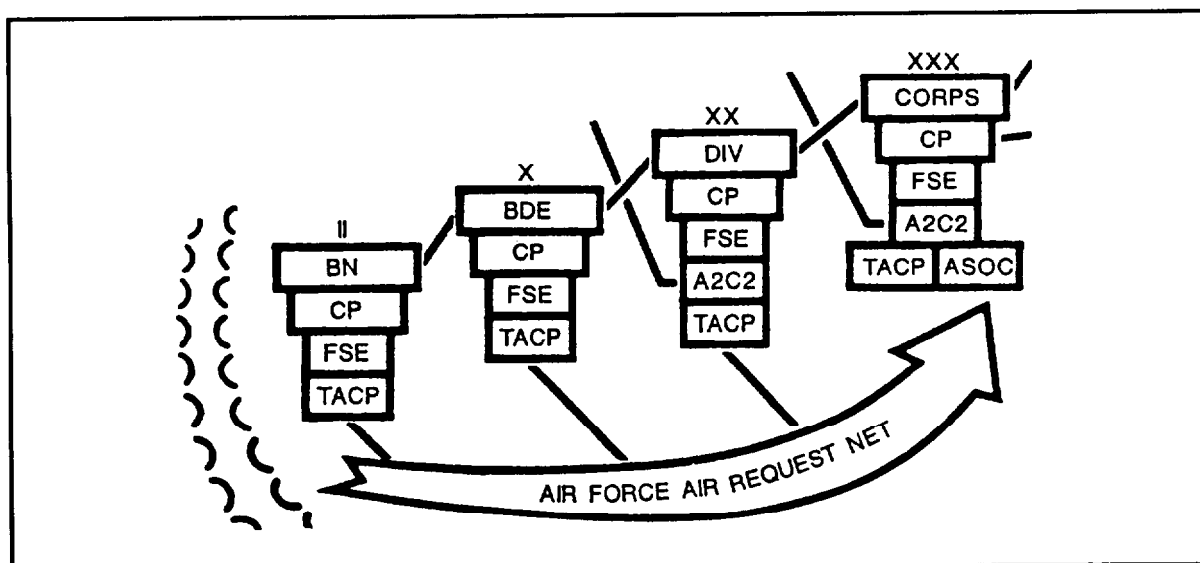


Figure 7-7. CAS request net.

The TACP procedures contained here conform to US Army and US Air Force standards. NATO procedures for AFCENT are contained in ATP 27, Offensive Air Support Operations, and in AAFCE Manual 80-2, Offensive Air Support. US forces in Korea should refer to United Nations Command/Combined Forces Command AGOSOP. TACPS participating in allied operations should be familiar with the characteristics and attack profiles of all aircraft that may support ground operations.

Before CAS aircraft release ordnance on the target, the TACP and FSO must accomplish several tasks. Radio frequencies and laser designation settings used by the FSOs, COLTs, and tactical aircraft should be predetermined and forwarded to all parties. Since most aircraft do not have FM radios the ALO will use the UHF tactical air direction net to communicate with CAS aircraft. Because most Air Force FM capability is nonsecure, it is critical that proper authentication procedures be agreed upon and used when FM radios are employed.

Following approval of the CAS request, the TACP and TAC-A receive aircraft mission data from the ASOC. These data include mission number, aircraft call sign, number and type of aircraft, ordnance carried, and time on target. The TACP determines any additional essential information, such as updated enemy locations and identification means, availability of fires for SEAD, friendly ADA considerations, and time factors for the attack. If CAS aircraft are fitted with LSTs, the laser setting must be passed to the attack aircraft. When aircraft arrive at the target area the TACP provides them with updated information. The pilots must be given enough information to positively identify the target. The TACP is also prepared to abort the attack if the safety of friendly troops is threatened. During the entire attack, the ALO watches for enemy surface-to-air fires and warns the aircraft accordingly.

CAS mission success is directly related to thorough mission planning based on the following factors and considerations.

- Weather. Does the weather favor the use of aircraft? What is the forecast for the immediate future? Weather is one of the most important considerations when visually employing weapons; it can hinder target identification and degrade weapon accuracy.
- Target acquisition. Targets that are well camouflaged, small and stationary, or masked by hills or other natural terrain are difficult to identify from fast-moving aircraft. The use of marking rounds can enhance target identification and help ensure first-pass success.
- Target identification. This is critical if CAS aircraft are to avoid attacking friendly forces by mistake. It can be accomplished by providing a precise description of the target in relation to terrain features easily visible from the air. Smoke, laser target marking, or other means can also be used.

Ž Identification of friendly forces. Safe means of friendly position identification include mirror flash, marker panels, and direction and distance from prominent land features or target marks.

- General ordnance characteristics. What types of targets are to be engaged, and what are the desired weapon effects?

Ž Final attack heading. Choice of the final attack heading depends upon considerations of troop safety, aircraft survivability, and optimum weapon effects. Wiles or bombs are effective from any angle. Cannons, however, are more effective against the sides and rears of armored vehicles.

- Troop safety. This is a key consideration in using CAS. The primary cause of friendly fire on friendly troops is misidentification of those troops as enemy forces.
- Suppression of enemy air defense. SEAD will be required based on the capabilities of the aircraft and presence of enemy air defense systems in the target area.

Ž CAS and artillery integration. Army artillery and tactical airpower are complementary. Because artillery support is more continuous and faster to respond than CAS, CAS missions must be integrated with artillery so that limited firing restrictions are imposed. The ACA is the FS coordination measure used to accomplish this integration. There are four standard ACAs: lateral, altitude, timed, and altitude and lateral separation.

- Other planning factors that must be considered are time available for planning, C3, and terrain.

As the CAS aircraft reach the general vicinity of the target, they fly to a contact point that is normally given to the pilots through Air Force channels. At the contact point, the pilots change radio frequencies and come up on the supported ground unit's TACP frequency. The pilots are then given a situation update by either a TAC-A or the ALO as they continue flying in the direction of the target. The CAS aircraft then fly to a reference point on the ground that the pilots can identify from the air, called the IP. When the CAS flight leader is cleared to attack, he switches to the attack frequency, contacts the TACP, and reports when his flight departs the IP and is en route to the target. This radio call is used to coordinate any required SEAD and/or target marking rounds. It is important to remember that this entire procedure, in a high-intensity, high-threat environment would have to be done as smoothly and quickly as possible. If the attack aircraft are not aligned with the correct target or if friendly troops may be endangered, the TACP must abort the attack. The CAS abort procedure uses a challenge and reply response. The CAS flight leader gives the TACP the two-letter challenge code; the reply "letter" from the TACP is the abort-call "code word." The reply letter should be transmitted after the words "abort, abort, abort." This procedure is possible only if the TACP/ALO have the same authentication system as the aircraft.

In a high-intensity, high-threat environment, the capabilities of CAS aircraft employed at night are very limited. To improve the capabilities of night CAS, the Air Force is acquiring additional night-capable systems such as the LANTIRN system. Despite the limitations, CAS aircraft still have a few advantages while attacking at night. The most important advantage is the limitation darkness imposes on enemy optically sighted and IR anti-aircraft systems. This is particularly true if they do not have night vision devices. Airborne or ground-based illumination can also degrade enemy night vision capabilities.

The two most important requirements of a night CAS operation are identification of the enemy or target and positive marking of friendly unit locations. The ground maneuver commander should rely on his own Army assets to accomplish the marking and illumination requirement. Although flares released from airborne FACs, other CAS aircraft, or "flare ships" can effectively illuminate target areas, ground artillery and heavy mortar-fired illumination are normally preferred due to the continuous capabilities of sustained indirect fire. The Air Force CAS aircraft that can conduct night CAS missions with battlefield illumination are the A-10, A-7, F-16, F4, and F-111.

Laser designation capabilities of the A-10 and A-7 enable these aircraft to acquire targets without use of conventional illumination. The LSTs carried by these aircraft detect the reflected laser, lock onto it, and provide the data directly to the pilot. The F-4, F-16, and A-7 can also use radar to provide reference information for night operations. In addition, small radar reflectors optimized for particular airborne radars can create spotting cues for CAS aircraft.

Marking friendly unit locations improves JAAT and CAS safety and can also provide target area references. Tracers and radar beacons can serve both purposes. If safe separation is a factor, friendly unit marking is critical. Fired into the air, 40mm illumination grenades and flares are effective, but they may be useful to the enemy as well. Flares used during limited visibility operations can create the "milk-bowl" effect, making it more difficult for a CAS aircraft to find its target. When used under a low cloud ceiling, flares can also highlight the aircraft against the cloud cover. Strobe lights are very good night markers. They are commonly used with blue or IR filters and can be made directional by the use of any opaque tube. In overcast conditions, strobe lights can be especially useful. Aside from the obvious security considerations, almost any light that can be filtered or covered and uncovered can be used for signaling aircraft.

CAS missions will never consist of less than two aircraft sorties. In high-intensity, high-threat situations, these aircraft will rarely make more than one pass over the target area due to the highly lethal capabilities of modern air defense systems. The following paragraphs provide an example of two types of aircraft, the A-10 and the A-7, that will normally be given CAS missions. Table 7-1 is a summary of reference data for aircraft that perform CAS missions.

The A-10 is designed specifically for the CAS role. In a typical CAS mission, the A-10 could fly 150 miles and remain on station for an hour. It can carry up to 16,000 pounds of mixed ordnance with partial fuel, or 12,086 pounds with full internal fuel. The 30mm GAU-8A gun carried by the A-10 can fire 2,100 or 4,200 rounds per minute and defeat the whole range of ground targets encountered in the CAS role, including tanks. In addition to the GAU-8A, the A-10 can also carry free-fall or guided bombs, gun pods, six AGM-65 Maverick missiles, jammer pods, and the Pave Penny laser target designation pod.

The A-7 is a subsonic tactical fighter that was delivered to the Air Force between 1968 and 1976. The A-7 has on-station time of 30 to 50 minutes. The aircraft's outstanding target kill capability, first demonstrated in Southeast Asia, is achieved with the aid of continuous-solution navigation and weapon-delivery systems, including all-weather radar bomb delivery. Additionally, a large number of A-7s were modified to carry the same Pave Penny laser target designation pod as the A-10. It can carry up to 15,000 pounds of air-to-air or air-to-ground missiles, bombs, rockets, and gun pods. In addition, it has the standard M-61A1 20mm Vulcan gun, which is effective against lightly armored vehicles.

Table 7-1. CAS aircraft reference data.

AIRCRAFT	MINIMUM CEILING	RADIOS	ACQUISITION MEANS	LOITER TIME	NIGHT OPS CAPABILITY
A-7	2,000	UHF/FM	Visual/LST	30-50 min	Radar/Flare/ LST
A-10	1,500	UHF/VHF/FM	Visual/LST	1-2 hr	Radar/Flare/ LST
F-4	3,000	UHF	Visual/Radar		Radar/Flare/ FLIR
F-16	1,500	UHF/VHF/FM	Visual/Radar		Radar/Flare
OV-10	1,500	UHF/VHF/FM	Visual		Flare
OA-37	1,500	UHF/VHF/FM	Visual		Flare
F-111	700	UHF/HF	Visual/Radar		Radar/Flare/ FLIR

The following paragraphs detail the ordnance carried by the A-10 and A-7 in CAS situations. Table 7-2 provides reference data for aircraft-delivered ordnance and lists the minimum safe distances for their use.

In NATO, a standard ordnance load for the A-10 would be two to four Maverick missiles and over 1,100 rounds of 30-mm ammunition, consisting of an API and HEI mix. The API has a depleted uranium penetrator. The Maverick used by Air Force aircraft uses TV or IR seekers with fire-and-forget and day-night capabilities. US Marine Corps Mavericks use only laser seeker-equipped missiles. The warhead is a 165-pound shaped charge for use against tanks or a 300-pound penetrating high explosive. Time required to acquire and lock the weapon onto target usually restricts the A-10 to one missile per pass. In a target-rich environment, there may be time for further engagements with the 30-mm gun before breaking off the attack. The 30mm is normally aimed at a point target and fired for a one-second burst that puts over 30 rounds in a relatively tight shot group. The on-board load of 1,170 30-mm rounds, fired at 2,100 rounds per minute, could be expended in a just 30 seconds.

Table 7-2. CAS ordnance reference data.

WEAPON	DESCRIPTION	MINIMUM SAFE DISTANCE	
		(10%Pi)	(0.1%Pi)
MK 82 LD	500-pound bomb	250m	425m
MK 82 HD	500-pound bomb	100m	375m
MK 82 LGB	500-pound bomb (GBU-12)	*	*
MK 83 HD	1,000-pound bomb	275m	500m
MK 83 LD	1,000-pound bomb	275m	500m
MK 83 LGB	1,000-pound bomb (GBU-16)	275m	500m
MK 84 LD	2,000-pound bomb	225m	500m
MK 84 LGB	2,000-pound bomb (GBU 10-22)	*	*
MK20 **	ROCKEYE CBU (antiarmor)	*	*
2.75 FFAR	Rockets (various warheads)	100m	175m
SUU-11	7.62mm mini-gun	*	*
M-4/M-12/ SUU-23/M-61	20mm Gatling gun	*	*
GAU-12	25mm Gatling gun	*	*
GPU-5A/GAU-8A	30mm Gatling gun	*	*
AGM-65 (AF)	Maverick missile (TV/IR/laser)	*	*
MK 21/29	WALLEYE I 1,000-pound bomb (TV guided)	275m	500m
MK 23/30	WALLEYE II 2,400-pound bomb (TV guided)	*	*
AGM-123A	SKIPPER 100-pound bomb (laser guided; rocket boosted)	275m	500m
* Minimum safe distances have not been determined.			
** Not recommended for use near friendly troops.			
Pi - probability of incapacitation; LD - low drag; HD - high drag; LGB - laser guided bomb; FFAR - folding fin aircraft rocket; GBU - guided bomb unit.			

The A-7 carries a load of six MK20 ROCKEYE canisters and a 20-mm gun that is effective against light armor. Normally, two to six ROCKEYEs are dropped in a single pass. Each ROCKEYE canister contains 247 dart-shaped M118 antiarmor bomblets that can penetrate up to 7.5 inches of armor. Depending on

delivery parameters, the pattern of bomblets will vary. For a low-level pass, one canister will give a shotgun scatter type pattern over 50 meters wide and 100 meters long. This equates to one bomblet every 15 feet in the pattern.

Naval gunfire. provides large volumes of immediate FS close to coastal waters. Normally, naval fires are controlled by an NGLO attached to the FSE for a specific operation.

Advantages of naval gunfire are that it—

Ž Fires a variety of munitions and fuzes, including HE and illumination.

- Has a flat trajectory. This makes naval guns particularly effective against vertical-face targets such as coastal forts and bunkers.
- Can deliver a large volume of fire in a relatively short period.
- May consist of precision guided munitions.

Disadvantages of naval gunfire are that it—

- May have a large range error. Always ensure that the ship does not fire toward or directly over friendly troops.

Ž Is less accurate in rough seas.

- Can expend a limited quantity of ammunition. All ships must keep some ammunition to protect themselves from enemy air or surface attacks. Providing FS might not be their first priority.
- Affords limited communications between the ship and the shore. The ship has high-frequency AM radios that are not compatible with standard Army FM radios.

Target acquisition. The maneuver brigade or battalion FSO has several field artillery target acquisition assets that will be available in the unit's sector or will be attached for use in detection of enemy targets. The field artillery battalion supporting the brigade may have an attached AN/TPQ-36 Firefinder weapon-locating radar. Field Winery aerial observers and an AN/TPS-25 or AN/TPS-58 moving-target-locating molar may be OPCON to the brigade or field artillery battalion. Also, a UAV platoon may be attached to the brigade for target acquisition and attack. The brigade FSO and targeting officer must plan to use these target acquisition assets to support the commander's mission. All of these assets can provide important and otherwise unavailable combat information to the task force or brigade S2 through the FSO. Their input must be integrated into the S2's total collection plan. Also, HUMINT from FOS should be considered a valuable source of information.

The AN/TPQ-36 Firefinder. The AN/TPQ-36 Firefinder has a 1,600-mil (45-degree) sector of coverage with maximum detection ranges of 12 kilometers for mortars and 24 kilometers for artillery and rockets. Four types of zones can be designated throughout the brigade AO and rear area to assist in intelligence collection and attack of enemy indirect-fire assets. The system can hold any combination of nine zones at once. These measures can enhance responsiveness to enemy action and can expand the automation of the FS coordination effort. Most enemy indirect-fire assets will not be positioned to allow visual observation by friendly FS teams. When used, these zones allow timely and accurate placement of first-round fire-for-effect on enemy indirect-fire systems. The zones are—

Ž Critical friendly zone. This is a sensitive area within friendly territory, such as a POL dump, a CP, a staging area, a FARP, or an ASP. When the AN/TPQ-36 predicts that a hostile projectile will strike this area an immediate call for fire is initiated and processed ahead of all other radar detections. This will allow counterfire to neutralize subsequent indirect fires.

- Call for fire zone. This area in enemy territory has expected or suspected artillery concentrations. Any indirect fires originating from this area must be neutralized quickly because they may affect your mission.

- Artillery intelligence zone. Also an area in enemy territory, it may contain a threat to the accomplishment of your objectives, immediately or in the future. Detections from this zone will result only in a target report not a fire mission.
- Censor zone. This is an area, generally in enemy territory, where any indirect-fire detections will be disregarded. An example would be an area where two friendly units are converging or where deep insertion units may be surrounded. Friendly indirect fires or mortars originating from a censor zone should be disregarded.

AN/TPS-25 or AN/TPS-58 moving-target-locating radar. This division artillery asset is usually positioned to cover the enemy's main avenue of approach into the division's sector. It is normally positioned 1.2 kilometers behind the FLOT. It has a maximum range of 18 kilometers for vehicles and 12 kilometers for personnel. The MTLR can be used during periods of limited visibility and at key points designated by the commander to assist in the attack of deep targets or to gather intelligence about the enemy.

Combat observation laser team. The following considerations apply to COLT employment:

- Description. The COLT is an HTO designed to maximize the use of smart munitions. Although originally conceived to interface with the Copperhead it can be used with any munition that requires reflected laser energy for final ballistic guidance. At present, the team can also laser for smart munitions delivered by Army and Air Force air assets. Within the heavy force structure, the team is composed of three personnel equipped with a G/VLLD and necessary mobility and communications assets.

Ž Organization.

- Personnel. Each team is composed of one sergeant, who is the team chief and primary operator of the G/VLLD; one FS specialist; and one private first class, who is the driver and RATELO.
- Equipment. Each team is equipped with one M981 FS vehicle with G/VLLD; two radios, an AN/VRC-46 and an AN/GRC-160; and one DMD.
- General considerations. The COLT team laser (G/VLLD) can be used for target ranging and/or designation. COLTS have the capability to provide observation for both standard and laser-guided weapons. The G/VLLD is the current organic laser for heavy forces; other Army lasers, such as the LTD and those on the AH-64 and OH-58D helicopters, or Marine lasers, such as MULE, may be available.
- Employment options.
 - Although primarily used as the designator for the 155-mm artillery-delivered Copperhead, COLTs are effectively used to optimize Air Force and other aviation systems by providing target designation and laser guidance for air-delivered munitions. Given the available delivery systems, the COLT provides the commander with a powerful capability to attack hard and point targets as well as area targets. To maximize the effectiveness of the COLT while minimizing the mobility limitations of the G/VLLD, positioning must be carefully considered. Positioning decisions are based on the following employment considerations:
 - +Position the COLT where it will best enhance accomplishment of the commander's intent.
 - +Employ the team in defilade positions to enhance survivability.
 - +Position it on an even plane with the target to enhance laser designation capability.
 - +Allow for the final 20 seconds of flight time for the Copperhead projectile.
 - +Clearly identify all targets and priorities for engagement.
 - +Position the COLT where targets are most likely to be stationary or moving slowly.
 - COLTS are positioned by the DS battalion commander or his representative to support the maneuver commander's overall plan. To provide the best coverage and to maximize survivability, COLTS are often employed in pairs. This allows continuous COLT coverage during the operation. Since the COLT is a limited, valuable asset, careful consideration must precede a decision to decentralize the COLTS below brigade level. Any decentralization should be for a designated period of time, not as a matter of SOP.

Aerial fire support officer/OH-58D employment. The following considerations apply:

- The OH-58D is a division or corps aerial platform capable of multiple tactical missions in a relatively short time. Its mobility and on-board systems give the commander the ability to seize the initiative and remain extremely flexible in a tactical environment.
- The pilot and AFSSO are the flight crew of the OH-58D. The pilot is primary operator of the aircraft. The AFSSO performs navigation assistance, tactical coordination with the supported element, and digital communications with artillery units; conducts target lasing and designation and hasty fire planning; and reports to higher headquarters. He is secondary operator of the aircraft in an emergency.

Ž The OH-58D has the following capabilities:

- Day/night and limited-visibility target acquisition through the use of a CRT and thermal sensor.
- Eight-digit target location capability based on the accuracy of position location equipment.
- Ability to supplement and use target acquisition assets of Army aviation, Air Force, and ground units.
- Laser target designation and range finding. The OH-58D is compatible with munitions such as the Pave Penny, Copperhead, and Hellfire and other smart munitions of all services.
- Digital link to any TACFIRE artillery unit and its relay systems.
- Ability to deploy, detect recognize, and guide munitions to a target and send target intelligence reports without exposing resources other than the aircraft to the enemy.
- Rapid mobility throughout the battlefield.
- Communications capability with all Air Force aircraft and Army assets.
- Ability to fully support a combat aviation unit with aerial FS coordination during tactical operations.
- Future capabilities for use as a self-defense weapon system when mounted with Stinger and antiaircraft missile pods.

Ž The OH-58D has the following limitations:

- It is a line-of-sight system. It cannot see over the horizon or through foliage.
- If weather or environment defeats the laser, it may defeat the system. Defeating conditions include dust clouds, fog, and ice. Due to safety restrictions, the system cannot be flown in icing weather conditions.
- Preflight operations take 35 to 50 minutes to program systems for a mission. Navigation information and communications and ATHS data must be entered before executing a mission.
- Crew endurance is limited. With only six aircraft in the division, and approximately four available at any one time due to downtime and maintenance, missions for these systems must be well planned and carefully briefed.
- Missions. The OH-58D is designed to perform a variety of missions:
 - Target acquisition, including acquisition of deep targets for supported units and counterfire assets; collection and reporting of battlefield information; and early warning surveillance.
 - Target engagement, firing targets with all FS assets, including smart munitions.
 - FS planning and coordination when necessary. The AFSSO can conduct rear area FS coordination and augment aviation brigade FS operations.

Ž Employment considerations include the following:

- Employment of the OH-58D system requires detailed planning and execution at all echelons within the FS structure for several reasons: the limited number of aircraft available, their multipurpose utility, and

the requirement for target attack and target acquisition systems support. OH-58D employment should be based on the factors of METT-T and the commander's intent.

- The aircraft requires significant survey support to maintain the accuracy of its target-locating system. The system must be initialized every 15 nautical miles or 15 minutes. Less than adequate survey degrades first-round fire-for-effect capability. Division artillery is responsible for providing survey control reference points.
- Operationally, the system can be employed by itself when performing target acquisition and targeting. The ideal situation, however, would be to employ another aircraft, such as another OH-58D or OH-58C, to enhance survivability and mission performance. Two aircraft can provide continuous coverage, even when one goes to refuel.
- Maneuver brigade control. The OH-58D system should be used primarily to augment the brigade's organic target designation and target acquisition assets, rather than for FS coordination. The OH-58D system will normally be used to augment the brigade's FISTS and COLTS. Because it can see deeper than most other target acquisition systems in support of the brigade, it will also augment target acquisition assets supporting the brigade and provide timely and accurate battlefield information. If available, the OH-58D will be under either brigade or division control.

Command, control, and coordination. These are the elements that make the system work. It is here that the commander's concepts and desires are translated into the technical and tactical actions needed to respond to attack targets quickly and effectively.

Technical support. Meteorological and survey support is the technical part of the FS system that assures accurate, unobserved surprise fires; transfer of target data; and accurately massed fires.

Fire Support Facilities, Organization, and Duties

Direct Support Field Artillery Battalion Commander

The DS field artillery battalion commander is FSCOORD for the supported brigade. As such, he is specifically responsible for all FS planning and coordination for the maneuver brigade. As his unique contribution, the DS battalion commander provides a professional assessment of current and near-term capabilities of his unit and of other FS assets supporting the force. Duty location of the DS field artillery battalion commander at any given time is where he can best execute the maneuver commander's intent for FS. In addition to supporting the brigade, the DS field artillery battalion commander is responsible for-

- Training the FS system and his battalion to perform successfully all stated and implied missions and tasks associated with providing FS to a maneuver force.
- Continuously articulating his assessment of the current and future capabilities and status of all FS assets supporting the maneuver force. This assessment may be obtained from reports or by personal observation, at the FSCOORD's discretion.
- Providing a knowledgeable, experienced officer as brigade FSO. The FSCOORD must establish a special mentor relationship with this officer since the FSO, in the absence of the FSCOORD, personally represents him to the brigade commander. More than any other officer, the FSO must understand the FSCOORD's intent in supporting the maneuver plan. In addition, the FSCOORD must ensure that his brigade FSO fully understands the FSCOORD's assessment of FS assets supporting the maneuver force.

Brigade Fire Support Organization

The brigade or regimental FS element is organized with the following personnel:

- FSO (major).
- FS plans/targeting officer (first lieutenant; an ACR is authorized a captain).
- FS sergeant (sergeant first class).
- Two FS specialists.

Other representatives join the FSE to serve as a functional FIST to enhance and speed FS coordination. These representatives may include-

- Ž The ALO, for coordination and employment of Air Force assets in support of the brigade.
- Ž The NGLO, for coordination and employment of naval gunfire and naval air in support of the brigade.
- Ž The brigade chemical officer, for deployment of NBC defense and use of chemical, riot control, obscurant, and aerosol agents.
- Ž The S3-Air, to serve as maneuver assistant S3 and to coordinate employment of TACAIR with Army aviation and the FSO, ALO, and air defense platoon leader.
- Other representatives as required, such as LOs of allied forces supporting the operation or an Army aviation LO when Army aviation is used as an FS asset.

The FSO should have a working knowledge of the duties of the following staff members who may be in the brigade TAC CP.

- Ž The brigade air defense artilleryman manages the air defense assets in support of the brigade. He may have valuable information on the location of enemy air defense targets, airspace coordination, and the enemy air situation.
- The brigade engineer manages engineer assets in support of the brigade. He coordinates the coverage of obstacles, the use of FASCAM, and general battlefield mobility/countermobility requirements.
- The IEW representative from the divisional MI battalion controls and supervises the IEW assets in support of the brigade. He can provide some targets and information and coordinates offensive use of jamming. The FSO needs a working knowledge of the IEW assets available from this source to effectively coordinate their use in the attack of targets.

Brigade FSO and Plans/Targeting Officer Duties

Brigade FSO. The DS field artillery battalion commander, who serves as the FSCoord, cannot be at the brigade headquarters continuously. Therefore, his assistant, the brigade FSO, serves as a full-time liaison between the DS artillery battalion and the maneuver brigade and helps integrate FS into the maneuver commander's scheme of operation. Assisting the FSO are the other staff officers who make up the FS cell. The duties of the brigade FSO include-

- Keeping the brigade commander informed of the FS assets, capabilities, and limitations, including their tactical missions.
- Ž Keeping the commander informed of enemy indirect fire capabilities and limitations.
- Helping the commander develop his estimate of the situation and war-game possible courses of action, resulting in the creation of the decision support template.
- Ž Developing the brigade FS plan based on the commander's intent and briefing the commander on the plan.
- Ensuring battalion FSOs plan fires in accordance with the brigade commander's guidance and establishing priority of fires.
- Ž Consolidating target lists from the battalion FSOs and resolving duplications.
- Planning targets in depth and targets that were not planned by subordinate FSOs but are within the brigade zone of action.
- Coordinating requests for additional FS from battalion FSOs when the FS means available at company or battalion level are inadequate.
- Recommending and adhering to FS coordinating measures.

- Using the commander's guidance checklist in preparation of FS plans and briefings.
- Coordinating brigade use of TACAIR assets with the ALO.

Plans/targeting officer. The plans/targeting officer gives the FSE 24-hour FSO capability. He performs as FSO in the absence of the FSO and helps the FSO with his duties. He provides the interface with the brigade S2 and helps him and the FSO by providing information regarding target vulnerabilities. He advises the brigade S2 regarding specific requirements for accuracy of target location, assurance and level of target description, and duration the target may be considered viable for FS attack. His targeting duties include-

Ž Helping the brigade S2 write the target acquisition and surveillance plan.

- Helping provide staff supervision of target acquisition assets attached, organic, and OPCON to the brigade.
- Developing the attack guidance matrix, recommending it to the commander, and disseminating it within the FS cell, CP, and subordinate elements.

Ž Determining, recommending, and processing time-sensitive, high-payoff targets for the FS element.

Ž Coordinating with the maneuver brigade S2 for target acquisition coverage and processing of brigade high-payoff targets.

- With the brigade S2, producing the target selection standards matrix for target acquisition assets supporting the brigade.

Brigade Fire Support Sergeant

The brigade FS sergeant is the senior enlisted assistant to the brigade FSO. He maybe a shift leader in the FSE. He is responsible for enlisted training in maneuver battalion FSEs, maneuver FISTS, and assigned COLTS. He supervises the maintenance of all equipment assigned to these sections. The brigade FS sergeant must be able to perform all duties of the FSO.

Brigade FSO Relationships

Maneuver brigade commander/S3. The maneuver commander is responsible for the operation, The maneuver S3 is detailed responsibility for the integration of FS into the operation.

DS battalion commander. He is brigade FSCoord and is accountable to the maneuver brigade commander for the quality of FS provided to the maneuver brigade. As FSCoord, he advises and assists the brigade commander in all aspects of FS planning and coordination. He is responsible for training all FS personnel supporting the brigade.

DS battalion S3. The DS battalion S3 prepares the field artillery support plan and is responsible for ensuring that the plan is executed in concert with the maneuver plan. He coordinates with the brigade FSO and brigade S3 on a continuous basis regarding position areas, movements, future operations needs for additional FS, and status of FS systems.

Division FS element. The division FSE, the next higher link in the FS chain, provides guidance to the brigade FSE. Both FSEs exchange FS planning and coordination information.

Battalion FSOs. The brigade FSO is responsible for the technical supervision and training of battalion FSOs, ensuring they properly plan and execute their FS plans.

Fire Support Planning and Coordination

Fire Support Planning

FS planning is a continuous process of analyzing, allocating, and scheduling. It determines how FS is used, what types of targets are attacked, when they are attacked, and with what means. The goal is to effectively integrate FS into battle plans to optimize combat power. To do this, FS planning is concurrent with battle planning. Planning must be flexible to accommodate the unexpected in combat and facilitate rapid change. It anticipates factors like massing of FS assets, changes in force mission, realistic movement times,

resupply, target acquisition, replacement of entire units, and technical support including survey and meteorological requirements. The FSO must consider three vital sets of information: relationship of the commander's intent for maneuver and FS to other operating systems; factors of METT-T, and guidance from higher field artillery headquarters. He must remember these factors cannot be considered individually. Each affects the others.

Commander's intent. At each level, the FSO plans fires as the commander outlines his scheme of maneuver. The FSO must seek and understand the commander's guidance and intent and be prepared to make recommendations for the integration of available FS. He must know when and where the commander wants FS and what the commander wants in the way of effects, duration, and timing (to truly understand the commander's intent, he must also understand why). The FSO must understand how unit direct-fire assets are to be employed so he can supplement, not interfere with, their employment. Also, he must ensure that he knows how FS is to be integrated with other operating systems and how to synchronize his plan to complement their employment. The FSO is responsible for informing the commander of all changes to the FS plan received through FS channels.

METT-T. Information is analyzed continuously by all levels of command based on the factors of METT-T. A discussion follows.

Mission

- What is the mission?
- Ž What is the commander's concept of the operation and scheme of maneuver?
- What is the commander's intent?
- What is the objective of the operation?
- What route is the unit using?
- What are the intermediate objectives?
- What are the missions of higher, lower, and adjacent units?
- Are there any contingency missions?

Enemy

- What are the enemy's capabilities and limitations in the company zone of action (such as FS assets, direct-fire weapons, and vehicle mobility)?
- What are likely courses of action?
- Where are known, suspected, and likely enemy locations?
- How does the enemy employ his forces (artillery, patrols, FOs, attack helicopters)?

Terrain.

- Terrain is a combat multiplier,
- Ž This category includes analysis of observation cover and concealment, obstacles, key terrain, and avenues of approach (OCOKA), as well as weather.
- What is observation like in sector?
- Ž Are cover and concealment available in sector?
- Ž Where are obstacles (man-made, natural) in sector?
- Ž Where is the key terrain?
- Ž Where are likely positions for ambushes, LPs/OPs, and kill zones?

Ž Where are the avenues of approach?

- What is the weather forecast, and how will it affect mobility and visibility?

Ž How does terrain affect mobility, both friendly and enemy?

- What kinds of munitions are best suited for the terrain and weather?
- Are appropriate FS coordination measures tied to terrain, when applicable?

Troops available.

- What is the status of FIST/FS cell training, experience, personnel and equipment?

Ž What FS assets are available, and what are their locations and capabilities?

- What is the status of the supported unit?

Ž What is the status of the observers in sector (such as FOs, COLTS, and scouts)?

Time available.

Ž How long before the operation begins?

- How much time is available to develop a fire plan?
- How long will it take to coordinate the fire plan?

Ž How long is the operation expected to last?

Guidance from higher headquarters. Higher headquarters will give the FSO information essential to the FS plan, including-

- The commander's intent at that level.
- Ž FS assets available.
- Ž FS coordinating measures.
- Ž Target lists.
- Ž Schedules of fires.
- Ž Technical advice on FS matters.
- Constraints on field artillery Class V supply (CSRs).

Fire Planning and the Decision-Making Process

The decision-making process is as detailed, or as simple, as time permits. The commander plays the central role in this process, with the staff providing advice and information related to their respective areas. The process is primarily downward, beginning at higher echelons and progressing downward to the company FSO. Its effectiveness requires continuous interaction and bottom-up feedback. The following paragraphs describe some FS aspects of the decision-making process at company, battalion, and brigade levels.

When the maneuver commander receives his mission and issues his initial planning guidance, the corresponding FS team receives guidance from the higher FS team. As a minimum, this guidance should cover the following areas when possible:

- Ž FS asset allocation and status.
- Commander's target attack guidance.
- Fires planned by higher headquarters in the zone.

The commander will do his mission analysis, restate the mission, and issue his intent and planning guidance. Planning guidance may cover several courses of action. Upon receipt, the staff takes the following actions:

- The FSO develops his staff estimate, interacting with the other staff members and war-gaming the courses of action to determine the suitability of FS to support them.

Ž The S2 analyzes the AO and starts the IPB process. He informs other staff members of known enemy locations and capabilities, projected courses of action for the enemy force, and assets that are most important to the accomplishment of the enemy mission. He determines which organic and attached collection assets (maneuver, FS, and MI) can acquire those enemy assets. The S2 and the targeting officer identify high-value targets within the brigade zone.

The staff prepares and briefs its estimates to the commander. The FSO must be able to brief the FS requirements for each course of action and recommend the best one from an FS perspective. The requirements he should be prepared to discuss include-

- Assets available to support the operation.
- FS capabilities and limitations for each course of action (both friendly and enemy).

The commander gives his estimate, makes a decision, and issues his concept, stating how he visualizes the conduct of the battle. As he develops his battle plan for the employment of maneuver forces, he must also visualize and articulate how he will use his FS resources and what targets to attack. The commander issues guidance to the staff regarding prioritization of targets, desired effects, and targets that require some sort of formal assessment after attack.

Plans and orders are prepared. The FSO, with assistance of the other FS staff officers, writes the FS plan. The brigade FSO plans fires in support of the brigade operation in accordance with the commander's concept, intent, and scheme of maneuver. Fires planned outside the brigade zone are coordinated with higher and adjacent units. Fires planned in the brigade rear are coordinated with the S3 and the controlling agency in the BSA, normally the FSB commander. The fire plan is disseminated to higher and adjacent units and to battalion FSOs. The targeting officer helps the S2 write the target acquisition and surveillance plans. As a minimum, the FS plan should include-

- Commander's intent for fire support.
- Ž Availability of FS assets and their status.
- Priority of fires and how that priority will be executed.
- Planned FS within the zone.
- Ž FS execution matrix.
- Ž Target lists.
- Ž Attack guidance matrix.
- Ž Fire support coordination measures.
- Ž Any requirements a higher FS team will place on subordinate FS teams.
- Retransmission requirements for communications depending on terrain.

The commander approves the plan/order. The written plan is disseminated to subordinate units. FSOs at all levels should accompany their maneuver commander when he is briefed on the plan/order by higher headquarters. Before execution, plans are refined with the following results:

- Ž Target lists are refined and duplications resolved, company FSOs are particularly valuable in refining these targets.

- Schedules are updated and disseminated.
- Additional FS assets are requested.
- The collection plan is reviewed to ensure compatibility with the FS plan.

Ž Information collected by sensors before and during execution is processed. The targeting officer monitors reports by collection assets, updates target lists, and submits time-sensitive targets not in the FS system to the FS cell.

- The field artillery battalion S3 develops the field artillery support plan based on the information received from the field artillery battalion commander and the brigade FSO. The field artillery support plan embodies the DS battalion commander's concept for executing the FS plan supporting the brigade commander's intent. The field artillery support plan, which is the field artillery battalion OPORD, is briefed back to the brigade commander by the DS battalion commander.

The FS plan is rehearsed. The following considerations apply

Ž The FSO should gather all available members of the FS cell to actively participate in the maneuver commander's rehearsal. The repetitiveness afforded by war-gaming the operation improves total comprehension of the plan and provides answers for participants who are unclear on specific portions of the plan. The maneuver course of action and supporting fire plan should be analyzed against possible enemy courses of action that might occur during actual execution of the plan. In addition, the rehearsal may address the use of primary and alternate communications nets, alternative attack systems to be used in engaging specified targets, munitions, and observer and weapon system positions. The rehearsal serves to improve responsiveness of fires and to improve synchronization of all the maneuver commander's resources for the battle.

Ž If the maneuver commander does not conduct a rehearsal and rehearsal time is available, the FSCoord and FSO should conduct an FS rehearsal using the existing maneuver OPLAN, FS plan, and FS execution matrix. The FS execution matrix is ideal for use during the rehearsal, since the rehearsal is normally conducted by performing or reciting actions to occur, possible friendly measures, and significant events that are to occur in relation to time or phases of an operation.

Fire Planning

The fire plan includes the minimum targets necessary to support the scheme of maneuver. The targeting process, a critical part of the fire planning process, is based on the friendly scheme of maneuver and requires close interaction among the commander, S2, targeting officer, S3, FS cell, and various CS agencies. It includes assessment of terrain and enemy and identification of enemy formations, equipment, facilities, and terrain that must be attacked to ensure success. It also anticipates the need for SEAD to support CAS assets.

Methods of fire planning. Two procedures are particularly valuable in enhancing the FSO's effectiveness: the decide-detect-deliver methodology and use of the war-gaming process.

Decide-detect-deliver. This method is a joint effort by maneuver, MI, and FS elements to synchronize the three systems.

In the decide phase, targets are identified for engagement. The FSO, S2, and S3 decide what targets to look for, where the targets can be found on the battlefield, who can locate those targets, and how the targets should be attacked. Together, they identify the assets to be allocated, additional assets available, and channels needed to provide information on a real-time basis.

The detect phase is designed to execute the target acquisition conducted in the decide phase. In this phase, target acquisition assets are tasked to find specific targets. Characteristics and signatures of the relevant targets are determined and then compared to potential attack means to establish specific sensor requirements. Sensors are focused to detect the functions.

The deliver phase involves selecting the right attack system to attack specific enemy functions, meeting attack guidance, and performing postattack assessment (if required). This includes both lethal and nonlethal attack systems.

War-gaming. This is a mental exercise to select a course of action. It ensures that operating systems are considered when selecting a course of action. Each course of action must be war-gamed to consider the implications of both friendly and enemy options during an operation. This requires the commander, FSO, S2, and S3 to make a joint analysis of the various courses of action. To be active participants, FSOs must be knowledgeable of all maneuver and FS systems. They must be able to discuss FS requirements, including the capabilities and limitations of each maneuver course of action. The final product of war-gaming is a recommended maneuver course of action.

Deliberate fire planning. Deliberate fire planning is conducted through a format "top-down" process, with "bottom-up" refinement. However, deliberate fire planning at all levels also begins immediately upon receipt of the missions. Company and battalion FSOs should not wait for a target list provided by higher echelons before beginning their own planning. For the maneuver brigade, the process begins with the receipt of targeting information from the division. The division G2, in conjunction with the targeting team of the division main FS element, performs a detailed IPB and target value analysis for the entire division AO. NAI and TAI will be included in the IPB for the brigade S2. High-payoff targets for the division, specific targets of interest, and schedules of fire come "top-down" to the brigade FSE/targeting officer. The brigade S2 and FSO must take this division guidance and refine it for the brigade area and concept of operation.

Brigade level is normally the lowest at which formal fire planning is accomplished. From the division, the brigade FSO receives targets that are in his zone and brigade area of interest and that have been developed from division IPB and/or acquired by division target acquisition assets. The brigade FSO develops targets within his zone in conjunction with the brigade targeting cell, which includes the commander, S2, S3, IEWSE, targeting officer, and engineer officer. He adds division and brigade targets to his target list worksheet, posts the targets on his overlay, and passes those targets to subordinate maneuver battalions and the DS artillery battalion. He then receives target list modifications from the battalion FSOs. Using the target list worksheet and overlay, the brigade FSO resolves duplication, prioritizes the list, and transmits it to the DS battalion and appropriate agencies available to the maneuver brigade commander for that operation. It is vital that the brigade FSO allow enough planning time for subordinate headquarters and that he establish a cutoff time for them to submit modifications so that the plan can be disseminated with adequate time for execution.

Quick fire planning. The purpose of quick fire planning is to rapidly prepare and execute FS in anticipation of an impending operation. It is the brigade FSO's responsibility to ensure the DS battalion S3, FDC, and battalion FS cells understand the quick FS plan and how it is used. Quick fire planning techniques constitute an informal fire plan. In the quick fire plan, the FSO is responsible for identifying targets to be engaged in the target list, allocating all FS assets available to engage the targets in the plan, preparing the schedule of fires, and disseminating the schedule to all appropriate FS agencies for execution. The following steps delineate the quick FS planning sequence.

Receive the OPORD. The key is understanding what the commander wants. Obtain the following decisions from the commander

- Targets to be engaged.
- Ž Desired effects on targets.
- Order and timing of target engagement.
- Ž Duration of fires.
- H-hour.
- Priority of fires.
- Priority of targeting.
- Priority of execution.

Ž Other FS assets available.

Ž Time check from commander.

- Estimated rate of movement.
- Need for target adjustment.

Ž Concept of the operation, including objective and defensive positions; maneuver control measures; and obstacles.

Find out what assets are available for the operation. Concurrently, send a WO to all applicable attack elements. These may include the field artillery battalion S3, mortar platoon leader, ALO, NGLO, and SALT Air. The following considerations apply.

Ž Obtain from the field artillery DS battalion the firing units that will be designated to fire in the quick fire plan schedule.

- Obtain from the maneuver commander availability of the mortar platoon (company FSO to battalion FSO for mortars in a company operation) for inclusion as firing units in the schedule of fires.
- Obtain TACAIR mission information from the FS cell. Coordinate CAS requirements with the ALO (such as aircraft type, ordnance, time on station, laser codes, and control procedures).
- Determine the availability of naval aircraft and/or naval gunfirer from the firepower control team, SALT Air, or NGLO.

Plan targets. Conduct planning in accordance with the scheme of maneuver, commander's guidance, and allocated assets, determining-

Ž Assets to be used.

Ž Munitions mix.

Ž Shell/fuze combinations.

Ž Duration of fire for each target.

- Time to fire.

Receive the commander's approval and disseminate the fire plan. Send it to attack elements, higher headquarters FISTs, and those who will implement the plan (FOs and subordinate FISTs). Whenever possible, send DA Form 5368-R (Quick Fire Plan) to the field artillery battalion CP and mortar platoon leader.

Ensure that subordinate FSOs and FISTs understand the fire plan. As a minimum, cover-

- Positions/locations of FSOs/observers during the conduct of the operation.
- Who is to initiate the fire plan, or who is to initiate the fire request on specific on-call targets within the fire plan. The plan should include the agency to be contacted, when the target is to be initiated, and the communications net to be used.

Ž Which unit has priority of fires, or priority targets, if applicable.

- The use of methods of control in modifying the plan should it become necessary during execution of the plan.
- The agencies that are available when additional targets of opportunity arise during execution of the plan.

Inform the commander when the plan is ready. Review the plan and modify it as necessary. If time allows, conduct a rehearsal to ensure comprehension of the plan.

Fire Support Execution Matrix

The FS planning and execution matrix is a concise, easy planning tool that shows the many factors of a complicated FS plan. It can help the FSO and the commander to understand how the fire plan supports the scheme of maneuver. It is a valuable planning tool for both the offense and the defense. It explains what aspects of the FS plan each FSO and FO is responsible for and at what phase during the battle these aspects apply. When approved, the matrix becomes the primary execution tool. It is set up with the maneuver elements along the left side and different phases (phase lines, events, or times) of the mission along the top. Phases should correspond to phases established on maneuver execution matrixes. (See Figure 7-8 on page 7-27.)

Fire Support Coordination

General. FS coordination is the continuous process of implementing FS planning and managing available FS assets. The best FS plan in the world is worthless unless it is properly coordinated with appropriate personnel and/or agencies. In short coordination makes the plan happen. Key personnel with whom FS must be coordinated include-

- Ž Higher FSE.
 - ALO.
- Ž Army aviation.
- Ž Chemical officer.
 - Lower FSE.
- Ž NGLO.
- Ž DS field artillery main CP (usually done by the brigade FIST).
- Ž Adjacent unit FS teams.
- Ž Mortar platoon leader (battalion/company).
 - Maneuver battalion S3/S 3-Air.
- Ž Engineer representative.
- Ž ADA representative.
- Ž MP representative.
- Ž MI representative.

Field artillery positioning. The maneuver commander sets priorities for positioning of units within his sector. The coordination for positioning of an field artillery unit is normally done between the field artillery battalion S3 and the brigade S3. However, the FSO may become involved in the coordination by assisting the field artillery S3. Coordination may include locations of delivery units, radars, main CPs, and trains; movement routes and times; and supply routes. Priorities of positioning are as follows:

- DS field artillery battalion.
- Ž Reinforcing battalions.
- Ž Division GS and GS reinforcing units.
- Corps units (GS reinforcing before GS).

Clearance of fires. The FSO at every echelon is vitally concerned that all fire requests are quickly processed and that all fires into his maneuver commander's zone are properly cleared. He considers-

- Ž Requests for fire. Within brigades, the FSO approves requests for fire at each echelon. Frequently, most requests for field artillery fire are approved by the TF FSO. To expedite requests, silence by the monitoring FSO is considered consent. Consent in effect validates use of the requested asset to engage the particular target. For fires within the requestor's zone, no clearance or other coordination is necessary.

- Clearance. The maneuver commander has the final authority to approve (clear) fires and their effects within his zone. This is not the same as approval of requests for FS assets. Normally, maneuver commanders delegate authority to coordinate and clear fires within their zone (usually delineated by boundaries) to their FSOs.

Checklist for the Maneuver Commander

These questions are designed to help the maneuver commander ensure that his FSO coordinates FS with maneuver. Some questions must be asked by the FSO. Some of the answers will come from staff sections, the field artillery unit, or the commander himself. The bottom line is that the commander must ensure that his FSO understands his intent. These questions will help articulate that intent. The next step is to ensure the FSO understands what the commander wants.

- What is your mission (hasty attack or pursuit)?
- What is your concept of operation and intent? In other words, how do you plan to accomplish the missions? What is your intent to effectively employ FS?
- Ž What is the current enemy situation? Does your staff know the intelligence situation?
- Ž Are known or suspected enemy locations known by the FSO?
- Ž What is your likely axis of advance? What are the enemy's likely avenues of approach?
- Ž What units are to receive priority of fires? What are your lead elements?
- What FS assets are available?
- What about TACFIRE? What are your defeat criteria (priority, degree of destruction, units to attack) for different targets?
- What are your criteria for determining what is a target? Do you want to hold onto any targets? Is there a high-payoff target list?
- Will you use special munitions (smoke, illumination, FASCAM)? How much, when, and where? How many minefield can you plan? Do you have authority to fire them?
- Do you want any special fires (preparation, smoke, FPF, illumination, and so on)? How much, when, and where?
- Ž What maneuver control measures have been established? Are they synchronized with the permissive or restrictive coordinating measures used by your FSO?
- What time does the attack start? How much time is available? Is informal fire planning adequate, or is formal planning required? Have you distributed the plan correctly and to key individuals?
- Ž How much ammunition is available? Is it prestocked?
- What are your future plans (attack or counterattack)?
- What and where are your mines and other obstacles? Do you have FS covering them?
- Ž Who will position and control mortars and artillery?
- How will you resupply your mortars, artillery and direct-fire weapons?
- Where are friendly units located, and what are their boundaries?
- Ž Where and how can you be located or contacted if something goes wrong?
- What is the chain of command?
- Ž Will a rehearsal be conducted? If so, when?

PRIORITY OF FIRES AND KEY TARGETS

PHASE \ TRIG LINE PT	PL /MACE	PL /BOW	PL /ARROW	PL /BLUE	
TF					
TM/CO A			BB 3401	BB 3111 BB 0012 ↔MORTAR PRIORITY↔	
TM/CO B	BB 0001 BB 3003 ↔MORTAR PRIORITY↔ ↔FA PRIORITY↔	BB 3001			
TM/CO C			BB 3010		
TM/CO D		BB 0007 BB 3002	BB 0013 BB 0009 ↔FA PRIORITY↔	BB 0015 GP B1B	
SCOUTS	BB 0029 BB 3004	BB 0017			
MORTARS	POS A1,A2	BB 3001 POS B1	POS B2,C1	BB 3111 POS C2	
FA ORGANIZATION FOR COMBAT		MORTAR POSITIONS		AMMUNITION AVAIL	
4-5 FA (155SP) DS TO 2 BDE		POS A1 123455 A2 124456 POS B1 1274556		12 BN 3 RDS DPICM 20 PLT 6 RDS HE 30 Mins ARTY Smoke 20 Mins MORTAR Smoke 30 Mins ARTY Illum 30 Mins MORTAR Illum	
F S COORD MEASURES		B2 128452			
CFL: PL BOW O/O CFL: PL ARROW O/O CFL: O/O CFL:		POS C1 131500 C2 130495		TAC AIR	
		BDE CDR ATT GUIDANCE		4 TF SORTIES 4 ACAs (#) 20-23 (SEE ACA OVERLAY)	
FASCAM				HIGH PAY OFF TGTS	
TF ALLOCATION: 2 BDE 2 PLANNED: 195450 200444 199455 221456		DEST ADA NEUT RECON ELEMENTS SUPP AR, MECH PLTS		ZSU 32-4, SA 9, MRB's CRP (38MP, 1 BRDM) ENGINEERS	
COC IS: - A -, - B -, - C -, - D - FSO WITH - A - FSE BEING O/O BN FSE					
C DAY - 1 -	FA DS BN CDR: H70__	A FSO: A99__	FA FDC: __H55__		
E CF 2: 45.20	BDE FSCoord: E24__	B FSO: B99__	MORTAR FDC: __U55__		
O FD 1: 55.70	BDE FSO: J99__	C FSO: C99__			
I MORTAR: 32.60	BN FSO: Q99__	D FSO: D99__	OIC - O - NCOIC - N - RTO - R -		

COORDINATING INSTRUCTIONS:

1. TARGET ALLOCATION: A 3, B 3, C 2, D 4.
2. CUT OFF FOR TARGET SUBMISSION 052200 OCT.
3. SURVEY TARGETS FOR D, A, B, MORTAR FIRING POSITIONS. FSOs TAKE SURVEY TO NEXT LOCATION.

Figure 7-8. Brigade fire support execution matrix.

Ž What signals/events will cause special fires to begin?

- Will you outrun your artillery and mortars? What can be done to keep this from happening?

Ž Did you tie in your FS with antiarmor assets (TOW and Cobra), CAS, obstacle plan, and air defense plan?

- Did you instruct the S2 and S3, coordinating with the FSE, to implement ECM against key communications nodes?
- What is your commendation for attack guidance?

Air Defense Support

Organization Available

The air defense CS for a brigade is a pure or composite battery using a combination of Vulcan, Chaparral, and Stinger missiles. Divisional air defense battalions in CONUS do not have Chaparrals. They have Vulcans and Stingers. The brigade's mission and the commander's air defense priorities will dictate the type of weapon mix. Early warning is provided by the FAARs and the division early warning net.

Allocation of ADA assets within the brigade depends on the brigade's mission. Based on the brigade commander's intent, scheme of maneuver, air IPB, and air defense priorities, the ADA commander may recommend retaining all assets under brigade control or allocating assets to subordinate units.

Divisional air defense battalions organic to divisions in Europe have five batteries comprising 24 Vulcans, 24 Chaparrals, 72 Stingers, and 8 FAARs. Additionally, each Vulcan has a Stinger gunner, with two missiles, as part of its squad. Chaparral systems in USAREUR divisional battalions are to be replaced by Avenger air defense systems.

Air defense battalions organic to the divisions in CONUS and Korea have four batteries comprising 27 Vulcans and 75 Stingers. Each Vulcan has a Stinger gunner, with two missiles, as part of its squad.

Avenger air defense systems are also available.

Operational Characteristics

Stinger

The Stinger is a man-portable, shoulder-fired, IR-homing (heat-seeking) air defense guided missile. It is designed to counter high-speed, low-level ground attack aircraft, helicopters, observation aircraft, and transport aircraft. A section includes a headquarters element with a section chief and driver and five crews of two soldiers each. Each crew has a jeep or HMMWV with six Stinger weapons. The Stinger has a range of more than 4 kilometers. It is maneuverable and can be integrated within the unit's scheme of maneuver. Since the prime mover is a thin-skinned vehicle, the Stinger should overwatch the force from high ground. If this is not possible, another possibility is to put a Stinger gunner with reduced load in an armored vehicle, such as the FIST track, the XO's track, a BFV, or a maintenance APC.

Vulcan

The Vulcan system counters low-altitude air threats. It is effective against high-performance aircraft and slower fixed-wing aircraft and helicopters at ranges out to 1,200 meters. Self-propelled, the Vulcan has a four-man crew and carries 1,100 rounds of ready-to-fire ammunition. It is maneuverable and is easily integrated within the unit's scheme of maneuver. Fire-on-the-move capability and armor protection allow it to support the maneuver forces. One member of the Vulcan squad is a Stinger gunner with two Stinger missiles. A consideration for Vulcan is that it cannot be deployed any lower than a section of two systems.

Chaparral

The Chaparral is a self-propelled, surface-to-air guided missile system used to counter a low-altitude air threat. It is effective against both high-performance and slower fixed-wing aircraft and helicopters at ranges out to 6,500 meters. The Chaparral has both self-propelled and towed versions, which have a four-man crew with four ready-to-fire missiles and eight missiles in storage compartments under the deck. Chaparrals are best suited to defend relatively static critical assets; however, if priorities and the tactical situation dictate, they may be used to support forward maneuver forces in an overwatch position.

Facilities, Organization, and Duties

Senior Air Defense Officer

The unit's senior air defense officer is a special staff officer during the planning process. Based on the maneuver commander's intent, scheme of maneuver, and air IPB, he develops air defense priorities. The maneuver commander must then approve these priorities before task organizing air defense assets. The brigade must provide the air defense officer with the following information.

The S2. The S2 provides information on the ground and air threat and the unit's PIR.

The S3. The S3 provides the unit OPORD or OPLAN and TSOP. This includes overlays; preplanned locations; commander's intent and concept of operation and follow-on operations; commander's priorities; what units expect heaviest ground and air action; what assets are most critical, most vulnerable, and easiest to recover or replace; special or modified brevity or operations codes, key words, or emergency procedures; points the supported unit commander wants covered in daily briefs; SOI; resupply; the supported unit's MOPP; and how changes are disseminated.

The S4. The S4 provides the following resupply information: Class I pickup points, times, and feeding cycles; Class II resupply of NBC suits, gear, and batteries; Class III refueling locations and times; Class V arrangements for supply of specialized ammunition; Class IX procedures for ordering and receiving parts and locations and times for pickup. He also determines how resupply is handled and if the air defense unit has been considered in the planning; who will maintain air defense units' nonsystem-peculiar equipment and where they are located.

Air Defense Artillery Battery Commander

The ADA commander has two roles commander of ADA forces and brigade ADCOORD. He recommends active, passive, and other combined arms air defense measures in the air defense estimate. After approval and staff coordination, he develops the air defense annex to the maneuver plan. He coordinates with ADA elements at higher and lower echelons and with adjacent units. He recommends to the ground commander use of other combat arms for air defense based on careful target value analysis and estimate of the air threat. He is also the early warning link to brigade. He can thus monitor the early warning net and relay information to the brigade main CP officer. This information can be passed to maneuver forces over the command or 01 net.

Air Defense Fire Coordination Team

Each brigade has an air defense fire coordination team consisting of a staff sergeant, sergeant, and driver in a HMMWV vehicle. Their job is to provide the staff with planning input for air defense employment and tactics, advice on passive air defense measures, and guidance on use of AAFAD. In addition, they provide ADA unit dispositions and missions, changes in established rules of engagement, and near real-time information on air battle intelligence.

Air Defense Annex

Once the maneuver commander gives his maneuver plan and intent for air defense, the battery commander can prepare the OPLANs and OPORDs. He writes his plan as a five-paragraph annex to the supported unit's OPLAN or OPORD. The battery commander must conduct detailed coordination with other staff sections to develop this annex. The annex assigns specific air missions each unit must accomplish.

Employment of Air Defense

When determining the allocation of air defense assets, the air defense commander considers the factors of METT-T, weighs them against the list of air defense priorities, and develops an initial allocation to protect these priorities. The advice the air defense commander gives to the maneuver commander can make the difference between adequate and inadequate air defense protection.

Rules of Engagement

Air defense rules of engagement are directives that specify the circumstances under which an aircraft can be engaged. The Stinger crew chief and Vulcan/Chaparral squad leaders are responsible for deciding whether an aircraft is hostile or friendly. Rules of engagement include hostile criteria and weapon control statuses.

Hostile criteria include aircraft that attack friendly elements, violate airspace control measures, respond improperly to IFF interrogation, and are visually identified as an enemy.

The following weapon control statuses describe relative degrees of restriction with which fires of ADA systems are managed

- Weapons free. Fire at any aircraft not positively identified as friendly.
- Ž Weapons tight. Fire only at aircraft identified as hostile according to prevailing hostile criteria.
- Ž Weapons hold. Do not fire except in self-defense or in response to a formal order.

Air Defense Warnings

These indicate the degree of air raid probability

Ž Air defense warning red. Attack by hostile aircraft and/or missiles is imminent or in progress.

- Air defense warning yellow. Attack by hostile aircraft and/or missiles is probable.
- Air defense warning white. Attack by hostile aircraft and/or missiles is improbable.

Air Defense Operations

Once the air defense battery arrives at the brigade, the battery commander must receive the brigade commander's intent and scheme of maneuver. With this information, he develops the brigade air defense priorities. When these are approved, he task organizes his air defense assets to provide protection to the brigade's air defense priorities. After the task organization is approved, the battery commander can write the air defense annex and prepare his battery for its execution.

The air defense battery establishes trains in proximity of the brigade trains. The battery is capable of conducting self-sustaining operations. The battery's command or support relationship determines what support it will receive from the brigade. However, during missions of long duration or distance from their parent battery, air defense platoons may have to obtain certain classes of supply from the supported unit. This information must be coordinated in advance and covered in the OPORD.

If FAARs are attached to the battery, the commander will coordinate with the brigade S3 and emplace them along high-speed air avenues of approach in the brigade sector.

Engineer Support

General

Combat engineers are an integral part of the combat arms team. Engineers adapt terrain to enhance the battle effectiveness of fire and maneuver. The orientation of engineers in support of a task force is forward; their efforts are designed to support forward fights.

Engineer Missions

Combat engineers provide support to the task force in five mission areas:

- Mobility. They free the commander of maneuver limitations imposed by terrain or obstacles.
- Countermobility. They reinforce terrain with obstacles to hinder enemy operations and maximize the effectiveness of direct and indirect fire.
- Survivability. They reduce the effectiveness of enemy weapon systems by developing protective positions in favorable locations.
- Sustainment engineering. They provide the force with construction and repair of MSRs, airfields, and logistical facilities.
- Topographic engineering. They provide the commander with terrain analysis to aid in the planning and conduct of combat operations.

Task Organization of Combat Engineers

The division has one organic combat engineer battalion. It is typically augmented by at least one corps combat engineer battalion. Each committed brigade normally needs the equivalent of an engineer battalion, or one engineer company per battalion task force. This level of engineer support is adjusted based on METT-T analysis.

Combat engineer battalions. Two types of battalions support combat.

Divisional combat engineer battalion. This unit performs engineer battlefield functions for the division at the FEBA, focusing on mobility, countermobility and survivability. Engineers are closely integrated with the maneuver units. They have established normal relationships, train together, and thoroughly understand each other's battle drills and procedures. The divisional battalion has four combat engineer line companies and a ribbon bridge company. (See Figure 7-9.)

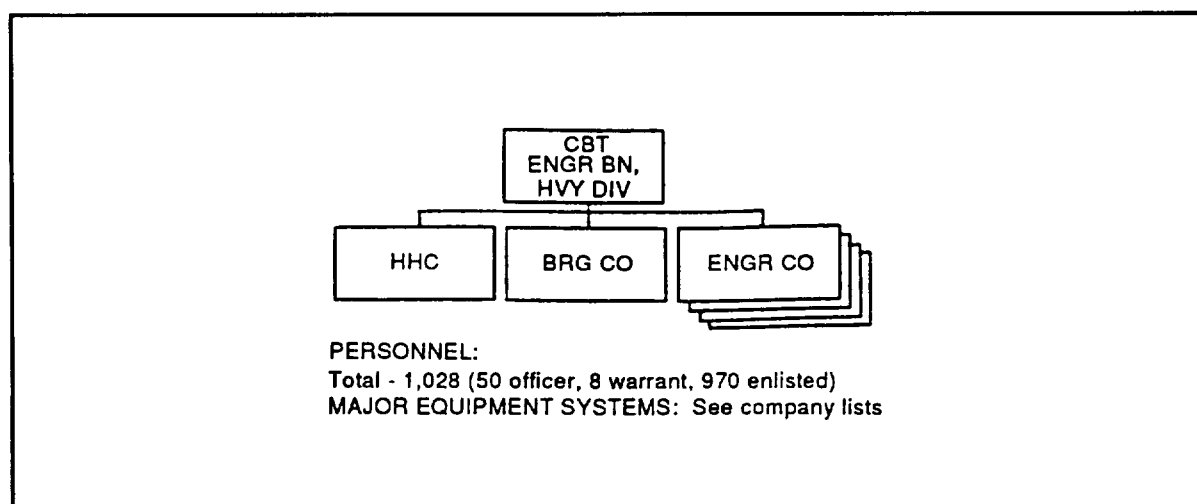


Figure 7-9. Divisional combat engineer battalion.

Corps combat engineer battalion. Corps units are designed as either mechanized or wheeled battalions. Each can augment the divisional battalion in the forward brigade areas. The mechanized battalion operates well forward in the heavy division area. The wheeled battalion also operates in the division area, but is at risk when the enemy is an armored force. Corps combat engineer battalions in Europe are mechanized. Corps battalions in CONUS are wheeled. Corps battalions have four combat engineer companies. (See Figure 7-10.)

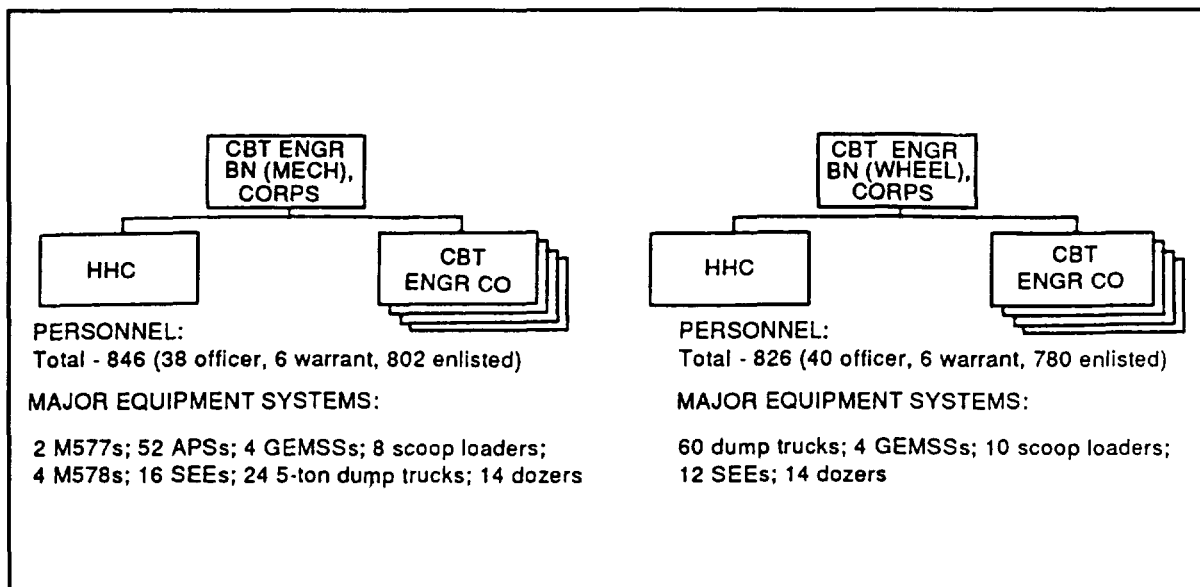


Figure 7-10. Corps combat engineer battalions.

Combat engineer companies. The following types of companies support combat operations.

Divisional combat engineer company. The divisional company has three line platoons and a mobility/countermobility platoon. The mobility/countermobility platoon provides equipment to augment the line platoons. Unlike corps units, the divisional company has AVLBs and CEVs. (See Figure 7-11.)

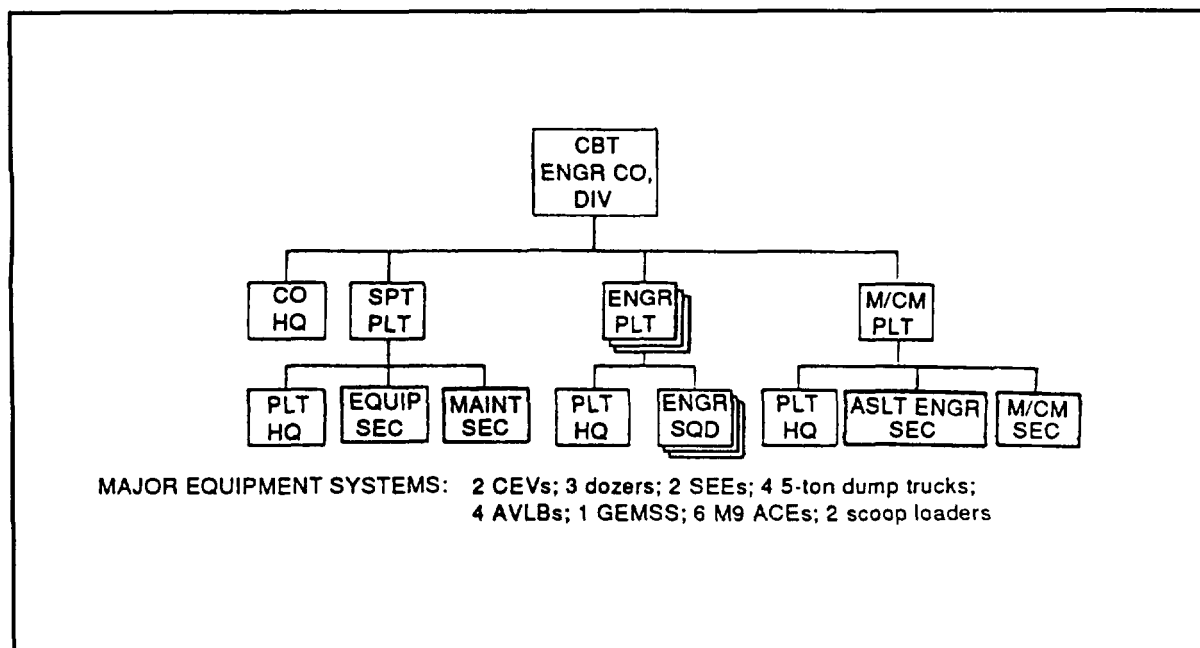


Figure 7-11. Divisional combat engineer company.

Corps combat engineer company (mechanized). This corps unit has three line platoons and a support platoon. The squad vehicle is an M113 APC. (See Figure 7-12.)

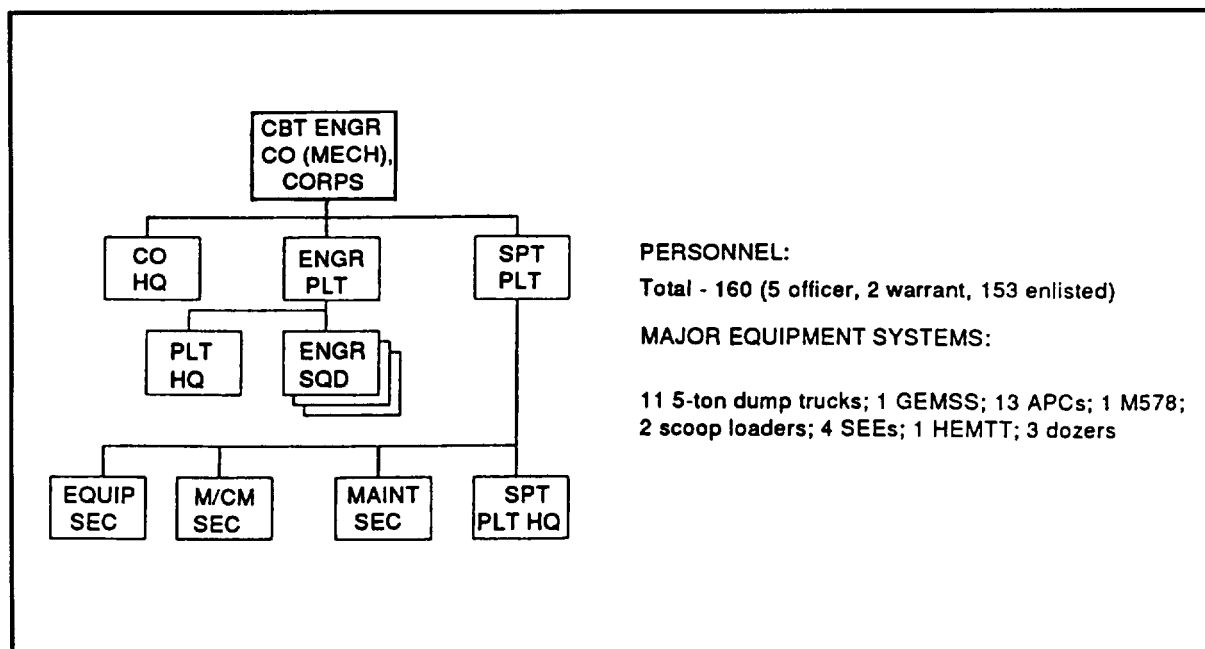


Figure 7-12. Corps combat engineer company (mechanized).

Corps combat engineer company (wheeled). This corps company uses a 5-ton dump truck as its squad vehicle. Wheeled combat engineers are found only in CONUS. (See Figure 7-13.)

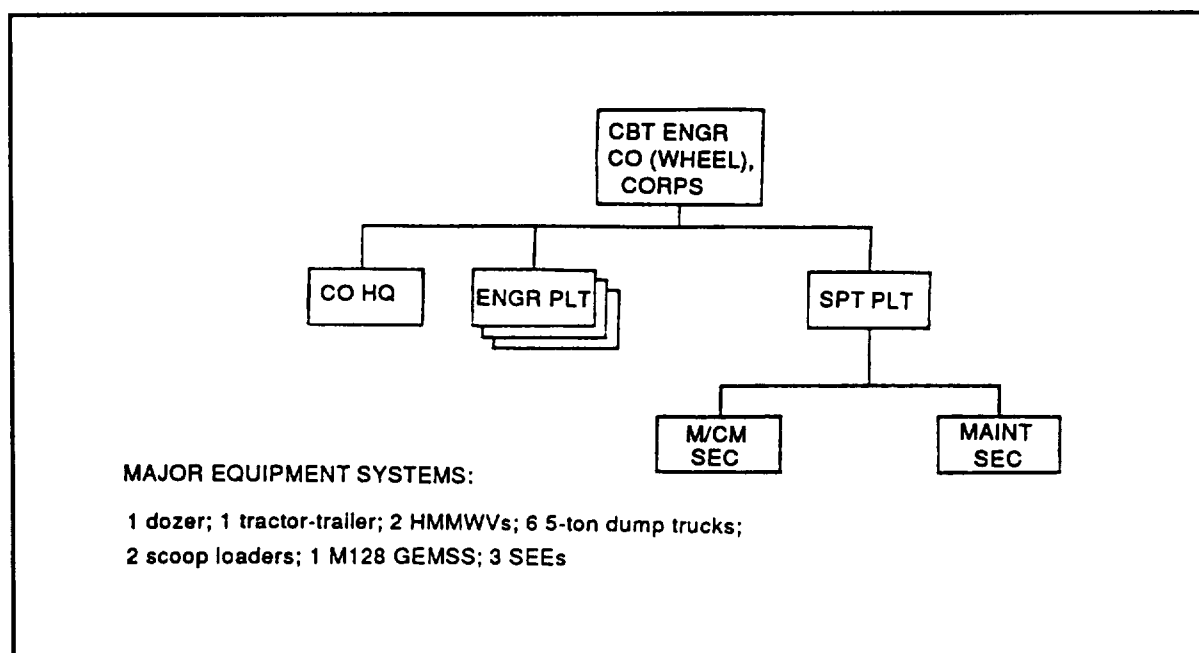


Figure 7-13. Corps combat engineer company (wheeled).

Separate brigade/armored cavalry regiment engineer company. The separate maneuver brigade and the ACR have one organic engineer company. (See Figure 7-14 for an example of an ACR engineer company.)

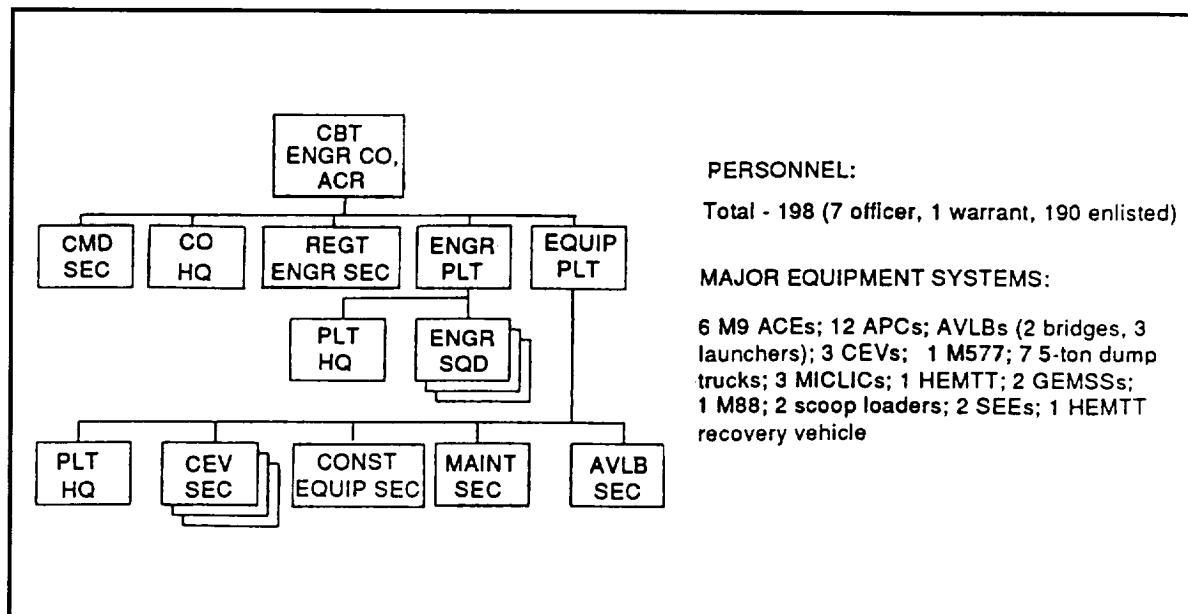


Figure 7-14. ACR engineer company.

Equipment

Bulldozer. The D7 dozer is the primary earthmover for construction of survivability positions and antitank ditches. It must be transported by tractor-trailer due to its poor mobility. Three dozers are found in corps combat engineer companies and CONUS divisional combat engineer companies. The D7's ability to construct fighting positions and antitank obstacles varies with soil conditions.

Armored combat earthmover. The ACE is a highly mobile, armored, amphibious combat earthmover. It can construct obstacles, such as antitank ditches, and survivability positions. It can also assist in mobility operations by reducing enemy obstacles, such as antitank ditches, and improving natural terrain (preparing ford sites, for example). It has armor protection against small arms, a smoke screening capability, and chemical-biological protection for the operator. It is capable of 30 mph road speed and can swim at 3 mph. Divisional combat engineer companies in Europe have six ACEs.

Combat engineer vehicle. The full-tracked, armored CEV is a basic M60A1 tank with hydraulically operated debris blade, 165-mm turret-mounted demolition gun, retractable boom, and winch. The gun can be elevated or depressed for use at ranges up to 925 meters and is coaxially mounted with a 7.62-mm machine gun. A caliber .50 machine gun is cupola-mounted. Divisional combat engineer companies have two CEVs.

Ground emplaced mine scattering system. The GEMSS is the ground delivery system for FASCAM mines. It holds 800 antitank and antipersonnel mines. It can be towed by a truck, an APC, or an M548. The density, depth, and self-destruct time for the minefield can be controlled by the GEMSS operator. One GEMSS dispenser is found in each combat engineer company in Europe.

Mine clearing line charge. The MICLIC is a rocket-projected explosive line charge providing "close-in" breaching capability of enemy minefield. When detonated, it provides a lane 8 meters by 100 meters. Each combat engineer company has either three MICLIC trailers or three armored vehicle-launched MICLICs.

Armored vehicle launched bridge. The AVLB is the heavy force assault bridge. It is capable of carrying MLC 60 track loads across a 17-meter gap and MLC 70 track loads across a 15-meter gap. Divisional combat engineer companies have four AVLBs.

Brigade and Regimental Engineer Organization and Duties

Organization

Within a division, the organic engineer battalion provides a brigade engineer to each ground maneuver brigade. A staff officer with no command responsibilities, he integrates engineers into the brigade planning process and coordinates current engineer operations in the brigade area. He provides early warning of future brigade operations through engineer channels. The brigade engineer receives required reports from divisional and corps engineer units in the brigade area to keep the brigade staff and the division engineer informed on current engineer operations. He passes brigade taskings to engineer units on behalf of the brigade commander. Separate maneuver brigades and ACRs have a staff engineer organic to the brigade or regiment.

Duties

The engineer works with all members of the battle staff, but he has an especially close relationship with the S2, S3, and FSCoord to effectively incorporate the terrain component into the close combat triad (fire maneuver, and terrain). Specific duties include-

- Developing the brigade obstacle plan based on the commander's intent. Specific belts and critical individual obstacles should be included.
- Planning artillery-delivered FASCAM obstacles and recommending TAI and decision points.
- Recommending task organization of engineer assets.
- Adjusting engineer assets according to brigade priorities.
- Monitoring all engineer activity in brigade area.
- Preparing a survivability plan based on the commander's intent.

Engineer Operations

Command and Support Relationships

General. Engineer platoons work most efficiently under the control of an engineer company, and engineer companies work most efficiently under the control of an engineer battalion. This permits close control and the most productive use of all engineer assets. The engineer commander continuously monitors the progress of assigned tasks and shifts elements where the need is greatest throughout his AO. On the other hand, the maneuver commander at the lowest level gets greater responsiveness when the engineer platoon or company is under his direct control. He determines the task organization and gives missions directly to the engineer elements under him. The decision whether to provide engineers in a command or support relationship to a subordinate maneuver headquarters is thus an important tradeoff. The higher maneuver commander must weigh his need for flexibility and responsiveness and his option to task organize engineer forces against the most efficient use of scarce engineer assets.

Rule of thumb. A good rule of thumb may be developed to determine whether engineers should be in a command relationship or a support relationship. Engineers will typically remain in a support relationship when working for units that are not in contact with the enemy (for example, defensive preparation operations). Engineers should be in a command relationship when supporting units are already in contact (or when contact is imminent). Examples of typical command relationship roles would be offensive operations or counter-attacks.

Organizational Principles

The following principles apply when employing combat engineers:

- Task organize the engineer force to the requirements of the mission. Mixing corps and divisional assets and units to accomplish the mission is frequently appropriate.
- Give priority to the main effort. Avoid piecemealing engineers to provide every unit a "slice." Provide the main effort with enough engineer support to succeed, and distribute the remaining engineers.

- Integrate engineers with maneuver and fire.
- Do not hold engineers in reserve
- Augment engineers logistically to support the plan. Engineers may need additional time, material, and transportation assets to execute the maneuver plan.
- Plan to exploit local resources. Commercial equipment and materials may be used to support military mobility, countermobility, and survivability operations.

Engineers Fighting as Infantry

Any commander who controls engineers in a command relationship, unless otherwise prohibited, has the authority to employ them as infantry. In his decision to do so, he must carefully weigh the gain in infantry strength against the loss of engineer support. Because of the long-term impact, the commander employing an engineer unit as infantry has the responsibility to notify the next higher headquarters of his action.

Nuclear, Biological, Chemical Support

Section Organization

The brigade chemical section consists of the brigade chemical officer (captain) and a chemical operations NCO (sergeant first class; MOS 54B40). Equipment in the NBC section includes appropriate doctrinal manuals, map boards, overlays, a work station, hazard templates, and status charts.

Operational Capabilities

Organization of forward-deployed brigades may be somewhat different. However, their functions and duties are similar to those of a divisional brigade. The brigade chemical officer works as an assistant operations officer in the operations section of the brigade. Both personnel are assigned by MTOE to the headquarters company or troop. Through staff visits, coordination, and inspection of subordinate units, the brigade chemical section is the focal point for NBC operations. This is accomplished in garrison as well as in the field.

Facilities, Organization, and Duties

During field operations, the brigade chemical personnel provide 24-hour NBC operations capability. A work station is designated in the TSOP for the main CP where chemical information is to be processed and disseminated. The chemical officer is available to cover shift changes within the main CP and provide chemical continuity for tactical operations. However, the section is organized into two distinct yet flexible shifts. In addition, upon movement of the main CP, one person can move to the TAC CP to continue the battle or move with the TAC CP in anticipation of a main CP jump, allowing for one person at each site. It is not recommended to leave these shifts split due to the possibility of overburdening.

Brigade chemical personnel are instrumental in the planning cycle of all tactical operations. They provide assistance to the S2 in the IPB process, develop support for courses of action based on the commander's intent, and integrate chemical and smoke operations based on the OPORD. Once the plan is developed, they ensure execution.

Duties and responsibilities of chemical personnel in the brigade main CP are listed below. These are not all-inclusive and are manipulated to meet changing situations. In addition to these specific chemical duties, chemical officers and NCOs also perform a myriad of operational duties according to their abilities and unit needs.

Intelligence

Analyze the NBC threat; assist the S2 with NBC IPB; develop PIR and threat information; assist subordinate units in threat analysis.

Personnel

Recommend assignments to the S1 and subordinate units; aid in professional development of chemical personnel; coordinate proper use of chemical assets.

Training

Monitor, evaluate, and determine training needs and provide technical training; plan and coordinate training; conduct NBC battle focus; evaluate status of training.

Evaluation

Provide NBC expertise as evaluator: analyze results and present facts; develop solutions to correct deficiencies.

Readiness

Maintain status reports; consolidate and provide data to command group; assist S4 with NBC stocks and resupply; monitor contingency stocks.

Logistics

Account for NBC expenditure follow up requisitions and maintenance; balance equipment on hand and requisitions.

Administration

Write and update NBC annex to SOP; maintain current publications; remain proficient in current doctrine maintain liaison with subordinate units and higher headquarters.

Field Operations

Execute NBC warning and reporting system; maintain current operations overlay; post NBC attack overlay; post offensive NBC targets; with S4, develop contaminated MSR overlay; maintain decontamination overlay and post NBC unit symbols; conduct nuclear/chemical vulnerability analysis; maintain radiation status charts and recommend MOPP levels and employment of chemical assets; develop obscuration plan and participate in operations planning cycle (IPB, DST, commander's guidance, courses of action, OPOD chemical support annex, chemical FS appendix to FS annex, and tab to chemical FS with targets).

Operations

When planning offensive operations, the commander must recognize that nuclear and chemical weapons can significantly affect his scheme of operations. Soviet-style forces train extensively for operations on a battlefield where NBC weapons are used. They carry a complete array of individual and vehicle NBC protective gear. Most of their armored vehicles provide pressurized protection for crews. Extensive use of smoke is integrated into their scheme of maneuver.

When nuclear weapons are available to support the attack, it may be preferable to plan such fires and base schemes of maneuver on their effects. Nuclear or chemical FS may allow smaller units to accomplish missions that would require massing of larger forces in conventional battle. The commander must determine what size these forces should be and when they should concentrate. If he masses too late, he risks defeat in detail. If he masses too soon, he risks nuclear destruction. To minimize the overall risk, he disperses into concentrated smaller units that are not lucrative targets by themselves. Initially, maneuver forces will be dispersed to avoid presenting battalion-size targets. Tactical schemes for the nuclear-chemical environment must stress rapid movement, minimum massing, planning of alternate routes, and the violent execution of a simple plan.

With the objective secure, targets of opportunity and escape routes are primary targets for chemical and nuclear weapons during the pursuit. These weapons are employed to eliminate pockets of resistance, destroy hostile reserves, and seal off enemy escape routes. Chemical weapons should not be employed in the pursuit unless more favorable effects will result.

During movement to contact operations, the primary emphasis is on the most trafficable terrain. Aggressive reconnaissance to identify enemy locations and areas of possible NBC contamination must be conducted. Through the use of chemical personnel at brigade level, provisions are made to overcome these obstacles and facilitate movement.

Formations used by attacking brigades must allow for massing and dispersion. In nuclear warfare, a formation with two or more task forces abreast and a reserve maybe adopted in the attack when a successful penetration has been created by other forces. This allows the brigade to attack on a broader front, presenting a less lucrative target. Offensive forces also face a variety of obstacles, both real and imagined, in defeating the enemy. Actual obstacles constructed forward of, between, and within strongpoints are designed to canalize friendly forces into areas favorable to the defending force or to cause forces to mass and create a profitable target for conventional and/or chemical and nuclear fires. When Soviet-style forces are in the defense, the use of chemical agents and smoke can be expected to complement their barrier plan.

During the planning stage for future operations, integration of fires to support the maneuver is obviously essential. Use of special nonconventional weapons must be planned even before it is authorized. Time is a critical factor. Planning and preparation with troop safety and damage prevention guidance will take time to fit the scheme of maneuver.

Nuclear and chemical fires permit more rapid movement because they allow covering forces to eliminate enemy resistance that may otherwise require deployment of a sizable force. Flank and rear guard capabilities are increased by using nonconventional weapons to block avenues of approach. In a meeting engagement these weapons can deny the enemy use of key terrain essential to observation or fields of fire.

Plans must be developed for the latest possible concentration of forces and rapid dispersal after mission accomplishment. Reducing vulnerability and the period of risk are major considerations while forces are concentrated. Planning for the use of routes to, on, and through objectives must be complete, and movement must be controlled.

SECTION II. BATTALION TASK FORCE COMBAT SUPPORT

Fire Support

Fire Support System

General

The FS system supporting the heavy battalion task force consists of the same components as at brigade level. These assets are further allocated to maneuver battalions as priorities of FS based on the brigade commander's guidance and scheme of maneuver. For a detailed discussion, see Section I of this chapter.

Field Artillery

An field artillery battalion is normally placed in DS of a maneuver brigade. The brigade commander will give priority of fires to selected maneuver elements during each phase of the battle based on his scheme of maneuver. When priority of artillery fires is given to a maneuver battalion, the FSO must consider the following during planning:

- Assigned tactical mission.
- Ž Number and caliber of artillery units in support.
- Ž Range capabilities, including special munitions and RAPs.
- Ž Effects of available munitions and quantity on hand.

• Locations of primary and future positions.

- Size of the FPF.
- Radius of burst.
- Maximum and sustained rates of fire.
- Target acquisition for both external and organic internal assets.

Mortars

Mortars are the only organic indirect FS asset in the maneuver arms arsenal. Mortars provide responsive high-angle fires that can kill the enemy, suppress enemy fires, and conceal the movement of friendly forces. Therefore, it is extremely important to include mortar fires in the FS plan. The FSO's doctrinal responsibility is limited to recommending the integration of mortars into the FS plan. For considerations of mortar employment, refer to FM 7-90. The following are some of the areas with which the FSO must be concerned.

Characteristics and capabilities. The maneuver battalion mortar platoon consists of six 107-mm (4.2-inch) mortars (two sections with three mortars each). The mortars are rack-mounted in an M106A1 (on an M113 chassis); it has the capacity to carry 88 rounds of ammunition. When planning mortar fires, the FSO must consider the high rate of fire and ammunition availability. A mortar platoon can fire over 300 rounds in less than 5 minutes. As a result, the ammunition supply can be exhausted quickly. Table 7-3 lists specific characteristics the FSO must consider.

Table 7-3. Mortar characteristics.

<u>RANGE (meters)</u>					
	<u>HE M329A2</u>	<u>HE M329A1</u>	<u>ILLUM</u>	<u>WP</u>	<u>CHEM</u>
Minimum	770	920	400	920	1,540
Maximum	6,840	5,650	5,490	5,650	5,650

RATE OF FIRE

Maximum 18 rounds/minute for 1 minute and 9 rounds/minute for the next 5 minutes.

Sustained 3 rounds/minute.

EFFECTIVE BURSTING RADIUS

HE 20 meters

FINAL PROTECTIVE AREA

300 meters by 40 meters (6 tubes)

Support and command relationships. Support and command relationships are means by which the commander can designate priorities for mortar fires or establish command relationships. Previously, mortar and other battalion organic assets were given DS or GS missions. Because mortars are organic to the battalion, the assignment of such missions is not necessary. However, the commander must be able to clearly establish priorities and command relationships as required.

Priorities. The commander may specify support by assigning priority of fires and/or priority targets to a subordinate unit.

Command relationship. There may be situations when the mortar platoon cannot support all of the battalion while remaining under battalion control. This may occur when a maneuver unit is given a mission that separates it from its parent unit. In those situations, a platoon or section may be placed OPCON or attached to the supported unit.

Operational control. OPCON gives a commander the authority to direct forces provided him to accomplish specific missions, usually limited by function, time, or location. The commander controls the tactical employment, movement, and mission of the mortars. He is not responsible for logistical or administrative support.

Attachment. This temporary relationship gives the commander receiving the attachment the same degree of C2 as he has over units organic to his command. The commander selects the general location of the attached mortar element and controls its deployment as well as its fires. He is also responsible for logistical support and security of the mortars. Attachment is appropriate when units are assigned independent missions.

Employment. The following considerations apply to mortar employment.

General. The commander has three options when considering how to employ the battalion mortar platoon. It can be employed by platoon, section, or squad. Squads consist of one mortar and its crew. Squads can be grouped together into sections. Finally, the entire platoon may be employed together. Selected options are based on commander's guidance, METT-T, and priority of fires. The FSO must be prepared to advise the commander on which option to use. When employing mortars, the FSO must consider the following:

- Mortars are most effective against soft-skinned targets.
- Their high-angle trajectory makes mortars effective against targets masked or in defilade.
- High-angle fires are easily detected by enemy mortars.
- High-angle fires are adversely affected by strong winds.
- Mortar positions are seldom surveyed creating the need for more adjustments and a loss of surprise when attacking targets. (This can be overcome by requesting field artillery survey support.)
- Mortars are effective in MOUT.
- METT-T must be considered when employing mortars. General positioning guidelines are as follows:
 - In the offense, one-half to two-thirds of the maximum range should be in front of lead elements.
 - In the defense, one-third to one-half of the maximum range should be in front of the lead elements.
 - Positions should be selected to minimize the number of moves required.
 - The mortars must be able to displace rapidly and provide continuous support.

Platoon employment. The platoon operates from one or two firing positions and fires as one unit. The best way to position a platoon with four or more mortars is to place the platoon sections in two separate locations at least 300 meters apart. This distance varies with the terrain, the ability to cover the sector, and limits in C2. A platoon located in a single area enhances C2 and local security but is more vulnerable to enemy counterfire. FDCs are trained to mass fires from separate locations onto a single target.

Section employment. This places each section as a separate firing unit. The mortar platoon is normally employed by section to cover wider frontages. Each section is positioned so it can provide fires within the zone of action of the supported maneuver element. When employed by section, each section has an FDC or a

computer. Depending on the range to target and separation of sections, more than one section may be able to mass fires on the same target.

Squad employment. This places one or more mortar squads on the battlefield as separate firing units. This is usually done to support special requirements, such as-

- One-mortar illumination missions.
 - Roving mortar adjustments.
 - Antiarmor ambushes.
 - operations to support a very wide front.
- Ž The maneuver element being required to cover a large front.
- Ž Rear combat operations to support critical installations.

Displacement. It is essential that mortars displace rapidly and maintain their flexibility to provide continuous FS. Based on the scheme of maneuver, the mortar platoon leader develops a displacement plan. This is a map overlay with initial positions, subsequent positions, routes between the positions, and any control measures in effect.

Displacement techniques. The following are considerations for selecting displacement techniques:

- By platoon:
 - The need for speed outweighs the need for immediately available fires.
 - This method may be used when contact with the enemy is unlikely.

Accurate and timely response to calls for fire is sacrificed therefore, greater reliance is placed on “hip shoots.”

C2 problems are minimal

Ž By section:

- Continuous, accurate fires are required.
- Speed is essential.
- C2 is more difficult.
- This method is slower than movement by platoon.

Ž By individual squad:

- Need for continuous fire outweighs need for speed.
- C2 is extremely difficult.
- This the slowest movement technique.

Movement options. Two movement options are available: successive bounds and alternate bounds. Generally, alternate bounds are used when displacement is rapid to keep up with support elements. Successive bounds are used when the maneuver element movements are not so rapid.

Successive bounds. A portion of the platoon moves to the next position. After that portion is in position and ready to fire the rest of the platoon moves to the same position.

Alternate bounds. A portion of the platoon moves to the next position. After that portion is in position and ready to fire the rest of the platoon moves to a different position. This method applies to both the offense and the defense.

Integration of mortars into the fire support system. The integration of FS into the battle plan is vital, and the mission of the FSO is to integrate it based on the commander’s guidance. Mortars are an important part of the FS system; to maximize their effectiveness, their use must be planned, coordinated, and integrated.

Tasks. The following tasks are inherent in planning, coordinating, and integrating mortar fires into the plan:

- Develop target lists and plan fires based on the commander's guidance; develop attack criteria to support the battlefield operating systems.
- Allocate priorities of fires and FPFs.
- Ž Develop FS coordination measures to facilitate target engagement and safeguard friendly personnel.
- Ž Update target lists, priorities, and planned fires and send them to the mortar FDCs.
- Update operational status, location, and ammunition status of fire units.
- Keep the mortar platoon updated on the tactical situation; include it in the orders process.

Fundamentals. Mortars are usually effective at providing these fires: smoke (WP); illumination; chemical; area fire: antipersonnel; fire to force armor to button up; fire in built-up areas; intense FPF.

Mortars are generally not effective at providing the following types of fires, for which other FS means should be used if possible: point destruction missions; armor destruction; missions against well-protected defensive positions. If mortars are used to accomplish these missions, ammunition expenditure will be prohibitive.

Fire Support Facilities, Organization, and Duties

Battalion/Squadron Fire Support Organization

The battalion FSO is the FSCOORD for the maneuver battalion. He is in charge of the FSE and is the principal FS advisor to the maneuver commander. The FSE, located with the operation element of the maneuver forces, may include the following:

- FSO (captain).
- Ž FS sergeant (sergeant first class).
- FS specialist (specialist).
- Other FS planning personnel.

When added to the FSE to perform their FS functions, other representatives serve as a functional FS team to enhance and speed FS coordination. These representatives may include:

- Ž S3-air.
- Ž Heavy mortar platoon leader.
- Battalion NBC officer.
- TACP.
- SALT.
- Air defense officer.
- Ž Other representatives (such as engineer, allied force, Army aviation).
- Battalion FSO and fire support plans.

Battalion FSO and Fire Support Plans/Targeting Officer

Battalion FSO. The battalion FSO's primary duty is to plan, coordinate, execute, and control fires to support the commander's scheme of maneuver. He must-

- Advise the maneuver commander and staff on FS and how best to use the FSO's organic target acquisition assets.
- Ž Keep key personnel informed of pertinent information (such as battlefield intelligence).

- Train the battalion FSE.
- Ž Supervise the battalion FS cell.
- Train the company FSOs.
- Ž Recommend FS coordinating measures.
- Write and disseminate the FS plan and FS execution matrix.
- Coordinate with the TACP on TACAIR missions and CAS control personnel (ALO/ETAC/AFAC).

Fire support plans/targeting officer. The plans/targeting officer gives the FSE a 24-hour FSO capability. He performs as the FSO in the absence of the FSO and helps the FSO perform his duties. He provides the interface with the battalion S2 and helps him and the FSO by providing information on the vulnerabilities of targets. He advises the maneuver battalion S2 regarding specific requirements for accuracy of target location, assurance and level of target description, and duration the target may be considered viable for attack by FS systems. His duties in the targeting areas follow:

- Ž Help the battalion S2 develop the informal target acquisition and surveillance plan.
- Provide staff supervision of target acquisition assets organic and OPCON to the battalion.
- Develop the attack guidance matrix, recommend it to the commander, and disseminate it to the FS team, CP, and subordinate elements.
- Ž Determine, recommend, and process time-sensitive high-payoff targets for the FS element.
- Coordinate with the maneuver battalion S2 for target acquisition coverage and processing of battalion high-payoff targets.
- With battalion S2, write target selection standards matrix for assets supporting the battalion.

Battalion Fire Support Sergeant

The battalion FS sergeant is the senior enlisted assistant to the battalion FSO. He is responsible for the enlisted training of the battalion FSE and four maneuver FISTS. He supervises maintenance of all equipment assigned to these sections. The battalion FS sergeant must be able to perform all duties of the FSO.

Battalion FSO Relationships

The battalion FSO interacts and coordinates with many personnel within a maneuver organization.

Maneuver commander. The battalion FSO is the commander's FS expert. The maneuver commander-

Ž States his intentions through his concept of the operation, as well as the commander's intent.

- Specifies priority of fires, including allocation of FPFs and priority targets.

Ž Specifies FS coordination measures required.

- Specifies results required (smoke, illumination, lethal fires, chemicals, riot control agents, FASCAM).

Maneuver battalion S3. The S3 integrates FS into the scheme of maneuver in accordance with the commander's guidance. The S3-

- Develops the commander's intent into a scheme of maneuver or plan for the defense or offense.
- Establishes boundaries for subordinate units and other maneuver control measures (PLs, PPs, checkpoints).
- Ž Answers questions and elaborates on commander's guidance concerning priority of fires, special munitions, use of TACAIR employment of COLTS, allocation of FPFs, employment of mortars, and any other areas involving FS planning and coordination.

Brigade FSO. The brigade FSO is responsible for training the battalion FSOs. He is the assistant FSCoord and is responsible for all FS. The brigade FSO-

- Disseminates FS guidance as it applies to battalion FSOs (planned CAS missions, availability of immediate CAS, additional FS assets, target lists).

Ž Disseminates the PRF codes for laser designators.

- Recommends FS coordination measures.
- Writes and disseminates the brigade FS plan.

Maneuver battalion S3-Air. The S3-Air-

Ž Works closely with the FSO to prioritize CAS requests.

- Integrates TACAIR into the commander's scheme of maneuver.
- Forwards preplanned and immediate TACAIR requests to brigade.

Ž Is the point of contact for Army aviation (attack helicopters).

Maneuver battalion S2. The battalion S2 is responsible for developing terrain and weather analysis and enemy situation and event templates. He then joins the rest of the IPB process and the creation of the decision support template, as overseen by the XO.

Maneuver battalion signal officer. As a special staff officer, the maneuver battalion SO-

Ž Advises the commander and S3 on all communications and electronics, including positioning of C2 elements.

- Is the FSO's point of contact for SOI issued during operations as well as for communications troubleshooting.

Ž Is responsible for repair, turn-in, and exchange of communications equipment of attached FS assets; coordinates batteries and communications supplies.

Ž Has retransmission capability that can be used to enable radio communications on one net over a greater distance than is otherwise possible.

Task force engineer. Coordination between the task force engineer and the FSO is critical to success of the obstacle plan. Essential fires include ant breaching team fires, smoke to silhouette targets emerging from a breach, and illumination fires for night breaching.

Battalion chemical officer. The battalion chemical officer is responsible for advising the commander and S3 of the effects of friendly and enemy NBC attacks. When brigade asks for chemical target nominations for friendly attack, the FSO coordinates with the chemical officer for the location of contaminated areas and NBC defense measures. The battalion chemical officer is also responsible for advising the commander in the use of riot control agents and obscurants.

Field artillery battalion S3. The field artillery battalion S3 may coordinate with the battalion FSO during quick-fire planning and in disseminating the scheme of maneuver, as required.

Mortar platoon leader. The mortar platoon leader-

- Advises the S3 and FSO of mortar positions and ammunition.

Ž Seeks survey and meteorological support from the FSO.

Tactical air control party. The TACP-

Ž Advises the maneuver commander and his staff on the capabilities, limitations, and use of TACAIR.

- Assists in processing TACAIR requests.
- Controls CAS sorties supporting the battalion.

Ž Provides the battalion FSO with TACAIR information and characteristics.

Supporting arms liaison team officer. The SALT officer-

- Advises the commander and S3 on naval gunfire.
- Provides the battalion FSO with naval gunfire information and characteristics.
- Monitors firepower control team and FS requests.

Company FSO. The company FSOs work for the battalion FSO and work with their respective company commanders.

The battalion FSO provides guidance, battlefield intelligence, information on FS assets, FS coordination measures, and technical advice to company FSOs. Company FSOs send target lists, FLOT locations, SITREPs, spot reports, and other PIR to the battalion FSE.

Requests for fires from the company FISTS or FOs may be sent directly to the field artillery over the field artillery fire direction net, or they may be requested through the battalion FSO. The method used may depend on such factors as the FS assets available, situation, and equipment on hand. In addition, requests for mortars may be handled in the same manner.

Fire Support Planning and Coordination

General

FS planning procedures at the heavy battalion task force level are essentially the same as those described for the brigade in Section I of this chapter. Only those procedures and techniques that differ from brigade operations will be discussed here.

Fire Planning Procedures

Deliberate fire planning is conducted through a formal “top-down” process, with “bottom-up” refinement as time permits. It starts at all levels immediately upon receipt of the mission. The battalion FSO should not wait for a target list from higher before beginning his own planning. He is responsible for identifying the battalion FS requirement in conjunction with the commander, S3, and primary and special staff. He does this by receiving targets from the brigade FSO, modifying them as necessary, and adding targets of concern to the battalion commander. Using the target list worksheet and overlays as tools, he forwards his list of targets to subordinate FSOs.

Quick FS planning does not differ from the procedures used at brigade.

Fire Support Planning and Execution Matrix

At battalion level, the following considerations apply. (See Figure 7-15.)

- If priority of any indirect FS means is allocated to a team, it is indicated by an abbreviation of that FS asset in the upper left corner of the appropriate matrix box.
- If an FPF has been allocated, the abbreviation FPF preceded by the type of indirect fire means responsible for firing the FPF will appear in the center of the box.
- If a priority target is allocated to a team, it will appear in the box as PRI TGT preceded by the means of FS responsible for firing the target. Once a target is determined as the priority target, the corresponding target number is placed in the box.
- If a specific company FSO is responsible for initiating specific fires, the target number, group, or series will be listed in the box for that FSO. Specific guidelines concerning the target not included on the target list worksheet will be included in the box.
- If an ACA is to be put into effect by a particular FSO, the abbreviation ACA followed by the code word designated for that ACA will be shown in the box. The time the CAS or attack helicopters are due in the area is also listed.
- Other factors that apply to certain teams during a specific time frame may also be included in the appropriate box. General guidance is issued in the written portion of the OPORD.

	AA	CP 7	LD/LC	PL RED	PL BLUE	PL GREEN
TEAM TANK	FA FPF	FA PRI TGT CB 3002	FA FA PRI TGT GROUP C38		MORT SERIES FINISH	MORT MORT FPF
TEAM B	FA FPF	MORT B	MORT B MORT PRI TGT CB3008	MORT MORT A PRI TGT CB 3125 MORT B PRI TGT CB 3225		FA FPF
TEAM C	MORT FPF	MORT A	MORT A MORT PRI TGT CB3010	FA FA GROUP C68		FA FA FPF
TF CONTROL		FA GROUP C48 SERIES JOE	ACA ORANGE TOT 0800	ACA APPLE TOT 0815	FA GROUPS C78, C88, C98 ACA RAISIN TOT 0900	

Figure 7-15. Battalion fire support planning and execution matrix.

Air Defense Support

Organization Available

The normal CS for a battalion is a platoon or section of Vulcans or Stingers or a combination of both. The unit's mission and the brigade commander's air defense priorities will determine the type and amount of air defense weapons allocated to the battalion.

The Vulcan platoon for European divisions has four squads the platoon for CONUS and Korea has three squads.

The Stinger section comprises a section headquarters and five crews.

Operational Characteristics

These are the same as those at brigade level. See Section I of this chapter.

Facilities, Organization, and Duties

The senior air defense officer for the battalion will be the Vulcan platoon leader or the Stinger section sergeant. He will serve as a special staff officer during the battalion planning process. Based on the commander's intent, scheme of maneuver, air IPB, and brigade ADA annex, the senior air defender will develop the air defense priorities. Once these are approved, he will task organize his assets to provide protection to these priorities. After receiving approval for his task organization, he will ensure that it is incorporated into the OPORD.

The senior air defender will coordinate with the staff sections of the battalion. See the discussion for brigade level in Section I of this chapter.

The Vulcan platoon leader commands his platoon from his APC. He will not collocate with the main CP but will maneuver with his Vulcans. His radios include an AN/VRC-46 and an AN/VRC-48. This allows the platoon leader to monitor the battery command net, the early warning net the supported unit net, and the platoon command net. Each Vulcan has an AN/VRC-47 with which to monitor the early warning and the platoon command nets.

The Stinger section chief commands his section from his HMMWV. Once he has task organized his section, he can monitor the early warning net within the main CP. The section chief has AN/VRC-46 and AN/VRC-47 radios on which to monitor the early warning net, the section command net, and either the battery command or the supported unit net. The Stinger crew has an AN/VRC-46 and an AN/GRC-160 for the early warning and section command nets.

Air Defense Operations

The Vulcan platoon leader or Stinger section chief will develop the battalion's air defense priorities based on the commander's intent and scheme of maneuver. Once these are approved, he will task organize his assets to provide protection to these priorities. After receiving approval for the task organization, he ensures that air defense information is incorporated into the OPORD.

The Vulcan platoon sergeant is responsible for platoon logistics. He collocates with battalion trains and moves forward with the platoon ammunition vehicle to provide logistical support for the platoon.

The Stinger section chief is responsible for section logistics. He must ensure that he coordinates with the Stinger platoon sergeant for missile resupply.

Engineer Support

Organization

Combat Engineer Company

A combat engineer company, structured to operate at the FEBA, focuses on mobility, countermobility and survivability operations. It is the lowest engineer echelon that can plan and execute continuous 24-hour operations in support of maneuver forces. It is ideally suited for integration into task force operations and provides the priority task force with sufficient engineers to accomplish its mission.

Specific equipment in the engineer company may be found in the mobility/countermobility platoon (division) or support platoon (corps). AVLBs and CEVs are found only in divisional units. MICLICs are common to both units. Scatterable mine dispensing equipment (for example, GEMSS) is common to divisional and corps units only in Europe. See the engineer portion of brigade CS in Section I of this chapter.

Combat Engineer Platoon

The combat engineer company has three line platoons. The engineer line platoon is the lowest level engineer unit that can still effectively accomplish independent tasks. Consequently, engineers rarely operate in smaller elements and then only for specific actions of limited duration. The platoon is typically under the control of the engineer company; however, it may be attached to a maneuver company team. There are not enough engineer companies to provide one to each maneuver task force. Therefore, some task forces operate with only one engineer platoon.

Battalion Task Force Engineer

The division engineer often establishes a normal association between an engineer unit and a maneuver battalion. Maintaining that normal association is one of the factors to consider in the tactical planning process, since there are advantages in the normally associated unit leader functioning as the task force engineer. The leader of an engineer unit normally associated with a battalion task force is also the staff engineer

and advisor to the task force commander. The staff engineer integrates engineers into the task force's planning process and executes the engineer portion of the operation. He makes operational reports through the task force S3 and provides other required reports through engineer channels as necessary. When additional engineers operate with the task force, the normally associated unit leader remains the task force engineer; however, the other unit commander and his staff assist in detailed planning.

For task forces designated as the main effort, the task force engineer normally is an engineer company commander. Supporting task forces may have an engineer platoon leader as the task force engineer.

Engineer Operations

Combat engineers can be valuable combat multipliers for the task force. Engineer units should be included in all training exercises to make them a vital part of the maneuver team.

Mobility

Engineers should be integrated into the task force formation, located well forward to reduce or remove obstacles. Engineers must train with the task force to conduct breaching operations. Breaching drills designed to create lanes in typical enemy obstacles (such as surface-laid minefield) are practiced regularly.

Counter mobility

Engineers should place obstacles within the belts designated by the brigade. The task force commander identifies the specific obstacles by function within each belt. Engineers should be augmented with hauling assets from the task force to move barrier materials forward.

Survivability

Engineers using blade teams provide fighting positions for the task force. In general, a combat engineer company can dig in a task force in one full working day. Survivability for a maneuver task force strongpoint will require a minimum of four engineer company days to complete.

Nuclear, Biological, Chemical Support

Section Organization

The battalion chemical section consists of the battalion chemical officer (lieutenant), a chemical operations NCO (staff sergeant MOS 54B30), and an NBC specialist (MOS 54B10). Equipment in the NBC section includes appropriate doctrinal manuals, map boards, overlays, work station, hazard templates, status charts, and lightweight decontamination system.

Operational Capabilities

The battalion chemical section's primary responsibility is to train front-line leaders and plan NBC operations. All aspects of integrated NBC warfare and training are the responsibility of the battalion NBC section.

The battalion chemical officer works as an assistant operations officer in the battalion operations section. The chemical officer and NCO are assigned by MTOE to the headquarters company or troop. Additional expertise is found in the battalion through the additional-duty NBC officer. Together, they form the NBC center at battalion level; it is responsible for the technical aspect of operations as well as training, logistics and readiness. Additionally, assignment of the chemical specialist and lightweight decontamination system authorization give the battalion hasty decontamination capability. The battalion chemical officer and NCO supervise and train battalion decontamination operations.

Facilities, Organization, and Duties

During field operations, battalion chemical personnel provide 24-hour NBC operations capability. A work station is designated in the TSOP for the main CP where chemical information is to be processed and disseminated. The chemical officer is available to cover shift changes within the main

CP and provide chemical continuity for tactical operations. However, the section is organized into two distinct yet flexible shifts. The battalion has redundancy in personnel with the chemical officer and additional duty officer. This allows the chemical officer to coordinate and, when operations permit, physically supervise battalion decontamination, smoke, NBC survey, and chemical reconnaissance operations.

Battalion chemical personnel are instrumental in the planning cycle of all tactical operations. They provide assistance to the battalion intelligence officer in the IPB process, develop NBC support for courses of action based on the commander's intent and integrate chemical and smoke operations based on the OPORD. Once the plan is developed, they ensure execution.

Duties and responsibilities of chemical personnel in the battalion main CP are listed below. These are not all-inclusive and are manipulated to meet changing situations. In addition to these specific chemical duties, chemical officers and NCOs also perform a myriad of operational duties according to their abilities and unit needs.

Intelligence

Receive, relay, disseminate NBC information; recommend NBC reconnaissance employment provide NBC threat briefings.

Personnel

Ensure proper employment and professional development of chemical personnel; coordinate proper use of chemical company assets; coordinate with S1 on chemical casualty evacuation.

Training

Coordinate and monitor training; integrate battle tasks in NBC environment evaluate individual and collective battle tasks; understand battle focus process and take active role in planning.

Evaluation

Conduct individual and collective proficiency testing; analyze results and present facts; develop solutions to correct deficiencies.

Readiness

Report equipment status; determine authorization shortfalls; assist S4 with NBC stocks and resupply; monitor contingency stocks.

Logistics

Account for NBC expenditures follow up requisitions and maintenance; match requisitions to authorizations; conduct inspections; supervise calibration.

Administration

Write and update NBC annex to SOP; maintain current publications; remain proficient in current doctrine; maintain liaison with subordinate units.

Field Operations

Execute NBC warning and reporting system; maintain current operations overlay; post all NBC attacks; post offensive NBC targets; coordinate with S4 regarding MSR; work closely with S2; maintain radiation exposure data; recommend MOPP levels; recommend chemical asset employment; develop obscuration plan; participate in planning cycle from IPB through execution; develop and execute hasty decontamination operations; coordinate operations with the battalion medical section and FSB medical company through the combat trains CP; coordinates operations of supporting chemical units with the battalion S3, brigade NBC section, and chemical units.

Operations

Organization for battle differs for each unit depending on factors of METT-T. This may affect positioning of chemical personnel (both at the main CP, or one at the main CP and one with the command group). Where they are placed on the battlefield must meet criteria of accessibility and immediacy to the commander.

The battalion chemical officer and NCO are essential for success in an integrated AirLand battle. NBC may not only affect current operations but could force changes in maneuver for future operations as well. Battalion operations suffer under an integrated battlefield scenario unless the battalion has trained continually in chemical, nuclear, and limited visibility operations. Leadership within the battalion can break down quickly under these conditions. The lack of clear and concise information about the battlefield, coupled with the physical difficulties of operating buttoned up in MOPP, causes decision cycles to lengthen and inaccurate conclusions to be drawn by the leadership. Stress caused by limited visibility, MOPP operations, and an uncertain battlefield tends to bring out self-preservation tendencies in soldiers. They will bunch up and fail to maintain their positions.

Doctrine, whether published or field-created, must be followed to minimize this degradation. Scouts must continue to be the eyes and ears of the tactical commander and must be employed to maximize the unit's capabilities. Unit formations must be maintained during maneuver. Thorough, integrated training will overcome problems to a great extent. Review Appendix A for battalion responsibilities and actions in an integrated battlefield scenario.

SECTION III. COMPANY TEAM COMBAT SUPPORT

Fire Support

Fire Support System

The FS system for the company team consists of the same components found at the brigade level. These assets are further allocated to companies based on the maneuver battalion task force commander's scheme of maneuver. For a detailed discussion of these components, see Section I of this chapter.

Fire Support Facilities, Organization, and Duties

Fire Support Team Organization

There are two types of FIST organizations for heavy forces, one for the mechanized infantry and another for the armor company or ACR. FIST personnel are the company FSO (lieutenant), FS sergeant (staff sergeant), FS specialist (specialist), and radiotelephone operator (private first class). In addition, the mechanized infantry FIST contains three FO parties per company, each with an FO (sergeant) and a radio operator (private first class).

Company Fire Support Officer

The company FSO is the maneuver company FSCoord and integrates all fires to support the commander's scheme of maneuver. Although he is not the primary shooter for the company, the FSO must be an expert at locating targets and adjusting fires. His duties are to-

- Plan coordinate, and execute FS.
- Advise the maneuver commander on FS matters.
- Keep key personnel informed of pertinent information (using such means as spot reports and SITREPs)
- Train the FIST and FOs in applicable FS matters.

- Request, adjust, and direct all types of FS.
- Ensure the FS plan is disseminated to key personnel.
- Allocate FOs/observers for surveillance of targets.
- Provide emergency control of CAS missions in the absence of qualified Air Force personnel (ALO/ETAC/AFAC).

Fire Support Sergeant

The company FS sergeant is the senior enlisted assistant to the company FSO. He acts as the FSO when required. He is responsible for the supervision and training of all enlisted section members and the maintenance and employment of their equipment. The company FS sergeant must be able to perform all duties of the FSO.

Company FSO Relationships

Commander. The company FSO works closely with the company commander. The maneuver commander is ultimately responsible for FS. The company FSO gives recommendations and advice to the commander on all FS matters; therefore, he is the maneuver unit expert. Final decisions regarding company FS rest with the company commander. The company FSO goes with him to receive plans and orders. The FSO must understand the scheme of maneuver as well as the company commander does. On the basis of the commander's guidance and war-gaming, the FSO devises his FS plan, which must be presented to the commander for his approval.

Battalion fire support officer. The battalion FSO is the FSCoord at the maneuver battalion. Company FSOs work for the battalion FSO. The battalion FSO provides guidance, battlefield intelligence, information on FS assets, FS coordination measures, and technical advice to the company. The battalion FSO coordinates and clears FIST fire missions that fall outside company boundaries of the requesting company FIST. Company FSOs provide updated friendly and enemy battlefield information to the battalion FSO. This information includes FLOT location, SITREPs, spot reports, other EEFI, and information relating to PIR. The battalion FSO helps the battalion commander train company FSOs.

Fire support team headquarters. The company FSO is responsible for supervising the training of his FIST in all aspects of FS. In addition, the company FSO ensures his team is fully equipped and equipment is fully operational. In heavy forces, most operations are conducted on the move. Therefore, the company FSO should locate himself where he can best support the company; this is not necessarily at the commander's side. Most maneuver companies have an SOP specifying where the company headquarters will locate and provide security in tactical operations. All members of the FIST must have a thorough knowledge of the SOP and be trained to follow it. Also, training and drills are required so each member of the headquarters element knows exactly what to do in specific circumstances.

Forward observer. FOS are the primary shooters for the mechanized infantry company and are normally collocated with the maneuver platoon leaders. As the eyes and ears of the mechanized infantry company, the FOs must report battlefield information to the company FSO. This information includes FLOT location, SITREPs, and spot reports. The FSO, in turn, must give enough information to the FOs to ensure they understand how the FS plan is to be integrated into the commander's scheme of maneuver. This information includes-

Ž Target numbers.

- Target list.

Ž Known points.

- Priority of fires on targets.
- Degree of control.

Ž Commander's intent.

Ž FS coordination measures.

Company FSO/FS Sergeant Required Actions

The actions the company FSO must take before any operation begins depend primarily on the current situation and applicable SOP. The FIST will deploy with the maneuver company on all combat operations.

The company FSO/FS sergeant must-

Ž Train the FOs.

Ž Train company personnel to call for and adjust fire.

Ž Ensure all equipment is properly maintained.

- Ensure FIST personnel know company TSOP thoroughly.

As company FSCOORD, the FSO has the following duties.

- He obtains the following information from the battalion FSO:

- Status and location of FS delivery systems that the company may use.
- Status of TACAIR missions and TACP CAS control personnel (ALO/ETAC/AFAC).
- Existing targets, scheduled fires and known points.
- FS coordination measures in effect.
- Verified frequencies and call signs.
- Status of COLTS, if available.
- Availability of position location assets, PADS, or survey to accurately find minefields or obstacles.

Ž He obtains a mission briefing from the company commander, including-

- The scheme of maneuver and commander's intent.
- Location of platoons, crew-served weapons, and LPs/OPs.
- Current enemy situation.
- Status and location of obstacles.
- Location of FPF.
- MOPP.
- Air defense status.

- As a minimum, he provides the following information at the company order briefing:

- FS plan for the operation, including responsibilities for its execution.
- Existing targets, scheduled fires, and known points.
- FS coordination measures for the operation.
- Status of priority fires.
- FS assets available to support the operation, with their location and status.
- Verified frequencies and call signs.

- Availability of position and location assets.
- Status of FIST personnel and equipment (including Classes I, III, and V supplies).

Ž He ensures that communications are established with FS assets, such as artillery and mortars; with FOs, including COLTs, if applicable; with the battalion FSO; and with the maneuver commander.

Fire Support Planning and Coordination

Fire Support Planning

Formal planning at company level begins with receipt of the task force order. The order contains the FS annex, which includes brigade targets in the task force sector, targets added by the task force commander to support his plans, and specific guidance for employment of mortars. Company commanders are responsible for positioning primary observers, establishing secondary or backup observers, and establishing trigger points for calls for fire. Key personnel must understand their priority of ties within the task force, task force priorities within the brigade, and when and under what conditions priorities will change. Targets are planned according to the planning allocation provided in the task force order. The task force FSE provides at least one high-quality acetate target overlay to each company so that planning can begin immediately upon receipt.

At first glance, planning responsibilities at company level might appear to be slight. This is not the case. It is at this point in the planning process that the requirement for detail is most critical. Assisted by target area survey if necessary, company FSOs must ensure that the actual grid to target and the trigger point are visible to the observer or will be visible given the expected conditions of smoke, night operations, or position within the formation during offensive operations. Each observer must understand the communications plan, as well as the backup plan, in case the primary observer is unable to complete the mission. All members of the FS team, platoon leaders, and key NCOs must be drilled on all aspects of the plan.

At the lowest level, the company FSO nominates targets in his sector, records target information on the target list worksheet, and forwards it to the battalion FSO. The battalion FSO evaluates target information from the company FSOs, consolidates it (eliminating duplication, if necessary), adds targets needed by the battalion, and forwards a copy to the DS battalion FDC and the brigade FS cell. The brigade FSO receives targets from the battalion FSOs. Using a target overlay, he resolves duplications, adds targets developed by brigade target acquisition assets, prioritizes the list, and transmits it to the DS battalion. He informs the battalion FSOs if there are any subsequent changes to their plans and transmits the brigade target list. When targets are received at battalion or brigade, FSOs at those levels prepare their fire plans and schedules to support the maneuver and allocate each target to its appropriate FS agency or asset.

Company Level Execution Matrix

At company level, the matrix includes the following information. (See Figure 7-16.)

- Priorities of indirect FS to a platoon are indicated by an abbreviation of that FS asset and recorded in the upper left corner of the appropriate matrix box.
 - The abbreviation FPF, preceded by the type of indirect fire means responsible for firing the FPF, is in the center of the box.
- Ž Priority targets allocated to a platoon are recorded in the box as PRI TGT, preceded by the means of FS responsible for engaging the target and followed by the target number.
- Ž If FIST elements are responsible for initiating specific fires, the target number, group, or series designation is listed in the box for that FIST element. Specific guidelines concerning fires not included on the target list worksheet will be included in this box.
- FS coordination measures to be in effect, followed by a word designated for that measure, are shown in the box. For ACAs, the time that planned CAS or attack helicopters are due on station is listed.
 - Other factors that apply to a certain platoon during a specific time frame may be included in the appropriate box. General guidance is issued in the written portion of the OPORD.

	AA	LD/LC	PL WELLINGTON	PL JACKIE	OBJECTIVE
1st PLT	155 FPF		MORT PRI TGT AC1212		3
2d PLT	155 FPF	MORT	X		2
3d PLT			FA PRI TGT AC1234	Series PIANO	1
A	B	C	D	E	

Figure 7-16. Company level execution matrix.

Air Defense Support

Organization Available

During certain operations, the company could receive a Vulcan platoon, a Vulcan section, and/or a Stinger team.

The Vulcan platoon for European divisions has four squads; the platoon for CONUS and Korea has three squads.

The Stinger section comprises a section headquarters and five teams.

Operational Characteristics

They are similar to those for the brigade. See Section I of this chapter.

Facilities, Organization, and Duties

The senior air defender for the company is the Vulcan platoon leader or the Stinger team chief. He advises the company commander on the integration of the air defense assets.

The Vulcan platoon leader locates his APC within the company formation where he can best command and control his platoon.

The Stinger team either overatches the unit in its HMMWV or rides in an armored vehicle for survivability.

Air Defense Operations

The Vulcan platoon leader or the Stinger team chief develops the air defense plan with the company commander. They must maintain close, continuous coordination if air defense is to accomplish its mission. The Vulcan platoon is integrated in the unit battle formation and monitors the company commander's net.

The Stinger team chief and the company commander determine how best to employ the Stinger weapon system. Team survivability considerations are critical. In an offensive operation, the team is not likely to survive since it is in a thin-skinned vehicle. Consideration should be given to placing the gunner in an armored vehicle. This will push the air defense forward to protect the company. The team chief in the HMMWV can then defend the company, either from an overwatch position or by collocating with and defending the combat trains.

Engineer Support

Organization

Engineer platoons may work in DS of a company team for mobility operations. The platoon will typically be used to assist in breaching undefended or lightly defended obstacles. The platoon frequently works for the company team commander, with an on-order mission to return to task force control for more difficult breaching operations.

Task Force Engineer

The TF engineer assists the company team commander with mobility, countermobility, and survivability plans. Adequate engineer resources are not available to provide a dedicated engineer to assist each company team.

Engineer Operations

Mobility

The company team commander employs engineers to assist as members of a breach force. The engineers create lanes in obstacles while the company team provides overmatching fires.

Countermobility

The company team commander and the TF engineer actually design the specific obstacle on the ground. This helps to ensure that the obstacle is in the best location to accomplish its designated function. The combination of well-situated obstacles and direct fires makes an ideal kill zone.

Survivability

The company team normally has engineer support for a predetermined duration. The company team commander should ensure that a prioritized plan is available and positive control of the blade assets is maintained. The company team will frequently be requested to provide fuel and other logistical support for the blade team.

Nuclear, Biological, Chemical Support

NBC Section Organization

The NBC section at company team or troop level consists of one chemical operations specialist (MOS 54B20) and one additional-duty officer and one additional-duty enlisted alternate (branch immaterial). Equipment includes appropriate doctrinal manuals, map boards, overlays, work station, hazard templates, and status charts.

Operational Capabilities

The assigned chemical specialist, working in company operations, is immediately available to the company commander as the primary advisor for all NBC matters. Like their counterparts in higher

echelons, chemical personnel at company level are responsible for training first-line leaders and monitoring other NBC training. They are the focal point for all NBC actions in garrison and in the field.

Facilities, Organization, and Duties

In garrison, company chemical personnel work in the company operations office. The chemical specialist works directly for the company commander and first sergeant. He spends much of his duty time working on NBC affairs, such as operating an NBC room.

During field operations, company chemical personnel provide 24-hour NBC operations capability. A work station is designated in the TSOP for the CP where chemical information is to be processed and disseminated. The company chemical specialist is instrumental in the planning cycle of all tactical operations. He provides assistance to the commander by evaluating information received in NBCWRS reports. He plans decontamination operations and supervises their execution. While maintaining status charts for MOPP levels and radiation exposure, the chemical specialist also plans for future operations. He may be positioned anywhere on the battlefield the commander directs. To ensure timely and accurate battlefield assessment, the commander positions the chemical specialist according to the principles of accessibility and immediacy.

The following are duties and responsibilities of chemical personnel in the company CP. These are not all-inclusive and are manipulated to meet changing situations. In addition to these specific chemical duties, additional duties may be assigned by the commander. Additional duties, however, should not detract from accomplishment of primary duties.

Intelligence

Analyze NBC threat operate NBCWRS; coordinate NBC reconnaissance assets brief all new personnel on NBC threat.

Training

Determine need for and provide technical training to first-line leaders plan and coordinate conduct of NBC battle focus; monitor and evaluate status of training.

Evaluation

Conduct evaluation of NBC proficiency at individual and collective levels.

Readiness

Maintain status reports; consolidate and provide data to commander and 1SG; assist supply sergeant with NBC stocks and resupply; monitor contingency stocks.

Logistics

Account for NBC expenditure follow up requisition and maintenance balance equipment on hand and requisition additional equipment supervise operator crew maintenance ensure radiac instruments are calibrated.

Administration

Write and update NBC annex to SOP; maintain current publications; maintain proficiency in current doctrine maintain liaison with parent unit; execute optical insert program; maintain forms (DD Form 314, DA Form 2404).

Field Operations

Execute the NBCWRS; maintain current operations overlay; post NBC attack overlay; maintain decontamination overlay; supervise use of NBC equipment; conduct hasty decontamination operations; supervise NBC surveys: post NBC unit symbols; conduct nuclear/chemical vulnerability analysis; maintain radiation status charts; recommend MOPP levels; recommend employment of chemical assets; participate in planning operations.

Chapter 8

COMBAT SERVICE SUPPORT

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Arming, fueling, fixing, and manning the combined arms force on the battlefield will pose a significant challenge at all levels. CSS is performed as far forward as the tactical situation will permit. Weapon-systems are armed, fueled, fixed, and manned in forward positions to minimize the time it-takes to return them to combat.

Sustainment functions are initiated at all levels; crews perform operator maintenance on their weapons and equipment, report needed resupply and maintenance assistance, and perform much of the labor involved in these activities. Company and battalion commanders and staffs plan for sustainment activities and react to reported needs. Brigade and division staffs anticipate requirements and ensure bulk supplies are stockpiled to meet these demands. Whenever possible, higher headquarters deliver materials before requests are generated, especially in push-packages of Class IV and Class V supplies.

The functional areas of CSS cover five major areas: supply, transportation, maintenance, field services, and personnel service support (medical support, personnel and administrative services, and chaplain activities).

SECTION I. BRIGADE

Brigade Combat Service Support Overview

General

The brigade commander plans his tactical and CSS operations concurrently. He ensures that his scheme of maneuver and FS plan are logistically supportable. If CSS planners identify constraints, the commander must evaluate the risks and, if necessary, establish new priorities or modify his tactical plan to eliminate or reduce their effect. The personal involvement and on-the-scene appraisal of the situation by CSS personnel is as important to the mission accomplishment as is the personal involvement of combat leaders. CSS planners must-

- Understand the commander's intent and priorities.
- Track/monitor the battle.
- Ž Anticipate requirements and use initiative to meet them.
- Ž Pre-position supplies and equipment.
- Actively push support forward.
- Seek windows of logistics opportunity.
- Ž Use established routines during lulls in battle to rearm, refuel, and repair.
- Detect, fix, and destroy rear area threats within capabilities.

The key CSS personnel in the brigade are the brigade XO, S1, and S4. Their key duties and responsibilities are-

- Brigade XO ensures that the brigade S1 and S4 have fully developed the CSS plan. He also coordinates with the FSB commander to ensure that the FSB can support the brigade during the operation.
- The brigade S4 is responsible for-
 - Coordinating support with the FSB commander.
 - Coordinating with the battalion/TF S4s.
 - Coordinating support for attachments.
 - Keeping the brigade commander informed of the logistics situation.
 - Maintaining supply status.
 - Planning and coordinating-
 - +Maintenance.
 - +Transportation.
 - +Administrative moves.
 - +Services.
 - +Supplies.
 - Determining requirements for civilian labor.

- Recommending main supply route.
- Preparing logistical plans, orders, overlays and estimates.
- The brigade S1 is responsible for—
 - Preparing personnel estimates.
 - Coordinating personnel services support.
 - Monitoring unit strength, estimating losses, and reporting casualties.
 - Determining individual replacement requirements.
 - Evaluating and enhancing morale.
 - Coordinating—
 - +Health services plan.
 - +Religious services.
 - +Legal services.
 - +Postal services.
 - +Finance services.
 - +Public affairs services.
 - +Law, order, and discipline.
 - Planning and supervising use of civilian labor.
 - Planning and supervising A/L support and guarding and evacuation of EPWs.
 - Operating the brigade rear CP.

Brigade CSS System

A divisional brigade does not have any organic CSS units. Subordinate maneuver units have limited CSS elements within their headquarters companies. CSS is provided to the divisional brigade by the DISCOM and the COSCOM. Normally, the majority of the brigade's logistical support is provided by the FSB. Separate brigades have an organic support battalion, similar in organization and function to the FSB, to provide most of the required CSS.

The BSA is the logistical and personnel/administrative hub of the maneuver brigade. It normally consists of the brigade rear CP; the FSB; the maneuver battalion and DS artillery battalion field trains; MP platoon assets; elements of the DS engineer, ADA, and signal battalions; and service support augmenters from the DISCOM and COSCOM. Figure 8-1 depicts a possible layout of the BSA.

The general location of the BSA is determined by the brigade S3 in conjunction with the brigade S4 and the FSB commander. The BSA should be located so as not to interfere with the tactical movement of the brigade units or units that must pass through the brigade area, while still maintaining the support of the battle. The BSA is normally located in the brigade area out of the range of threat cannon artillery. Normal distances are 20 to 25 kilometers behind the FLOT in the offense and 25 to 30 kilometers behind the FLOT in the defense. A good BSA location should include the following characteristics:

- Convenient to units served.
- Situated away from the main enemy avenue of approach.
- Beyond the range of threat cannon artillery.

Combat Service Support Planning

CSS planning is conducted to accommodate the requirements of the supported force during all phases of an operation. The brigade plan or concept of the operation is not finalized until CSS planners have determined the supportability of the proposed courses of action. Once the supported force concept of operation is determined, detailed CSS planning can continue. Battlefield support must be planned to satisfy requirements during the following operational phases:

- Prior to D-day (before).
- Commitment to battle (during).
- Future mission (after).

All areas of CSS (arm, fuel, fix, man, and transport) must be considered during each operational phase to ensure an integrated, responsive plan of support. Support requirements must be projected and plans developed to satisfy these projected requirements. Supporting CSS plans should be as detailed as planning time permits. The S4, S1, and FSB commander and his staff are the principal CSS planners in the brigade. The brigade XO, operating from the main CP, monitors CSS status and ensures appropriate brigade staff CSS interface.

CSS commanders and planners must thoroughly know and understand the tactical mission and plans and the brigade commander's intent. They must know—

- *What* each of the supported elements will be doing.
- *When* they will do it.
- *How* they will do it.
- *Where* they will do it.
- *What* the priority of support is.
- *Density* of personnel/equipment being supported.

After analyzing the concept of the operation, CSS commanders and planners must be able to accurately predict support requirements. They must determine—

- What *type* of support is required.
- What *quantities* of support are required.
- The operational commander's *priorities* by type and unit.

Using the support requirement of the tactical plan as a base, the support capabilities of the CSS structure are assessed. The FSB commander must determine—

- *What* CSS resources are available (organic, lateral, and higher headquarters).
- *Where* the CSS resources are.
- *When* CSS resources will be available to maneuver units.
- *How* the FSB will make these resources available.

Based on this information, the S4 and the FSB commander must then develop support plans that apply resources against requirements in a manner that results in the most responsive support possible. Communications links must be established and maintained. The formation of the brigade rear CP, consisting of the collocated FSB CP and assets from the divisional brigade S1 and S4 sections, answers the requirement for continuous coordination and communications required for responsive, effective CSS. Orders that clearly describe tasks to be accomplished must be issued. Continuous follow-up must ensure tasks are being accomplished as planned.

CSS functions should be performed as far forward as the tactical situation and available resources will permit. They should be performed at or close to the site where the weapon system is located to lessen evacuation requirements. Support must be continuous, using immediately available assets. This will involve bringing ammunition, fuels, parts, end items, maintenance personnel, and occasionally replacement crews or individuals to the forward elements such as battalion field trains, combat trains, and equipment down sites. Planning and execution emphasize the concept of providing support to forces in the forward areas.

The FSB commander, in conjunction with both the DISCOM and maneuver brigade commander, may support the tactical plan using any of the following four operational techniques of the FSB.

- Movement of FSB within the brigade formation. This technique is used when likelihood of enemy contact is minimal. Logistical demands on the FSB are expected to be light; subordinate battalions will use basic loads and organic recovery assets to satisfy initial demand. Sufficient time is anticipated to allow setup of FSB supplies and services and resupply of battalion assets prior to mission execution. FSB elements are dispersed within brigade march columns and provided security by other elements of the brigade. This technique provides timely movement and march security of the FSB but precludes any meaningful support until movement ceases.
- Attachment of critical CSS assets to maneuver. If operational distances are significant and secure ground lines of communication cannot be assured, as in cross-FLOT operations, selected CSS assets may be attached to combat elements of the brigade. Normally, only critical classes of supply (Class III and Class V) and medical support augmentation would accompany the maneuver elements. The reserve battalion of the brigade may receive attachment of these elements and provide for their security during operations, or tailored packages may be attached directly to specific maneuver battalions as priorities dictate. While this method increases the maneuver unit's CSS capabilities, it also increases their vulnerability to enemy activity and reduces the maneuver force's mobility because of the absence of tracked CSS assets.
- Support from BSA/displace as an entity. When brigade operations are conducted in clearly defined phases with identifiable windows between operations, such as in river crossings, the FSB may support the brigade from a fully deployed BSA and then displace as an entity to the subsequent BSA location. This allows the FSB to maximize support from a mature logistical base which facilitates resupply and maintenance activities. This concept also enhances C2 of the FSB and simplifies actions for the supported force since a single point of contact is established for each service/facility of the BSA. It does, however, create a support "blackout" of up to 12 hours during BSA displacement and establishment of the new location.
- BSA echelon/displacement by bounds. When operations require continuous logistical support within a secure rear area, this operational technique is recommended. Critical CSS assets are divided and displace by successive bounds. Normally, the FSB commander moves with the forward element to ensure rapid setup of the displacing echelon. This technique provides more responsive support by minimizing the distance subordinate battalions of the brigade must travel to obtain required support. It also enhances the survivability of logistical assets by positioning them in different areas. Displacement by echelon degrades C2 of FSB operations. This problem is exacerbated by the lack of radios within the FSB TOE. Greater reliance on unit SOPs is required to ensure smooth displacement.

CSS planners must know priorities for support. This is necessary to ensure that units with the highest tactical priority receive required support first. The brigade commander and his staff provide mission directives, determine CSS requirements, and establish priorities within the brigade.

Forward Support Battalion

General

The FSB is the division's CSS operator in the brigade area. Each FSB provides DS-level logistical support for a specific maneuver brigade and to the units that directly support the brigade. It is organized with a

headquarters and headquarters detachment, a supply company, a maintenance company with designated system support teams (MSTs), and a medical company. FM 63-20 has a detailed layout of the forward support battalion and its capabilities. The FSB provides dedicated support to the same brigade on a habitual basis both in garrison and in tactical operations. Once deployed to the field, the FSB also provides area support to divisional elements operating in the brigade sector-as well as brigade supporting elements such as artillery, air defense, and engineer assets.

Maintenance Operations

MCPs are established in the BSA by the FSB maintenance company. BDA is performed at this point by maintenance personnel assigned to the FSB maintenance company. MSTs from the division MSB routinely operate here. Depending on workload and mission priorities, MSTs from the MSB and corps may be dispatched forward to support specific requirements. Repair parts are obtained through extensive use of controlled exchange and limited use of cannibalization. Evacuation, a CSS responsibility, normally starts here. However, when tactics, road conditions, and time permit, systems may be evacuated from the MCPs of the supported units.

To prevent the buildup of large maintenance backlogs that might interfere with combat operations, time guidelines are established at each maintenance location. They serve as a yardstick for maintenance personnel when making repair, recovery, or evacuation decisions. If an item cannot be repaired within the time guideline for a particular location, it should be recovered or evacuated. Time guidelines are general rules that are adjusted based on the tactical situation, maintenance backlog, personnel, tools, test equipment, and repair parts available. They are also adjusted based on the best estimate of how the most responsible maintenance support can be provided. The time guideline for repair in the BSA is 24 hours.

Tailored tank or infantry MSTs normally operate forward to support subordinate armored or mechanized infantry battalion task forces. They provide on-site expertise on Abrams tanks and BFVs and are usually located at the battalion UMCP. The MST has the ability to perform DS maintenance for automotive, turret, fire control, small arms, power generation, and communications equipment. Backup support for these teams is provided by base shop maintenance sections of the maintenance company.

When DS maintenance is required at the tank or mechanized unit, the CMT chief contacts the BMO. The BMO coordinates assistance from the MST located at the UMCP. The BMO will determine if the MST will go forward to the site or if the equipment will be evacuated to the UMCP for repair. Maintenance time guidelines and the tactical situation influence the repair decision.

DS maintenance for CS/CSS units supporting the brigade is provided by the maintenance company from the BSA. Augmentation from the MSB will enable the FSB to service all brigade "slice" assets to include missile and electronic warfare assets.

Evacuation begins where recovery ends. Normally, equipment to be evacuated from the BSA to the DSA or above is transported by HET. A HET line is normally established in the vicinity of the BSA. This HET line depicts the area behind which HETs will operate. It is established by the DISCOM commander in coordination with the G3 and G4. In the offense, the HET line will move forward as far as the maneuver battalion UMCP to provide rapid delivery of required weapon systems. It is the responsibility of the FSB to coordinate with the DMMC and DISCOM headquarters for evacuation by HET.

Repair Parts Procedures

Class IX supply items arriving in the division are received by appropriate maintenance operating units in the DSA. All items received by maintenance units are reported to the DMMC. Items requested by the FSB maintenance company are forwarded directly to them. Distribution is made by divisional surface transportation and by divisional or nondivisional aircraft in emergencies.

The FSB maintenance company storage/RX section either stores Class IX items or issues them to customers. Issues are made to supported customers by unit pickup and by DISCOM or nondivisional transportation. All issues are reported to the DMMC for updating records. Turn-ins are handled in the same manner as receipts and are also reported to the DMMC.

Coordination

Close coordination between supported units and the FSB maintenance company lessens difficulties between the two. It also produces a smooth, well-organized maintenance operation. The supported units expedite the maintenance process by preparing maintenance requests correctly and promptly. They assist FSB repairs by installing all available operator and organizational maintenance parts and assisting FSB mechanics. The supported unit commander (or the supported brigade S4), the FSB maintenance company commander, and the support operations officer of the FSB plan jointly in determining maintenance requirements and repair parts supply procedures. They establish, so far as possible, a mutually acceptable schedule of equipment into the FSB maintenance company. When they foresee a possible deviation from the established plan, they advise each other and coordinate in making adjustments. These actions—

- Enable the supported unit commander to better plan and manage unit-level maintenance.
- Enable the FSB maintenance company commander to program and manage the support work load, anticipate repair parts requirements, and when needed, make timely requests for assistance.

Medical Operations

The treatment element of the medical company is designed to operate from mobile MTFs. These mobile MTFs feature built-in equipment and therefore require minimum time to become operational. This allows the treatment element to closely follow the maneuver brigades and provide more responsive support.

Normally, each committed battalion will be augmented with one or two tracked ambulances to evacuate patients from the battalion aid station to an AXP located behind the battalion combat trains along an MSR. At the AXP, tailgate triage will occur. Weather, tactical situation, and availability permitting, patients will be transferred to medical company wheeled ambulances or corps-level air ambulances to speed evacuation to the appropriate medical treatment facility. If possible, evacuation of contaminated personnel will occur only in vehicles that have been previously contaminated, thus reducing the spread of contamination. The tracked ambulance will then return to the appropriate battalion aid station to evacuate additional casualties. This system will reduce backlog of evacuation at battalion aid stations and significantly decrease the time required for evacuation of patients.

The medical company also provides Class VIII resupply to the battalion aid stations. The battalions submit requests to the medical supply personnel in the FSB medical company. The FSB medical company coordinates medical resupply with the division medical supply office located in the DSA. Normally, prepackaged/configured medical supply loads will be backhauled on returning medical evacuation vehicles to the battalion aid stations.

Mass casualties can be expected on today's lethal battlefield. Managing these situations will severely tax the entire health service support system. Internal brigade treatment/evacuation plans are reviewed by the brigade surgeon, who submits recommendations for action. In such situations, the division, when possible, shifts its treatment and evacuation resources to meet the requirements. When required, additional evacuation resources and treatment elements may be requested from the corps medical brigade/group. The key to managing mass casualties is the use of on-site triage and emergency medical treatment teams. Other important areas include effective communications and skillful employment of evacuation vehicles (air and ground). The rapid buildup of evacuation assets at the mass casualty location eases the problem. Also, the prompt movement of patients to all available MTFs helps. This movement dissipates the medical workload by distributing casualties equitably among the MTFs. This is done based on the patient's condition and on MTF capabilities.

Health care of contaminated personnel will also pose significant problems. Due to limited staffing of the medical company, augmentation by personnel from serviced units is required when patient decontamination is necessary. Approximately 25 personnel should be identified within the BSA to provide decontamination assistance under the direction of trained medical personnel. Potential candidates for this additional duty are mess and clerical personnel.

The medical company may have to augment or replace destroyed battalion aid stations for extended periods of time. MTFs may be provided forward to fill the health care void. When this situation occurs, additional assets must be requested from the MSB in the DSA to replace lost medical capability in the BSA.

Personnel Service Support

General

PSS is an important component of CSS. At the brigade level, it encompasses many CSS functions that sustain the combat potential of the force and the morale and welfare of the soldier.

PSS activities are divided into two general categories, combat critical and sustainment. Other functions such as chaplain activities are considered essential and have a significant impact on the welfare of the force. The combat critical category focuses on functions that must be performed regardless of the intensity of combat. Sustainment functions are those which can be temporarily controlled or suspended as combat intensity increases.

Initial PSS planning should focus on the combat critical tasks of personnel services (only the three sub-functions of strength accounting, casualty reporting, and the replacement operations) and health services. Once the planning for the above critical functions is complete, attention is then focused on the other functions of PSS. The order of importance of the sustainment functions is not fixed and will vary depending upon the situation.

Personnel Services

Strength Accounting

Strength accounting is the process by which combat readiness (personnel status) is measured. It keeps track of the troops on hand, identifies those that have been lost, and identifies those that are needed.

Personnel Loss

A personnel loss is any reduction in the assigned strength of a unit. Losses are categorized as follows:

- Battle losses are losses incurred in action to include killed in action, wounded or injured in action and evacuated from the unit, missing in action, and captured by the enemy.
- Nonbattle losses are those not directly attributed to being in action to include nonbattle dead, accident/injury, missing, sickness/disease, and stress.
- Administrative losses are those due to transfer from the unit, AWOL, desertion, confinement, rotation, and discharge.

Brigade S1

The brigade S1 section serves as a conduit between subordinate units and the G1/AG. Because of distances and communications capabilities, all reports are submitted through the brigade S1 for forwarding to the appropriate agency. Initial personnel data are submitted by subordinate and attached units of the brigade through the TACCS device using battle rosters and by-name reports. The brigade S1 also provides information to subordinate units on the status of evacuated/hospitalized personnel and adjusts personnel requirements accordingly.

Casualty Reporting

The primary personnel accounting function on the battlefield is casualty reporting. Casualty information must be collected, recorded, and reported with 100 percent accuracy as rapidly as the situation permits. The casualty reporting system is a by-name personnel accounting system that begins at unit level with the person who knows that a casualty has occurred. Support casualty feeder and witness statements are forwarded as soon as possible. Reports are forwarded through the brigade S1 section to the division AG personnel accounting section. Patient evacuation and mortality reports and treatment and disposition logs will be provided daily to the brigade S1 from the FSB medical company. Information will then be provided to subordinate units to update PDS reports.

Replacement Operations

The brigade S1 is the brigade commander's principal staff officer for individual personnel replacement operations. FM 101-10-1/2 provides estimates for conventional battle and administrative losses. The rate of loss varies based on a number of factors such as the theater of operations, climate, terrain, training and conditioning of troops, type of activity, and the enemy. The division AG provides replacement projections to the brigade S1. The S1 can then adjust projected assignments based upon impending tactical operations, brigade commander's priorities, and return to duty status of stragglers and treated casualties.

Health Services

Brigade health services were discussed in the "Forward Support Battalion" portion of this section.

Sustainment Personnel Services

These personnel services are centralized and performed as possible by division AG or corps personnel service company personnel. Whenever possible, procedures are kept informal to ensure responsiveness and reduce the number of people required to process a given action. All documents must flow quickly to and through given units. Normally, the following services are initiated through subordinate battalion/separate company PACs and appropriate forms forwarded through the brigade S1 to G1/AG for action:

- Personnel morals maintenance
- Personnel action.
- Awards.
- Promotions/reductions.
- Classifications/reclassification actions.

Administrative Services

The corps personnel service company normally provides technical assistance to the brigade staff elements and commander and support to assigned and attached units for the following subfunctions of administrative services:

- Classified document control.
- Reports and forms control.
- Publications supply.
- Printing and reproduction.
- Records management.

Internal correspondence management and distribution are administrative services which must be closely monitored and managed by the brigade S1 section. SOPs for distribution procedures and specific responsibilities must be developed to ensure the responsive flow of required administration occurs.

Chaplain Activities

The brigade chaplain is the staff officer responsible for implementation of the unit religious program. Included in this program are worship opportunities, administration of sacraments, rites and ordinances, pastoral care and counseling, development and management of the UMT, advice to the commander and staff on matters of morals, morale as affected by religion, and ministry in support of combat shock casualty treatment. All of the above elements will enhance the total well-being of the soldier and increase the cohesion of the brigade.

Postal Services

Mail is the soldier's link to family and friends. Inefficient distribution of mail can quickly undermine morale. In the early stages of conflict at the brigade level, postal services to individuals are usually restricted

to personal mail that conforms to the free mailing privilege (first class letter mail, postal/post cards and sound recordings). The brigade S1 will establish a daily mail schedule. Outgoing mail will be consolidated at the brigade S1 section prior to being forwarded to the division postal element. Incoming mail will be dropped at the brigade S1 section for pickup by battalion personnel.

Finance Services

The mission of finance support organizations during conflict is to provide high-priority support to the soldier on an area basis. This means the same finance unit will support all soldiers within a geographical locale, regardless of unit affiliation. In mid- or high-intensity conflict, established paydays are suspended. Mobile pay teams from corps-level finance organizations provide support to the brigade. Individual soldiers are given the choice of receiving a specified amount of combat pay or of cashing personal checks or other negotiable instruments for the specified amount or less. The brigade S1 coordinates support of the mobile pay team.

Legal Services

Legal service support will be provided to the commander and soldiers by personnel of the division staff judge advocate section. This support will be on an as-required basis coordinated by the brigade S1.

Weapon Systems Replacement Operations

General

The intensity of future battles will produce heavy losses of both men and materiel. It is imperative that weapon systems, complete with crews, be replaced quickly and efficiently. WSRO set forth a method of supplying the commander with fully operational replacement weapon systems. The tasks associated with WSRO are no different from those presently used to get weapon systems to the combat commander. What is different is the method used in performing these tasks. WSRO requires that the weapon system manager know the commander's priorities for issue of weapon systems assets, unit weapon systems shortages, and the personnel and equipment assets available to fill unit shortages. The key to WSRO is the joint personnel and logistical management reporting, and monitoring of complete weapon systems at battalion, brigade, division, and corps. Three terms are often used in describing WSRO.

Ready-for-Issue Weapon

This weapon system has been removed from its previous condition of preservation for shipment or storage and made mechanically operable. All ancillary equipment (such as fire control, machine guns, radio mounts, and radios) are installed. The vehicle has been fully fueled, and BII are on board in boxes. There is no ammunition on board.

Ready-to-Fight Weapon

This is a crewed, ready-for-issue weapon with BII and ammunition stored on board. The weapon system has been boresighted and verified.

Linkup

This is the process of joining a ready-for-issue weapon with a trained crew.

Weapon System Management

WSRO must be managed at each level of command to ensure maximum utilization of the major weapon systems. Management procedures for all critical weapon systems and their crews must be developed on an individual basis applicable to the division concerned. To manage weapon systems, a common WSM is required. A WSM is designated at each level of command and is charged with weapon system management. The WSM's mission is to maximize the number of operational weapon systems required in the battalions in accordance with the commander's or G3's/S3's fill priorities. WSMs at all levels are charged with quick-fix responsibility, matching serviceable vehicles and surviving crews. At the brigade level, the XO normally coordinates the activities of the S1 and S4 to maximize the number of ready-to-fight weapon systems.

Battalion Management

Battalion management of WRSO is discussed in Section II of this chapter.

Brigade Management

Battalion weapons effect signature simulator (WESS) reports are submitted to the brigade rear CP. The S1 and S4 personnel ensure that information submitted on recurring SOP personnel and logistical reports compares with the information submitted on the WESS report. The report is then submitted to the DMMC with an information copy provided to the support operations section of the FSB. The brigade XO is kept informed of WSRO managed systems and ensures reports are processed and coordinated as required. The brigade S1 and S4 must closely coordinate the needs identified on battalion reports with up-to-date equipment repairs from the FSB and personnel returned to duty from the brigade treatment station. At the brigade level, weapon systems normally managed by WSRO are—

- Tanks with four-man crews.
- Mortars with four-man crews.
- BFVs with three-man crews.
- M113-series infantry carriers with two-man crews.
- ITVs with three-man crews.
- CFVs with five-man crews.

Other replacements to man or support these systems are managed by individual replacement procedures. CS WRSO will be coordinated through the division major subordinate command or separate battalion that is equipped with the individual system.

Division Management

The division provides replacement weapon systems to battalions based on brigade priorities. Efficient allocation of limited resources is accomplished by managing weapon systems rather than focusing on personnel and equipment components separately. The DMMC and division AG will coordinate the replacement of both vehicles and crews to maximize weapon systems on the battlefield.

Issuing Weapon Systems

For purposes of this illustration, tanks will be used in the following discussion of WSRO. Transportation of equipment from theater army or corps to division will normally be by way of rail or HET. Personnel will arrive in theater and will be transported forward to the division by rail, air, or truck. Incoming tanks from CONUS will be processed by the heavy material supply company (or equivalent) in the TAACOM or COSCOM. This processing includes installation of fire control equipment, radios, and machine guns and the filling of fuel tanks to capacity. PWRS at corps must be at a low level of preservation so that it may be made ready for issue within a matter of a few hours.

The primary division linkup point for weapon systems is at the MSB S&S company in the DSA. As the tank arrives in a ready-for-issue state, the crew need only perform those tasks to make the tank ready to fight. Based on the number of weapon systems allocated to the division, the division commander determines the allocation to each brigade. The WSM contacts each brigade to determine the internal brigade allocation and assigns crews and weapon systems to specific battalions. Concurrently, the brigade S1 notifies subordinate battalions of projected gains and estimated time of arrival at the BSA for linkup.

The DISCOM must have facilities to boresight and calibrate weapons. Complete weapon systems are transported from the DSA to the BSA by HET. If HETs are not available, the brigade dispatches an escort vehicle to the DSA to guide crews to the BSA. Upon arrival in the BSA, battalion guides meet assigned crews and weapon systems and lead them to the battalion field trains for fuel top-off and PAC inprocessing. WESS reports are updated, and the process begins again.

Aerial Resupply

General

Aerial resupply operations provide the brigade commander a flexible, responsible means to resupply his force. Although limited by weather and enemy air defense systems, aerial resupply enables the commander to bypass congested supply routes, destroyed bridges, and most terrain obstacles to deliver supplies where they are most needed. At brigade level, aerial resupply is generally confined to helicopters.

Helicopter Assets

Utility Helicopters

A utility helicopter is a general purpose aircraft with limited carrying capability. It is used for such missions as transport of troops, cargo, or patients. Two helicopters are of this type: the UH-1 Huey and the UH-60 Blackhawk. The Huey can carry approximately 4,000 pounds externally, the Blackhawk, up to 7,500 pounds.

Cargo Helicopters

The cargo helicopter has the capacity for carrying greater weights and sizes than those carried by the utility helicopter. The cargo helicopter can lift heavy, oversized loads, such as artillery weapons and ammunition. It can recover downed aircraft or vehicles. There are two cargo helicopters: the CH-47 Chinook and the CH-54 Sky Crane. The Chinook is the primary cargo helicopter of the Army. It can carry a maximum external load of 26,000 pounds. The Sky Crane is presently in the reserve component forces and can lift up to 25,000 pounds on either an external cargo hook or a four-point suspension pod.

Responsibilities

There are normally three different elements involved in a sling load mission: the supported unit that requested the mission, the aviation unit that will provide the aircraft, and the receiving unit that is having the cargo delivered. The following is a discussion of their responsibilities and functions.

Supported Unit

The supported unit is responsible for—

- PZ selection and control. Pathfinders can be of great assistance in both of these areas as they have a mission responsibility for aircraft control and are trained in site selection.
- Requisitioning of all equipment needed for sling-load operations, to include the slings, A-22 bags, cargo nets, and containers.
- Storage and maintenance of all sling-load equipment.
- Providing a sufficient number of trained ground crews to rig and inspect all the loads, guide in the helicopters, hook up the loads, and clear the helicopters for departure.
- Securing and protecting sensitive items of supply and equipment.
- Providing load derigging and disposition instructions to the receiving unit.
- Providing disposition instructions to the receiving and aviation units for the slings, A-22 bags, cargo nets, and containers.

Aviation Unit

The aviation unit is responsible for—

- Establishing coordination with the supported unit and appointing a liaison officer who is thoroughly familiar with the capabilities and limitations of his unit's assigned aircraft.
- Advising the supported unit on the limitations as to the size and weight of the loads which may be rigged.
- Advising the supported unit on the suitability of the selected PZ/LZ.
- Providing assistance as required for the recovery and return to the PZ of the slings, A-22 bags, cargo nets, and containers as required by the supported unit.
- Arranging for the aircraft to be at the PZ on schedule.
- Establishing safety procedures that will ensure uniformity and understanding of duties and responsibilities between the ground crew and flight crew. One such procedure would be the direction the ground crew would depart from below the helicopter after hookup. If the ground crew moved from the aircraft in the same direction that the aircraft moved, injury could result. Each PZ is different as to its shape and obstacle. The pilot must know what direction to go if he has to set the aircraft down in an emergency so as not to hit the ground crew.

Receiving Unit

The receiving unit is responsible for—

- Selecting and controlling the LZ.
- Training available ground crews to guide the aircraft in and derig the load.
- Coordinating with the supported (sending) unit for the control and return of that unit's slings, A-22 bags, and other items.
- Preparing, coordinating, and inspecting backloads (such as slings and A-22 bags) and having them ready for hookup or loading when the aircraft comes in.

Planning

Close coordination between all players must occur. The entire mission is reviewed and all limitations and problem areas resolved. If a particular problem cannot be resolved, another mode of transport should be considered for the item of equipment that presents the problem.

Factors

Planning for aerial resupply must consider many factors:

- Type/amount of cargo to be carried.
- Helicopter assets available.
- Sling/cargo net/cargo container requirements.
- Ground crew training requirements.
- Identification of PZ/LZ.
- Integration into tactical plan.
- Priorities of cargo/unit resupply.

Selection of PZ or LZ

The selection of a usable PZ or LZ is extremely important. Logistical and tactical considerations must be analyzed and taken into account to ensure that the PZ or LZ is placed at the right spot to support the ground unit. The area must also be accessible to the aircraft that are going to use the sites. The final decision as to PZ/LZ acceptance will be made by the commander of the helicopter company or his designated liaison officer.

Size and shape of the PZ/LZ. As a general rule, the PZ/LZ must provide for 100 feet (30 meters) of separation between utility aircraft and 130 feet (40 meters) between cargo aircraft. It must have no obstructions such as trees, stumps, bushes, and man-made objects that could cause damage to the helicopter rotor systems or the load itself. The number of aircraft that will be using it at one time must be considered along with its use after dark. If night resupply is scheduled, a larger area is normally needed.

Surface condition. The surface condition should be solid enough to prevent a helicopter or load from bogging down. Blowing dust, sand, gravel, or loose debris can cause damage to people as well as equipment or aircraft. If the site has a slope of 15 degrees or more, a helicopter cannot land on it.

Approach/departure direction. When carrying an external load, a helicopter cannot rise straight up or come straight down. The avenues of approach and departure of a PZ/LZ should be over the lowest obstacle in the direction of the prevailing winds. Helicopters can operate in a crosswind or tailwind of up to 15 knots. Arrival and departure obstacle clearance and wind direction are especially important when visibility is reduced.

Site preparation. The unit receiving the supplies is responsible for preparing the LZ. Specific tasks to be accomplished are—

- Providing LZ security.
- Recovery and assembly of equipment and supplies.
- Providing limited weather observations such as wind velocity, direction, cloud cover, visibility, and approximate ceiling.
- Detailed NBC monitoring and survey, if required.

Request Procedures

Helicopter resupply assets are limited. Internal to the division, the combat aviation company of the CAB provides the only organic utility helicopter support. Normally, aerial resupply support is provided by corps aviation assets. Requests for support are normally routed through the division G3 for action.

SECTION II. BATTALION TASK FORCE

Battalion Task Force Combat Service Support Overview

General

The battalion task force commander works primarily through his XO, S4, S1, and BMO to anticipate and plan requirements for CSS and employ his service support assets to ensure accomplishment of the mission. The XO directs the staff coordination from the main CP. He is assisted by the S4, S1, BMO, HHC commander, support platoon leader, medical platoon leader, and CSM.

S4

The S4 is the focal point of the logistical planning in the task force. It is his responsibility to tie the entire A/L network together. His primary duties and responsibilities include—

- Serving as OIC of battalion task force combat trains.
- Serving as primary staff officer in areas of supply, transportation, and field services.

- Serving as logistics planner with focus on future battles.
- Anticipating requirements.
- Controlling combat trains CP operations.
- Monitoring the tactical situation and preparing to assume duties of the battalion task force main CP.

S1

The S1 is the primary administrative planner. His key focus is on manning the TF. Some of his other duties include—

- Responsibility for personnel service support functions in the battalion task force.
- Responsibility for strength accounting, replacement operations, and casualty reporting.
- Assisting the S4 in operations in the combat trains CP.

BMO

The BMO's duties and responsibilities include—

- Serving as OIC of the UMCP.
- Controlling maintenance support and establishing the maintenance time guideline for the maintenance platoon.
- Shifting assets to respond to workload demands and the battalion task force commander's priorities.
- Structuring maintenance assets to meet battalion task force requirements.
- Anticipating maintenance requirements and problems.

HHC Commander

The HHC commander becomes involved in the CSS system as the OIC of the field trains. His responsibilities include—

- Coordinating support of the task force in the BSA.
- Acting as liaison officer to the brigade rear CP.
- Acting as battalion task force logistical "problem solver."
- Coordinating the flow of information between the combat trains CP and the field trains sections through communications with the S4.
- Directing the company team supply sergeants in the formation of the LOGPACs.
- Making decisions affecting CSS operations in the absence of the XO.

CSM

The CSM, as the most senior NCO in the TF, advises the commander on matters pertaining to the enlisted personnel. His ability to move throughout the TF area allows him to assist the CSS staff in troubleshooting the CSS system and providing information on the current logistics situation.

Combat Service Support Organizations

The TF CSS mission is executed by organic elements and supporting units. The combat trains CP is responsible for synchronization of these elements. The support platoon, maintenance platoon, medical platoon, S1 section, and the S4 section are organic elements of the TF. Additional CSS is provided by the FSB which is in DS of the brigade.

S1 Section

The S1 section is responsible for the personnel services function and the general administration of the battalion. The S1 is assisted by the PAC supervisor and the PSNCO. The S1 section personnel are located at the combat trains CP in the battalion task force combat trains and in the field trains. The S1 and his personnel in the combat trains CP primarily perform critical tasks of strength accountability, casualty reporting, and replacement operations. The S1 section in the field trains perform primarily administrative services, personnel actions, legal services, and finance. The S1 has the responsibility to ensure the actions of his section are coordinated at both locations. The S1 also has the primary staff responsibility for EPW operations and medical planning. He coordinates with the S2 for interrogation of prisoners and the S4 for processing of captured equipment and transportation requirements for EPW. The S1 coordinates with the medical platoon leader to ensure that patient treatment and evacuation are planned and coordinated throughout the TF area.

Medical Platoon

The medical platoon sorts, treats, and evacuates or returns to duty the sick and injured. It stocks medical supplies for the task force and provides all Class VIII supply support. It is also responsible for maintaining and evacuating battalion medical equipment in need of higher echelon maintenance. The medical platoon leader or field medical assistant provides patient data to the S1.

The medical platoon's survivability and mobility are increased by the use of armored evacuation vehicles and M577s. The medical platoon leader (a physician), with the aid of a physician's assistant, operates the battalion aid station. The field medical assistant, a medical smite corps officer, handles the administration and logistics of the medical platoon. Coordination between the combat medical sections and each company is maintained.

S4 Section

The S4 section requisitions and distributes supplies to company supply sections and turns in captured supplies and equipment as directed. Personnel in the sections are in the field trains and the combat trains CP. They are cross-trained with personnel of the S1 section in critical tasks to allow for continuous operations.

The S4 section, supervised by the S4 and assisted by the battalion supply sergeant, is responsible for supply, transportation, and field service functions.

In combat, the S4 concentrates heavily on six classes of supply: Classes I, II, III, IV, V, and VII. The support platoon leader, working with the S4 and HHC commander, coordinates requisition, receipt, preparation, and delivery of supply Classes I, III, and V. The supply section is responsible for the requisition, receipt, and delivery of Classes II, IV, and VII supplies.

The S4 section and support platoon are responsible for obtaining maps. Maps are stocked by the S&S company of the main support battalion and are requested through the supply company of the FSB. The S2 is responsible for distributing maps as required. Classified maps are obtained through G2 channels.

Support Platoon

The support platoon has a headquarters section, a decontamination section, a transportation section, a mess section, and company Classes III and V supply squads.

Although the support platoon leader works for the S4, he is under the supervision of the HHC commander in the field trains. The platoon leader is assisted by the support platoon sergeant, who is also the truck master of the transportation section.

Maintenance Platoon

The maintenance platoon performs unit maintenance on all TF equipment except COMSEC and medical equipment. The platoon leader is the BMO. He is assisted by the maintenance technician and the battalion motor sergeant.

All maintenance assets, including CE equipment maintenance and company slice mechanics, are consolidated in the maintenance platoon. The responsibility for operator and crew maintenance remains with the companies.

Class IX supply (repair parts) and TAMMS records are centralized within the maintenance administration section. The PLLs are loaded on cargo trucks and trailers. To facilitate rapid repair, selected high-usage PLL items may be on the tracked vehicles supporting a company team. PLL is managed by the administration section's PLL clerks.

The recovery support section provides limited welding, metalworking, and backup recovery support to the maintenance teams.

The maintenance services section provides backup maintenance support to the CMTs and maintenance support to the rear elements of the TF.

CMTs provide maintenance support to each of the maneuver companies. This support includes automotive, turret, and CE maintenance, as well as recovery.

Maintenance teams are task organized by the BMO based on the company's weapon systems. As far as possible, a maintenance team supports the same company. When tracked vehicles from the maintenance team are positioned forward with the company combat trains, the company commander establishes priorities of work and positions the team (usually accomplished by the 1SG). When a company is detached from the battalion, the BMO detaches a CMT to support the company.

Planning Combat Service Support

Principles

CSS functions are performed as far forward as the tactical situation permits. CSS planning must be continual to support the tactical operation. Considerations must be given to everything that can affect the mission. CSS staff officers and commanders must plan CSS operations concurrently with the tactical plan. Planning priorities must be given to those areas that are vital to mission accomplishment.

Supporting Combat Operations

To ensure effective support, CSS operators and planners must understand the commander's tactical plans and intent. They must know—

- What each of the supported elements will be doing.
- When they will do it.
- How they will do it.

After analyzing the concept of operations, CSS planners must be able to accurately predict support requirements. They must determine—

- What type of support is required.
- What quantities of support are required.
- The priority of support, by type and unit.

Using the support requirements of the tactical plan as a base, the support capabilities of the task force are assessed by—

- What CSS resources are available (organic, lateral, and higher headquarter).
- Where the CSS resources are.
- When CSS resources can be made available to the maneuver units.
- How they can be made available.

Based on this information, CSS plans are developed that apply resources against requirements.

Supporting the Offense

If offensive momentum is not maintained, the enemy may recover from the shock of the first assault, gain the initiative, and mount a successful counterattack. Therefore, CSS priority must go to maintaining the momentum of the attack.

A successful attack may develop into an exploitation or a pursuit, and CSS planners must be flexible enough to support either type of operation. The following techniques and considerations apply to CSS offensive planning:

- Essential CSS assets such as ammunition, POL, medical, and maintenance are in the combat trains.
- Establish maintenance priorities based on MEMO.
- Units recover damaged vehicles only to the MSR for further recovery.
- Plan for increased POL consumption (based on terrain).
- Push preplanned and preconfigured LOGPACs of essential CSS items if communications break down.
- Plan for increased vehicle maintenance, especially over rugged terrain.
- Make maximum use of CMTs and MSTs in forward areas.
- Request throughput distribution to reduce handling of supplies.
- Increase use of MRE with a corresponding decrease of B rations.
- Use captured enemy supplies and equipment, particularly support vehicles and POL. (Captured POL is used only in captured equipment.)
- Search for natural water sources in forward areas.
- Suspend most field service functions except graves registration.
- Prepare for increased casualties and additional evacuation and graves registration requirements. Plan and coordinate with higher headquarters for those requirements that cannot be met.
- Carefully select supply routes, LRPs, and subsequent trains locations based on map reconnaissance. Consider alternative routes. Consider airlift and airdrop for resupply.
- Plan and coordinate EPW operations. Expect more EPW.
- Plan replacement operations based on known and projected losses.
- Consider the increasing distances (and correspondingly longer travel times) to ASPs and ATPs.
- Make sure CSS preparations for the attack do not compromise tactical plans.

The above considerations apply to some degree to all offensive operations. The change from one type of operation to another, such as from the hasty attack to a pursuit, does not require a major shift in CSS support. The XO, assisted primarily by the S4, organizes the TF's CSS assets to permit uninterrupted support. Remember that the main purpose of CSS in the offense is to support the momentum of the attack.

Supporting the Defense

The immediate purpose of the defense is to cause an enemy attack to fail or, in contrast to offensive operations, to break the momentum of the attack.

As in offensive operations, perhaps the most critical time in the defense is the preparation stage. General considerations include the following.

- Stockpile limited amounts of ammunition, POL, and barrier material in centrally located BPs in the forward area. Make plans to destroy those stocks, if necessary. (If these resources are limited, this will not be an option.)
- Resupply during limited visibility to reduce the chance of enemy interference; infiltrate resupply vehicles to reduce the chances of detection.
- Plan to reconstitute lost CSS capability. Identify personnel from the field trains as potential replacements to reestablish the lost capability.
- Use M88s in the UMCP to recover equipment to the BSA. Make sure support teams have adequate communications.
- Because a TF in the covering force is difficult to resupply, consider the use of airdrop and pre-positioned stocks in subsequent defensive positions.
- Consider the additional transportation requirements for movement of supply Class IV barrier material, mines, and pre-positioned ammunition, plus the CSS requirements of additional engineer units assigned for preparation of the defense.
- In defensive operations, prestock ammunition on occupied and prepared positions. However, plans must be made for the control of this ammunition. These include—
 - Informing all subunits, to include CPs, of the ammunition. Overlays are the preferred method.
 - Specifying routes from BPs to ammunition location.
 - Providing protection, to include overhead cover.
 - Moving or destroying, if necessary.

Continuous Support

CSS elements conduct sustainment operations continuously; when maneuver companies are not fighting, TF CSS elements take advantage of the lull to prepare the maneuver elements for the next operation.

Maintenance and repair work is done whenever the opportunity exists. Repairing and returning damaged equipment to the fight requires early diagnosis and identification of faults and is done as far forward as possible. The unit will maximize the use of BDAR.

Emergency resupply is conducted when needed, but routine resupply is usually conducted at night. Vulnerability and limited cross-country mobility of CSS vehicles dictate that LOGPACs use existing road networks at night.

Continuous CSS operations require careful personnel management. Routine details, perimeter guard, and operator maintenance use support personnel time not spent on the road. A carefully planned and strictly enforced ret-work schedule or sleep plan is necessary to ensure continuous capability.

Task Force Logistics Estimates

Logistics estimates analyze factors affecting mission accomplishment. Logistics planners use estimates and LOGSTAT requests to make recommendations and conclusions concerning proposed courses of action and to develop plans to support selected concepts of operation. The key concerns of task logistics planners are the status of supply Classes III, IV, V, and VIII and the operational status of tanks, BFVs, and other combat vehicles.

Logistics estimates are rarely written. They are frequently formulated in terms that answer the following questions:

- What is the current status of maintenance, supply, and transportation?
- How much is needed to support the concept of operation?

- How will it get to where it is needed?
- What external (FSB) support is needed?
- Can the requirements be met using LOGPAC operations, or are other techniques necessary?
- What are the negative impacts on other CSS plans?

The XO ensures that the S1, S4, and BMO stay abreast of the situation in each of their respective areas. He does this by ensuring that the plan is fully developed. He also war-games with the CSS staff officers. He can participate in and direct CSS rehearsals and conduct net calls on the A/L net to coordinate the plan. The XO will attempt to be at critical events in the logistics plan, such as LRPs, when the LOGPACs arrive. He can pull the 1SGs together at LRPs to pass information and coordinate the total logistics plan. He also conducts checks of the combat trains CP to ensure that it is abreast of both the logistics and tactical situations.

The S1 is principally concerned with maintenance of up-to-date strength reports, priorities for personnel replacements, and anticipated casualties.

Because of the long lead time needed to ensure resupply, the XO frequently gives specific guidance to the S4 concerning repositioning of combat trains, probable requirements for contingency and follow-on missions, and considerations for task organization changes. The S4 begins planning based on the XO's guidance. He alerts the FSB supply company of probable special requirements and determines the lead times necessary to ensure the requirements are filled. As TF plans firm up, the S4 coordinates necessary field trains actions with the HHC commander.

The BMO task organizes his platoon to provide support to the company teams (based on their organization) to ensure there is backup recovery and maintenance support in the UMCP, and to support heavy repair work in the field trains. The BMO keeps track of the status of repair parts and the estimated return times of damaged equipment. Based on the XO's guidance, he coordinates for backup support from the FSB maintenance company. When the tactical situation permits, the BMO requests additional forward support in the form of MSTs or specific types of repair team support from the FSB maintenance company.

The main CP monitors key CSS factors such as last LOGPAC times, numbers of operational combat systems, and overall personnel status. The combat trains CP updates the main CP on these factors when a significant change is noted or on a recurring basis as established in the TF SOP.

The S1, S4, BMO, and their key deputies must be able to give an accurate summary of the status of their areas; the compressed time planning process for hasty operations may allow them no more time than that.

Battlefield CSS Operations

Task Force Trains

The organization of trains varies according to the mission and support assets assigned to the TF. Trains may be centralized in one location (unit trains), or they may be echeloned in three or more locations (echeloned trains). Unit trains are formed in AAs and during extended tactical marches. Forming unit trains eases coordination and control and increases trains' security. Unit trains are controlled by the S4 with the assistance of the S1. The HHC commander moves with the BSA to maintain coordination with the FSB and the brigade rear CP.

The TF CSS assets are normally echeloned into company trains, battalion combat trains, and battalion field trains. The combat trains are organized to provide immediate critical support for the combat operation. Field trains are normally in the BSA and under the control of the HHC commander, who coordinates with the brigade S4 and FSB commander for security and positioning. The composition of the combat and field trains varies according to the factors of METT-T.

The most forward CSS elements are the company trains. The medical evacuation team (routinely attached to the company) and the CMT tracked vehicles, when forward, operate from the company

trains. The company 1SG positions these elements, tasks the medical evacuation team, and establishes priority of work for the CMT.

When operating in echeloned trains, the company supply sergeant usually operates from the field trains. Coordination between the company supply sergeant and the 1SG is conducted through the combat trains CP to the HHC commander over the A/L net; it is supplemented by face-to-face coordination during LOGPAC operations.

The combat trains include the combat trains CP, the UMCP, the battalion aid station, the decontamination vehicle, some supply Classes III and V vehicles, and some supporting elements from the FSB. The combat trains are controlled by the S4 and assisted by the S1. All elements are tied to the combat trains CP by landline and operate on the A/L net.

The combat trains are generally 1 to 2 kilometers from the main CP. They should be close enough to the FLOT to be responsive to the forward units but out of range of enemy direct fire. The combat trains can expect to move frequently to remain in supporting distance of the combat elements (normally 4 to 10 kilometers). Factors governing positioning of the combat trains include the following:

- Communications between the combat trains CP, main CP, field trains CP, brigade rear CP, and forward units are required.
- Cover and concealment from both air and ground observation are desired.
- The ground must support vehicle traffic.
- A suitable helicopter landing site should be nearby.
- Routes to LRPs or to company positions must be available.
- Movement into and out of the area must not be restricted.

Built-up areas are good locations for trains. They provide cover and concealment for vehicles and shelters that enhance light discipline for maintenance. When built-up areas are used, battalion train elements should occupy buildings near the edge of the area to avoid being trapped in the center.

The UMCP is established by the BMO to provide forward maintenance support to the TF. It is normally located in the combat trains.

The field trains are usually in the BSA and are controlled by the HHC commander. Generally, field trains include the field trains CP (HHC CP), PAC, mess sections, company supply sections, and remaining elements of the maintenance and support platoons that are not forward.

The BSA is that portion of the brigade rear area occupied by the brigade rear CP, FSB, TF field trains, FA field trains, and various unit-level support elements of other divisional troops. The BSA is usually 20 to 30 kilometers behind the FLOT. CSS assets in the BSA include elements from the FSB, maneuver unit field trains, and selected corps (COSCOM) resources, as required. Brigade CSS is managed by the brigade S4 in coordination with the FSB commander.

Resupply Operations

The most efficient resupply of forward TF is accomplished by the LOGPAC, a method in which resupply elements are formed on the basis of logistics requirements of the unit. LOGPACs are organized in the field trains by the company supply sergeant under supervision of the HHC commander and the support platoon leader. LOGPACs are organized for each company team in the TF and moved forward on at least a routine resupply. When possible, all LOGPACs move forward as a march unit under the control of the support platoon leader. Special LOGPACs are organized and dispatched as required by the tactical situation and logistical demands.

The TF staff, under the guidance of the XO, must plan and coordinate LOGPAC operations in detail to ensure that they fully support the commander's tactical plans.

The TF SOP will establish the standard LOGPAC. Normally, a company team LOGPAC will consist of the following:

- Unit supply truck. This vehicle contains the supply Class I requirements based on the ration cycle—normally one hot meal and two MRE per man. The supply truck tows a water trailer and carries some full water cans for direct exchange. In addition, the truck carries any Class II supplies requested by the unit, incoming mail, and other items required by the unit. The truck may also carry replacement personnel.
- Petroleum, oils, and lubricants trucks. Bulk fuel and packaged POL products are on these vehicles.
- Ammunition trucks. These vehicles contain a mix of ammunition for the weapon systems of the company team. Unit SOP establishes a standard load; reports and projected demands may require changes to this standard load.
- Vehicles carrying additional supplies/personnel. These vehicles join the LOGPAC as coordinated by the support platoon leader and supply sergeant. This will also include returning combat vehicles.

After the LOGPAC has been formed, it moves forward under the control of the supply sergeant, who requires a radio for control purposes. The support platoon leader may organize a convoy for movement of all LOGPACs under his control, or he may dispatch unit LOGPACs individually. The convoy may contain additional vehicles, such as a maintenance vehicle with Class IX supply, to move the UMCP or an additional ammunition or fuel vehicle for the combat trains. The LOGPACs move along the MSR to a LRP, where the unit 1SG or a unit guide takes control of the company LOGPAC. When the unit supply sergeant moves his LOGPAC to the LRP, he must know the MSR and be in radio contact with the combat trains CP or HHC CP.

Maintenance assets from the UMCP may join the company team LOGPAC at the LRP, if needed forward.

From the LRP, the company 1SG or guide controls the LOGPAC and conducts resupply as described in FM 71-1. The unit 1SG informs his supply sergeant of requirements for the next LOGPAC. The supply sergeant collects personnel (including those killed in action) for movement to the rear, EPWs, outgoing mail, and equipment for movement to the field trains. The LOGPAC then follows unit SOP and returns to the LRP or to the field trains.

LRP locations are determined by the S4 based on the tactical situation. Normally, two to four LRPs are planned. LRPs, as well as the MSR, combat trains, and field trains locations, are included on the operations overlay, if possible. If not, they are on a CSS overlay. The combat trains CP notifies subordinates and the field trains CP well in advance of which LRPs will be used. The LOGPAC convoy arrival time at the LRP and the length of time it remains are normally established by SOP. For example, the SOP may call for an LRP time of 1800 hours to 2400 hours daily. This indicates that the LOGPAC convoy arrives at the LRP not later than 1800 hours. The unit must meet its LOGPAC, complete its resupply, and return the LOGPAC to the LRP not later than 2400 hours. If the tactical situation dictates otherwise, the S4 must determine the time and notify units accordingly. Subordinates must ensure that the resupply vehicles are returned to the LRP as soon as possible so they can return to the field trains and begin preparation for the next mission. If the LOGPAC cannot be completed on schedule, the combat trains CP must be notified by the 1SG or XO.

At least one senior representative from the combat trains (S4, S1, or NCO) should be present at the LRP. His purpose is to meet with the unit 1SG and support platoon leader for coordination of logistical requirements and to ensure the LOGPAC release and return takes place efficiently. The battalion XO may also attend this meeting to assist in the CSS coordination for the TF. A brief meeting is normally held immediately before the 1SG picks up his LOGPAC. Coordination may include—

- Changes in logistical requirements reflecting any last minute task organization.
- Receiving hard-copy reports on personnel, logistics, and maintenance from the 1SGs.
- First-hand updates on the tactical situation and logistical status.
- Delivering and receiving unit mail and distribution.

The company supply sergeant or support platoon leader moves the LOGPAC from the LRP back to the field trains. The supply sergeant and support platoon leader then begin organization of the next LOGPAC.

Resupply of the scout and mortar platoons, the main CP, combat trains, and attached support units must be planned and coordinated. The HHC 1SG coordinates and supervises resupply of these elements. He operates primarily from the field trains.

The platoon sergeant of these elements must submit a timely LOGSTAT report to the combat trains CP to ensure timely and accurate resupply. The most desirable method of resupply is to form small LOGPACs for these elements, with the platoon sergeant picking them up at the LRP in the same manner as a company 1SG. Attachments larger than a platoon must come to the TF with CSS vehicles, on which LOGPACs can be built.

In some cases, the HHC 1SG will deliver the LOGPAC to the main CP, combat trains, and scout and mortar platoons. Attachments may receive resupply at one of these locations.

Another option is for attachments to be resupplied at a nearby company team LOGPAC. The S4 coordinates this resupply before the LOGPACs are dispatched.

Resupply operations for the scout platoon pose several unique problems. Special procedures may be necessary to resupply the scout platoon, including—

- Resupplying the platoon by having each track individually pull off line and move to a resupply site. This method may be feasible when the platoon is performing security for a stationary force.
- Resupplying the platoon near the combat trains as the platoon repositions between missions.
- Designating one Class III supply vehicle in the combat trains to fuel the platoon on short notice (opportunity refueling).

Units in DS of or OPCON to the TF are responsible for the resupply of their elements operating forward with the TF except for the following:

- The ADA battalion commander coordinates for the TF to resupply DS ADA units with some classes of supply. This may be directed in higher headquarters SOPs and usually includes supply Classes I, III, V, and IX (common items).
- The TF provides engineer materials (supply Classes IV and V) to supporting engineer units. Additionally, engineer units supporting the TF receive Classes I, III, V, and IX supply support to the maximum extent possible.

The parent unit S4 or company commander of the supporting element coordinates with the TF S4 or HHC commander on resupply of the forward elements. Normally, the supporting units' resupply elements assemble in the BSA and move to the TF field trains area. The HHC commander then dispatches these resupply elements forward, along with the TF LOGPACs, to the LRP. At the LRP, the platoon sergeant of the forward supporting element takes control of the resupply element. These resupply elements maintain contact with the combat trains CP while forward in the TP area. If coordinated between the supporting parent unit and the TF, the resupply of these forward elements is directly managed by the TF. The parent unit must provide the additional logistical assets necessary to supplement the TF's capabilities. No matter how support was coordinated, any element within the TF AO must be either under the TP commander's control or at least remain in contact with the TF combat trains CP to avoid interfering with TF maneuver.

While the LOGPACs are the preferred methods of resupply, there will be times when other methods of resupply are required.

Resupply from the combat trains (immediate resupply). The combat train has a limited amount of supply Classes III and V for immediate unplanned resupply. The S4 coordinates immediate resupply from the combat trains and then refills or replaces the combat trains' assets.

Cache. Caches are the placing and concealing of supplies along the battlefield. This is normally done during defensive operations when supplies are placed in subsequent BPs. Some key considerations are that caches need to be covered and conceded, need to have some type of security, and once placed, tend to be

used on a first-come, first-served basis. Plans must be made for the destruction or movement of caches rather than allowing their capture.

Mobile pre-positioning. MPP is similar to caches except the S4 retains control of the resources. With MPP, the supplies remain on the truck that is positioned forward on the battlefield. MPP is used when the S4 determines that the enemy situation or the terrain will prevent needed immediate resupply.

The LOGPAC system must be conducted as any other combat operation. Planning, preparation, and execution must be conducted as with any other operation.

Planning. The LOGPAC operations plan must take into consideration requirements of the company. Rehearsals must be conducted for route reconnaissance, LOGPAC formation, security operations during movement, and reactions during the convoy. The support platoon leader also needs to make sure that procedures are developed for lost vehicles, maintenance problems occurring during the movement, and changes to the mission, especially if the LOGPAC must wait along the supply route for the tactical situation to fully develop before resupply takes place.

Preparation. The support platoon leader and company supply sergeants, supervised by the HHC commander, must make sure that all items necessary in the forward area are positioned in the LOGPAC. This includes the resupply vehicles and repaired or replacement combat vehicles that are being sent forward. The HHC commander will also ensure that wheeled recovery assets are placed at the rear of the convoy, if they are available. He also needs to determine the tactical status of the forward elements to include the tactical situation from the BSA through the battalion area. This information will allow the support platoon leader to brief the supply sergeants and drivers on situations they may encounter during movement and subsequent resupply operations. This could include minefield locations along the route of march, tank ditches, terrain considerations, NBC contaminated areas, and possible changes to the plan due to changes to the tactical situation.

Execution. After the rehearsals and preparation are complete, the support platoon leader must control the LOGPAC from the field trains site to the LRP. He needs to ensure that radios are interspersed throughout the LOGPAC convoy to allow him to maintain control of the convoy. He needs to be made aware of any situation that develops and must issue instructions to handle the situation. The HHC ISG can be invaluable in assisting in the control of the entire convoy.

Aerial Resupply

Section I, paragraph E of this chapter discusses aerial resupply in detail. Aerial resupply can also be used at battalion level. It is the responsibility of the battalion S4 to coordinate the actual resupply, but the battalion XO and S3 approve the need for aerial resupply. The S4 develops the plan for the resupply. He must coordinate with the support unit that provides the supplies for composition of the supply packages that will come forward. He must also coordinate with the company or section that will receive the supplies for the return of the sling-load equipment. The unit or section that receives the supplies must ensure that a suitable LZ is available for delivery of the supplies. It must guide the aircraft into the site. Aerial resupply at the battalion level can be extremely useful in delivering prepackaged supply of Class IV items and push packages of Classes V and IX supply. If aerial resupply is used for Class III supplies, coordination must be made to have the pumps and hoses available to move the fuels from the delivery containers to the vehicles that will be receiving the fuel.

CSS for Cross-Attachments

There are two types of cross-attachments that require different CSS considerations, those between TFs and those within a TF. When a unit changes the task organization, lead times to change service support plans must be considered. This is needed to give time for CSS elements to move around the battlefield. These elements include the maintenance element and vehicles for fuel and ammunition resupply. Within a TF, this requires a reconfiguration of loads on ammunition vehicles and determination of fuel requirements. Between TFs, this entails the physical movement of the CSS personnel and equipment. This can take enormous amounts of time to accomplish, depending on the location of the units and trains elements.

Cross-Attachment Between Task Forces

When a company is cross-attached, the CSS necessary to support it is also cross-attached. This slice is established by higher headquarters SOP. It usually consists of medical and maintenance support, and supply Classes III, V, and IX. The cross-attachment of CSS assets is between TFs; these assets do not belong to the cross-attached company. If the company is employed pure, the CSS assets are used to support the company. However, if the company is further task organized, the support assets may need to be task organized as well to provide the most efficient support within the TF.

Medical. The medical evacuation team that supports the company remains with the company when it is detached or cross-attached.

Maintenance and Class IX supply. One CMT and one PLL clerk with a PLL truck and trailer are cross-attached to support the CMT's tracked vehicles. Consideration should be given to cross-attaching a team of mechanics (with transportation) from the battalion maintenance platoon services section to reinforce the repair capabilities of the CMT.

Class III supply. Fully loaded trucks from the support platoon, sufficient to refuel the company, are cross-attached. Usually, this means that one fuel HEMTT is needed for a mechanized infantry company and two or three HEMTTs are needed for a tank company.

Class V supply. Ammunition vehicles, sufficient to support the company, are cross-attached from the support platoon. These trucks should be loaded and prepared for the next LOGPAC operation. Usually, a mechanized infantry company requires two 5-ton trucks with trailers, and a tank company requires two or three HEMTTs.

Cross-attachment Within a Task Force

When company teams are formed, the CSS requirements for each of the teams change from those of the base company organization. For example, a tank-heavy team (two tank platoons and one mechanized infantry platoon) has more personnel than the tank company and has a different vehicle mix. Such factors require support changes in these areas.

Maintenance. BFV PLL and BFV-trained mechanics are needed.

Class III supply. BFVs use less fuel than tanks; the operation determines how much less.

Class V supply. Ammunition for the tank company (less one-third of the total for the detached platoon), plus 25-mm, TOW, Dragon, and 5.56-mm ammunition needed to support the mechanized infantry platoon, must be brought forward on LOGPAC resupply.

TF CSS planners task organize support assets to ensure adequate bulk fueling capability and MHE are supporting the company teams. The S4's logistics estimate is the key in this decision-making process. Additionally, the BMO may direct cross-attachments between CMTs to facilitate forward repairs of all types of vehicles in the company teams, but this is less likely. More likely, the BMO will direct that the attached CMT continue to support the attached company (now a company team) and that repairs of the cross-attached platoon(s) vehicles be accomplished in the UMCP by the wheeled assets of the attached CMT and/or the attached element from the maintenance services section.

Coordination and Control

The coordination requirement for cross-attachment of CSS assets are established in the higher headquarters SOP. Usually, the coordination is accomplished between TF XOs using the brigade A/L net. This coordination should establish the numbers and types of supporting assets to be cross-attached, the time the attachment will occur, and the location(s) to which the attachments will move. Additional coordination, such as signals, signs and countersigns, and the requirements for guides will also be conducted, as necessary.

Movement

Movement from one TF area to the other may be done in one of two principal methods:

- Movement under control of the cross-attached company commander. If the cross-attached company is required to displace from its present location, the supporting CSS assets may be assembled to move with this unit.
 - The advantages to this method are that it provides protection for the displacing of CSS assets, allows immediate refueling to the unit after its move, and facilitates linkup with the unit when it completes its move.
 - The disadvantages to this method are that it requires considerable time for the company and the CSS assets to link up and that elements positioned in the field trains (in the BSA) may move a great distance, only to end up at another location in the BSA.
- Movement by element. This method is frequently employed when the cross-attached company does not have to displace. In this case, the CMT support services section displaces from one UMCP to the other. The cross-attached support platoon elements displace from one field trains area to the other. These moves are made under the control of the senior NCO who reports to the BMO or HHC commander at the gaining unit location.
 - The advantages to this method are that it does not require the assembly of the company and its supporting elements and that the distance the field trains elements move is probably small.
 - The principal disadvantages to this method are that no protection is provided to the moving elements and that the attachment of CSS elements may occur piecemeal.

Trains Security

CSS elements behind the FLOT must be prepared to defend themselves against guerrillas and partisans, forces that have broken through or bypassed the defense, and enemy air assault and airborne insertions.

The S4 is responsible for trains security when operating in a unit trains configuration. When trains are echeloned, the S4 is responsible for securing the combat trains, and the HHC commander is responsible for securing the field trains. The HHC commander coordinates with the FSB commander and brigade S4 to integrate the TF field trains into the BSA defensive plan. In all trains areas, a perimeter defense is normally planned and rehearsed immediately upon occupying a new position before normal support activities commence. Elements in the trains are assigned a specific sector to defend. Mutually supporting positions that dominate likely avenues of approach are selected for vehicles armed with heavy machine guns. Reaction forces and OPs will be made based on the unit SOP. To enhance security, an alarm or warning system is arranged. Sector sketches, fire plans, and obstacle plans should be prepared. Rehearsals are conducted to ensure that all personnel know the part they play in the defensive scheme. The OIC at each location establishes a shift schedule for operations and security on a 24-hour basis.

Command, Control, and Communications

CSS C3 is the responsibility of the TF XO. The S4 routinely coordinates all logistics operations based on the XO's guidance. C2 facilities are the combat trains CP and the field trains CP.

The combat trains CP includes the S4 CP carrier (M577) with enough S1 and S4 personnel cross-trained to ensure continuous operations. The combat trains must stay abreast of the tactical situation and current task organization. They must monitor the TF command net to identify CSS requirements and to receive requests, reports, and requirements from TF subordinate elements. Subordinate elements' requirements are analyzed, consolidated, and forwarded to the field trains CP or to the appropriate supporting agency. The HHC commander coordinates and directs elements in the field trains to take action to meet the forward units' requirements.

The field trains CP, established by the HHC commander, is the coordination and control center for the support platoon, PAC, maintenance platoon (-), and the battalion and company supply sections. Personnel from these sections operate the field trains CP under the supervision of the HHC commander. The HHC commander coordinates all requirements for TF organic and attached elements with all units in the BSA and parent units, as necessary.

At TF level, CSS communications may be by any combination of FM radio, MSE, courier, or wire. The A/L radio net is used for most CSS traffic. For lengthy reports, use messenger, wire, or MSE.

The combat trains CP is the NCS for the A/L net. The S1, S4, HHC commander, BMO, support platoon leader, medical platoon leader, company 1SGs, and others (as required) operate on the TF A/L net. The combat trains CP also operates on the brigade A/L net and on the TF command net (see Chapter 1, *Command, Control, and Communication*).

Communications are critical to expedite the CSS effort. Unit 1SGs must report their losses and requirements as soon as they become known. The combat trains CP receives and analyzes these requirements and notifies the field trains or dispatches resupply vehicles from the combat trains as needed. When use of radio is not possible, messages are sent with resupply or evacuation vehicles. The combat trains CP maintains positive control of vehicles moving forward to the LRPs. The TF sends reports to the brigade rear CP in the BSA. TF SOP establishes procedures for resupply without request in the event communications fail.

Supply Functions

Supply Operations

The supply system provides many types of supplies to the TF. The most important of these are ammunition, POL, and repair parts for weapon systems. To ensure continuous support, supplies are provided as far forward as the tactical situation will permit.

In addition, the TF maintains some combat-essential supplies and repair parts. These are called combat loads, basic loads, and PLLs. The minimum stockage level is normally directed by division or higher. The purpose of having these loads is to enable a unit to sustain itself in combat for a limited period should there be an interruption in the resupply system. This period is normally 15 days for general supplies and 2 to 3 days for supply Classes I, III, and V.

The TF uses the following three methods to replenish its supply stock:

- Supply point distribution. The TF, using organic transportation, goes to the distribution point to pick up supplies. This is the normal method used by the TF support platoon to pick up supplies.
- Unit distribution. Supplies are delivered to a unit by transportation assets other than its own. The TF uses unit distribution to resupply its subordinate elements. Routine resupply occurs either on a daily basis or as the tactical situation requires.
- Throughput distribution. When feasible, supplies are shipped directly from the issuing agency as far forward as possible, provided the receiving unit has the MHE necessary to handle the shipping containers. This means some supplies may be issued directly to the TF from COSCOM level or even theater Army level, especially supply Classes III, IV, VII, and IX. This issue will most likely occur no farther forward than the field trains. However, the TF uses the established requisition channels, regardless of the issue method chosen by higher headquarters.

The S4 section is organized to process supply requests and receive, issue, and temporarily store supplies. Distribution priorities for items in short supply are determined by the commander based on recommendations by the S4 and the operational requirements of the TF.

Night Resupply Operations

Routine resupply operations are accomplished by LOGPACs operating at night; these operations are addressed in the TF SOP. Supply vehicles are led to an LRP. At the release point, the company 1SG meets his

resupply package, then guides it to the company's forward position. The convoy moves in total blackout. At the release point, the company 1SG identifies his LOGPAC using prearranged signals. Possible signals include—

- Filtered flashlights, color-coded for unit identification.
- Geometric designs on vehicles identifying supported units.
- Checkpoints, marked on the ground by luminous markers to designate the linkup point for specific companies.

Classes of Supply

Supplies are grouped into 10 classes (Classes I through X) and miscellaneous supplies.

Class I

Class I consists of subsistence, gratuitous health and welfare items.

Class I is automatically requested at brigade based on the daily strength report. The combat trains CP forwards the strength report to the field trains CP, which in turn instructs the mess section to prepare the rations. When a specific item is required, the S4 can submit a separate subsistence request through the field trains CP to the supply company of the FSB.

The support platoon draws subsistence from the FSB supply company's Class I point in the BSA. Raw subsistence items are issued through supply channels. Rations are usually prepared in the field trains and delivered to the companies and attached units as part of the LOGPAC. A cook normally accompanies each company LOGPAC to supervise and assist in distribution of the food.

Three to five days' MRE rations are stored on combat vehicles. Meals from this combat load are eaten only when daily Class I resupply cannot be accomplished. Frequency of unit feeding and use of A or B rations depends on tactical situations. If possible, troops should receive at least one hot meat per day. Hot rations should be packed in platoon-size portions rather than consolidating company-size packages.

Water is not a Class I supply item, but it is normally delivered with Class 1. The HHC commander or support platoon leader coordinates with the FSB to pick up water from the water supply point. Water is delivered to the units using 400-gallon water trailers. Also, forward water points can be tested and approved by the battalion surgeon. During desert operations, each vehicle in the TF should carry *at least two* water cans to be refilled or exchanged for full cans during Class I resupply and LOGPAC operations. When necessary, the TF's 400-gallon water trailers can be augmented by collapsible water containers (CTA items).

Class II

Class II includes clothing, individual equipment, tentage, hand tools, administrative and housekeeping supplies and equipment, chemical defense and decontamination items.

When Class II items are lost, destroyed, or worn out, unit supply sergeants send replacement requests through the S4 to the FSB.

The S4 supply section or company supply sergeant picks up Class II items from the FSB supply company in the BSA and delivers them to the unit during LOGPAC operations. Expendable items such as soap, toilet tissue, insecticide, clothing, and TA-50 are provided during the LOGPAC.

Class III

Class III has POL, including petroleum fuels, lubricants, hydraulic and insulating oils, preservatives, liquid and gases, bulk chemical products, coolants, deicer and antifreeze compounds, components and additives of petroleum and chemical products, and coal.

Brigade S4's POL forecasts form the basis for division and corps stockage levels. PGL is normally obtained by the battalion transportation section from the supply company's Class III supply point in the BSA. Empty fuel handling vehicles and containers presented at a supply point are sufficient to obtain POL without

a formal request. In exceptional cases, FSB fuel vehicles deliver to the combat trains area, or helicopters may deliver POL to the unit in 500-gallon collapsible drums. Packaged oil and lubricants are requested through the S4 and handled in the same manner as Classes II, IV, and VII supplies.

Company requests are not required for POL resupply. POL tanker vehicles will move forward with each LOGPAC. POL packaged products are carried on each tanker vehicle. Requests are submitted to the combat trains CP for unusual requirements. Nonscheduled resupply of POL will be made by POL tankers stationed in the combat trains for that purpose.

Class IV

Class IV consists of construction materials, including installed equipment and all fortification and barrier materials.

These are items for which allowances are not prescribed. The TF submits requests for Class IV items through the FSB to the DMMC.

Requests for intensively managed Class IV items often require command approval. In that case, requests go through command channels to the division or corps G3 for release approval. Construction and fortification materials are normally delivered by DISCOM or COSCOM transportation and are carried as far forward as possible to reduce handling. Combat vehicles carry small amounts of these materials into the battle. These combat loads can consist of wire, pickets, and lumber as designated by unit SOP.

Class V

Class V is ammunition of all types (including chemical, radiological, and special weapons), bombs, explosives, mines, fuzes, detonators, pyrotechnics, missiles, rockets, propellants, and other associated items.

Class V supply is based on a RSR and a CSR.

RSR is the amount of ammunition, usually expressed in rounds-per-weapon-per-day, estimated to be required to sustain operations, without restriction, for a specified period. It is developed by the brigade S3 based on data from FM 101-10-1/2 and the situation and submitted through command channels.

CSR is the rate of ammunition consumption that can be supported, considering availability, facilities, and transportation, for a given period. For ammunition fired from weapons, it is expressed in rounds-per-weapon-per-day. For other Class V items, it is expressed in various units of measure for specific items (for example, a specific amount per day or per week). The CSR for a given period may well be less than the RSR. The DAO in the DMMC manages ammunition resupply by referring to CSRs for different types of ammunition.

The TF receives ammunition from the ATP in the BSA, which is operated by the FSB supply company. A backup ATP is positioned in the DSA, operated by the nondivisional ammunition company. If required, corps and division trucks and helicopters can deliver ammunition directly to the battalion combat trains, provided sufficient reaction time and ammunition are available.

When ammunition resupply is required, a request (DA Form 581) is prepared by S4 or support platoon personnel for an amount based on unit expenditures (or projected requirements in the case of caches) and the current CSR. The request is validated by the DAO or his representative in the BSA, based on the CSR and the unit's previous consumption. The ammunition is then picked up and transported to the field trains where it remains loaded until needed for company resupply.

When companies request Class V resupply, the support platoon dispatches ammunition vehicles to an LRP where a guide from the company guides them to the company area. Routine resupply of Class V is accomplished by LOGPACs.

Requests for nonscheduled resupply of Class V are sent to the combat trains CP. Resupply is made by ammunition vehicles positioned in the combat trains for that purpose.

Class VI

Class VI is all personal demand items, such as candy, cigarettes, soap, and cameras (nonmilitary sales items). Sundry packs are also Class VI items.

Requests for Class VI support are consolidated and submitted by the S1 through supply channels when a PX is not available.

Resupply flow is the same as for Class I resupply.

Class VII

Class VII has major end items such as launchers, tanks, mobile machine shops, vehicles, and organizational tool sets. Large items may be delivered by COSCOM directly to the TF trains. Smaller items are picked up by the support platoon at the distribution point in the DSA or BSA.

Class VIII

Class VIII is medical material, including repair parts peculiar to medical equipment.

Medical supplies are obtained by the medical platoon from the medical company in the BSA. Normally, these supplies are distributed by evacuation vehicles returning from the BSA to the aid station and from the aid station to the company team.

The medical platoon leader coordinates with the S4 for additional supplies as required or based on the S1 loss estimate and projection for mass casualty situations.

Class IX

Class IX consist of repair parts and components, including kits, assemblies, and subassemblies (repairable and unrepairable) which are required for maintenance support of all equipment.

The TF's stock of repair parts is based on a combat PLL. The maintenance platoon administration section manages repair parts.

Repair parts are issued based on a specific request or by RX. The TF obtains repair parts from the Class IX supply point in the BSA. Parts are moved forward during routine LOGPAC operations or as required to the UMCP. The maintenance platoon requests Class IX items (less RX), QSS, and major Class IX subassemblies such as engines and transmissions by submitting single line requests (DA Form 2765) to the maintenance company of the FSB. Low-dollar-value, high-demand parts (light bulbs, wiper blades, common bolts and nuts) are obtained from the repair parts QSS, operated by the FSB maintenance company, without formal requests. RX for selected repairable items (to include components and subassemblies) is handled on the basis of a simple exchange of the unserviceable item, with an attached DA Form 2765-1, for a serviceable item. If an unserviceable item is not available for exchange, the unit must submit a request (DA Form 2765-1). In some cases, controlled exchange and cannibalization may be required to obtain Class IX supplies.

Class X

Class X has most material to support nonmilitary programs such as agriculture and economic development (not included in Classes I through IX).

Class X items are requested, obtained, and delivered by the S4 based on requirements from the civil military and/or operations channels.

Specific instructions for request and issue of Class X supplies are provided by division or higher.

Supplies to Support Night Operations

While all classes of supply are affected by night combat, Classes I and III present the most significant problems. Class I supply points and kitchens must operate around the clock. At night, vehicles tend to operate in a lower gear or idle for longer periods, thereby requiring more fuel and oil.

Other items of supply for night operations vary in demand depending on weather, terrain, and type of operation under consideration. For most tactical operations at night, units must expect an increased demand for—

- Engineer tape and stakes.
- Tarpaulin shelters.

- NVD batteries.
- Flashlights and filters (green, blue, red, and infrared).
- Luminous tape and paint.
- Red lens goggles.
- Replacement bulbs.
- Replacement NODs.
- Chemical lights.

Maintenance Functions

Scope of Maintenance

Battlefield Damage Assessment and Repair

BDAR is the act of inspecting battle damage to determine its extent, classifying the type of repairs required, and determining the maintenance activity best suited to accomplish the repair. Battlefield damage repair involves the immediate repair of equipment by field expedient methods, if necessary. Vehicle commanders are the first line of leaders that are trained in techniques of BDAR. Each subsequent echelon of maintenance conducts BDAR. BDAR manuals outline specific procedures for most combat vehicle systems.

Categories of Maintenance

Maintenance involves inspecting, testing, servicing, repairing, requisitioning, rebuilding, recovering, and evacuating. Repair and recovery are completed as far forward as possible, at the lowest capable echelon. When equipment cannot be repaired on site, it is moved only as far as necessary for repair. When all maintenance requirements of the TF cannot be met, the XO determines maintenance support priorities for subordinate units based on operational requirements of the TF and on recommendations of the S4 and BMO. The Army maintenance system consists of the following four levels of maintenance:

Unit maintenance. Unit maintenance consists of maintenance tasks performed by the operator and crew and those performed by unit mechanics.

Tasks accomplished by the crew or operator include PMCS, impeding, lubricating, cleaning, preserving, tightening, spot painting, and minor adjustments. The crews must perform maintenance within their capability and promptly report any requirements beyond their capability.

Unit mechanics isolate faults with built-in or automatic test equipment, conduct visual inspections, make minor adjustments, and repair end items by exchanging faulty modules and components. These functions can be performed on site or in the UMCP. Unit mechanics also perform recovery tasks.

Direct support. DS mechanics diagnose and isolate defective end items. DS MSTs operate from the UMCP. If equipment cannot be repaired in the UMCP due to time constraints, workload, or the tactical situation, it is recovered to the BSA for repair. The maintenance company also operates a repairable exchange activity and performs light body repair.

General support. GS maintenance involves repair of modules and components by replacing internal pieces or parts, and repair of end items involving time-consuming tasks. GS is performed by units at echelons above corps.

Depot. Depot maintenance personnel rebuild end items, modules, and components. They perform cyclic overhaul and extensive modifications of equipment. Depot maintenance is performed by DARCOM depots, contractors, and host nation support personnel in fixed sites.

Forward Support Maintenance

Combat Power

Combat power is maximized when disabled equipment is repaired as far forward and as quickly as possible. The BMO, in coordination with the XO, directs the maintenance effort for the TF by using established time guidelines and by coordinating maintenance actions.

Time Guidelines

Maintenance time guidelines suggest the maximum time that unserviceable equipment will remain in various support areas. BDA and diagnosis indicate repair time. The item is repaired on site or recovered directly to the appropriate maintenance echelon in the appropriate support area. Factors in the decision include—

- Tactical situation.
- Echelon of work required.
- Availability of required repair parts.
- Current workload in each area.

The following table lists typical maintenance time guidelines. These times are flexible and should *not* be considered restrictive.

TIME FOR REPAIR (HOURS)	LOCATION
Less than 2	On site
2 to 6 (and can be towed)	UMCP until repaired)
6 to 24 (or less than 6, if vehicle cannot be towed)	Field trains
24 to 36	DSA

Table 8-1. Maintenance time guidelines.

Maintenance Concepts

The following discussion of battlefield maintenance concepts places the various maintenance echelons into proper perspective. The discussion illustrates how echelons overlap to provide continuous maintenance support to the maneuver units.

The BMO task organizes the maintenance platoon based on his analysis of current and anticipated requirements. He is concerned with providing the appropriate support at each of three locations: the maneuver company, the UMCP, and the field trains.

Normally, the BMO positions CMT VTRs and M113s with crews to support each company. The intent is to provide a quick-fix capability for those items that can be repaired in less than 2 hours and recovery capability for those items requiring more extensive repairs. The remainder of the CMT operates from the UMCP under the control of the BMO. When the tactical situation permits, the entire CMT may go forward to provide additional support forward.

The UMCP is normally under the control of the BMO and BMT. It is task organized with the maintenance platoon headquarters (-), one or more PLL trucks from the administration section, remaining VTRs from the recovery section, track automotive and turret repair teams from the service section, wheeled vehicle assets from the CMTs, and the DS MST. Task organization of the UMCP is modified based on the BMO's analysis of maintenance requirements and the tactical situation. The UMCP must become a collection point for nonoperational vehicles to the extent that it cannot move on an hour's notice. Anything that cannot be repaired in the UMCP, or that cannot be towed by UMCP assets, will be recovered to the field trains or directly to the FSB maintenance company in the BSA.

The remainder of the maintenance platoon is in the field tins under the control of the battalion motor sergeant.

The battalion maintenance platoon organizes to support cross-attachment as well as pure battalion operations. As previously discussed, one CMT is cross-attached to support each detached company. This team may be supplemented by an element from the maintenance services section. Additionally, the administration section is organized to quickly detach one PLL truck with trailer and a PLL clerk to support the detached company.

To support this concept, the administration section configures four PLL trucks and trailers to carry the PLL needed to support one maneuver company each. Additionally, these vehicles will transport enough packaged POL to support repair operations. One of the remaining PLL trucks and trailers will be configured to carry the PLL associated with HHC tracked vehicles. The remaining PLL truck and trailer will be configured to carry the PLL for the battalion's wheeled vehicles; it operates from the field trains.

Additionally, high-demand, low-volume parts are carried on the CMT's tracked vehicles. The selection of parts that are carried forward on the tracked vehicles, as well as the breakout of parts to be carried on each PLL truck and trailer, should be addressed in the battalion maintenance platoon SOP.

In the unlikely event that the battalion detaches more than two companies, the maintenance platoon will task organize, including PLL, to support this detachment.

Attached maintenance elements come under the control of the BMO. Since the attached maintenance elements are equipped and trained to support the attached unit, they are used primarily for this support. Task organizing attached maintenance assets is not routinely done for the following reasons:

- PLL repair parts cannot be readily split up to support lower than company level.
- Special tools and test sets are usually one of a kind items and will not be readily available to detached mechanics.
- Personnel movements require coordination, transportation, and time. When the task organization changes, the process must be reversed.

The maintenance process is initiated on site by the equipment operator/crew. BDAR is performed, and whatever the cause of the equipment malfunction, the operator/crew begins corrective action. The vehicle commander makes an initial status report to the platoon leader describing the inoperable condition(s), circumstances, and location. When subject to direct fire, the vehicle commander uses smoke to screen the vehicle, if possible. He employs self-recovery or uses another vehicle to push or tow his vehicle to a covered position. He then isolates the fault as quickly as possible and determines what will be needed (recovery parts, or repairs) to fix the vehicle. He does this using the procedures outlined in the BDAR manual, considering mission-essential maintenance only. The vehicle commander considers use of self-recovery, field fixes and expedients, and assistance from other elements in the vicinity to put his vehicle back into action. He consults the BDAR criteria in the technical manual; if repairs are beyond his capability, he requests assistance as prescribed by unit SOP. If the item can be returned to operation by local resources, he initiates action to do so.

When the platoon leader determines that repair is beyond the platoon's capability, he contacts the 1SG or XO. The 1SG dispatches the CMT as soon as it is feasible and informs the BMO over the A/L net. Procedures for requesting support are in the TF SOP, to include applicable communications security requirements. Information usually required includes—

- Identification of unit.
- Identification of equipment.
- Location (map coordinates).
- Nature of damage.
- Evaluation of on-site repair (extent of damage, level of repair and estimated time required).
- Repair parts required, if applicable.

- Enemy situation, security, and NBC considerations.
- Recommended route of approach.
- Contact points for unit guides, if required.

The CMT M113 and VTR are forward in the company trains. These vehicles carry the tool boxes, unit-level technical manuals, and a limited number of special tools and repair parts. (M1/M2 test equipment normally remains at UMCP because of its size; it may be sent forward as needed based on the BMO's and CMT's assessments.) The CMT confirms the vehicle commander's BDA before attempting repairs. The CMT usually repairs damage on-site if the repair can be completed within two hours.

If a damaged vehicle cannot be repaired within two hours, it is recovered to the UMCP or the field trains, where it is placed to make maximum use of the weapon systems for defense of the site. However, before a VTR is committed, other recovery means are attempted. Field expedient procedures may return enough mobility to let the damaged equipment move. Other damaged (but mobile) equipment may tow the damaged vehicle. The tactical situation may permit an operable like vehicle to do the recovery when a VTR is not available. The option of having the CMT recover the vehicle only as far as an MCP, or the MSR, and then returning to the company to continue support, should also be considered. Maintenance platoon VTRs can then recover the vehicle from the predetermined drop site to the UMCP.

The damaged vehicles recovered to the UMCP are repaired by maintenance platoon elements or MSTs from the FSB maintenance company. When not involved in on-site repairs, the CMTs may also repair vehicles in the UMCP. This is especially true of work requiring diagnostic test equipment that cannot be taken into the combat positions.

Vehicles that cannot be repaired within six hours or that would otherwise overload the capability of the UMCP are recovered to the field trains or directly to the FSB maintenance company collection point for repair. This recovery may be accomplished by the CMT VTR alone; by the CMT VTR to a MCP or MSR, then by a maintenance platoon VTR; or by a combination of VTR and HETs. The BMO will coordinate and direct the exact method to be used. The use of HETs is the preferred, but they are restricted by road requirements and availability. HETs are requested through the FSB maintenance company. Some crew members accompany the vehicle to the rear to assist mechanics in the repair of the vehicle and return it to the unit when repaired. They also man operational weapon systems on the vehicle to provide additional security to rear areas. CE equipment installed in the vehicle is evacuated with the vehicle. Personal equipment of crewmen not accompanying the vehicle and any special equipment are removed before the vehicle leaves the area.

The UMCP displaces with the other elements of the combat trains. During periods of frequent displacement, the BMO may direct that the UMCP displace by echelon. In this case, some assets of the maintenance platoon, including the BMO, complete repair on vehicles at the old UMCP, then displace forward to the new location. Maintenance platoon assets not involved with these repairs move with the remainder of the combat trains and establish the forward UMCP.

During rapid forward moves such as in the exploitation, the UMCP conducts only MEMO repairs and simple recovery. Other disabled vehicles are taken to MCPs on an MSR and remain to be repaired or evacuated. Field trains and the maintenance company of the FSB displace forward to subsequent locations. The BMO coordinates the repair or evacuation with the battalion motor sergeant in the field trains.

In field trains, remaining elements of the battalion maintenance platoon perform other tracked and wheeled vehicle maintenance and Class IX resupply. The battalion motor sergeant coordinates requirements with the HHC commander and with the maintenance company of the FSB. He also coordinates maintenance requirements with the parent headquarters of any attached or supporting elements working with the TF.

Maintenance Operations at Night

Vehicles are processed and integrated into the work program as soon as they are damaged. At night, they are positioned in lightproof or light-suppressing shelters. Permanent structures such as warehouses, civilian garages, and barns are used. Work continues until the repairs are completed.

If large shelters are not available, mechanics repair small components, on or off the vehicle, under a lean-to or some other makeshift shelter constructed of a tarpaulin or a poncho. Chemical light sticks provide adequate light for most detailed repairs under these conditions.

Most maintenance work is accomplished in the fighting positions or in the UMCP. To prevent congestion and confusion, a staging area is designated for vehicles awaiting repair. Tow cables or tow bars remain attached to vehicles that cannot move under their own power. This makes it easier to move the vehicle quickly when necessary.

Forward of the UMCP, mechanics use night-vision goggles to accomplish most repairs. Mechanics should mark tools and other small components with luminous tape. Using night-vision devices for repair of equipment is a very time-consuming and dangerous process. Extreme care must be used when doing these repairs. When night-vision goggles are not available, repairs are made under lightproof shelters. Heavy vegetation or thick overhead foliage provide additional concealment.

Field Services

Graves Registration Services

Graves registration services are provided by the MSB supply and service company. Graves registration at TF level consists of three functions: collection, identification, and evacuation.

The battalion should designate a handling team as an additional duty. The team would typically be located in the combat trains and be made up of an NCO and five to six soldiers. Either the assistant S4 NCO or the PSNCO, located in the combat trains, makes a good team NCOIC. The rest of the team consists of soldiers assigned to the combat trains such as truck/track drivers. (Do not use newly assigned soldiers.) The team needs to be equipped with two tarps, two stretchers, body bags, personal effects bags, and preprinted inventory forms. The team needs to be trained in the use of the body bags.

A typical battalion scenario follows:

- Battalion surgeon/PA pronounces the soldier dead. The casualty card is annotated.
- The handling team is notified and carries the remains to the collection site, downhill, downwind, and out of sight of the wounded and replacements.
- The team lays the body on a tarp to help protect it from the elements and to prevent the loss of personal effects. If the team does not have time to check the remains for personal effects at this time, the second tarp is used to cover the remains.
- When the situation permits, two soldiers from the handling team search the remains and the NCOIC records the inventory. This is the single most time-consuming step. The soldiers place themselves on each side of the body and work from the head down, placing small items in a container (the helmet can be used). Make sure that all pockets of the uniform are properly checked. Also check helmet webbing, pant legs above boot blouse, boots, ammunition pouches, and SOI. Government equipment is set aside for reuse. Notebooks are checked for classified information. All classified information is removed. All identifying articles such as ID cards or ID tags are noted. If these are absent, a statement of recognition (DD Form 565) establishing identification for the remains is required. If no personal effects bags are available, place personal effects with a copy of the inventory in a substitute container. Place the personal effects with the remains.
- The battalion chaplain provides the necessary services. This information is annotated on the casualty card for relay to the next of kin.
- The KIA is placed in the body bag and then placed on a cargo vehicle for transfer to the brigade collection site.

Handling bodies is not a pleasant task, but it is a task that has to be faced. An ineffective program will be a significant negative morale factor. Training will reduce its psychological impact during the initial stages of combat.

Clothing Exchange and Bath

Clothing exchange and bath services are provided by the supply and service company, when augmented. CEB services are requested through the brigade S4. The request must specify location of the unit making the request, desired time for service, and range of clothing sizes for unit members. The requesting unit must be prepared to provide soldiers to help setup the CEB point.

Salvage Services

Salvage services are provided by the FSB supply company. A salvage collection point is established in the BSA. It receives serviceable, unserviceable (repairable), discarded, abandoned, and captured supplies and equipment. The salvage point will not accept COMSEC or medical supplies, toxic agents, radioactive materials, contaminated equipment, aircraft, ammunition, and explosives.

Personnel Support

Personnel Services

Personnel service support includes CSS functions that sustain the morale and welfare of the soldier. These include P&A services, chaplain activities, legal services, finance services, public affairs, postal services, EPW support, and medical support. P&A services fall within the staff area of the battalion S1. They include the following:

Strength Accounting

Company teams and attached units submit a personnel daily summary report to the S1 in the combat trains CP. The S1 forwards a TF consolidated report through brigade to the division AG. The PAC in the field trains is furnished an information copy. These reports, together with authorized position vacancies, are the basis for requesting individual replacements and Class I resupply. Accurate strength reports also provide the commander and staff with information to plan future operations. Daily reports are included in the TF SOP.

Casualty Reporting

The S1 ensures that both strength and casualty reporting occur in a timely and accurate manner. Casualty reports provide the detailed information necessary to cross-check strength reports. Casualty reporting occurs as soon as possible after the event and is initiated by the squad leader, TC, or any individual having knowledge of the incident. The casualty feeder report (DA Form 1156) is carried by all small-unit leaders to report battle/hostile action casualties and nonbattle casualties. It provides initial information to the AG for preparing the casualty report used by DA to notify next of kin. The casualty feeder report also validates the soldier's line-of-duty status, which determines payment of benefits. When a soldier is reported missing or missing in action or when the remains are not under US control, a witness statement (DA Form 1155) accompanies the casualty feeder report. Casualties are reported to the 1SG, who collects and forwards them to the combat trains CP. The S1 cross-checks the reports, requests any needed clarification, adjusts unit strength reports, and forwards the reports through the brigade S1 to the AG, providing an information copy to the AG.

Replacement Operations

Replacement flow is monitored by the PAC in the field trains. The HHC commander establishes a replacement receiving point in the field trains and notifies the brigade S1 of its location. All replacements or returnees are brought to this point for initial processing. The division AG is normally responsible for delivering replacements to the BSA. Hospital returnees are handled as replacements by the division AG. Every reasonable effort is made to return the recovered soldier to his original unit. Returnees from the BSA treatment station are released directly to their field trains. They move forward to their unit with the LOGPAC.

Other Administrative Services

Intense combat greatly reduces time available for processing of personnel actions. Consequently, actions not seriously affecting troop morale will receive low priority. During lulls in the battle, the S1 and PSNCO complete all other necessary P&A actions. If possible, these are accomplished by forming personnel contact teams that move forward to company locations.

Chaplain Activities

Chaplain activities are provided by the unit ministry team (one chaplain and one chaplain assistant) operating from the combat trains. The unit ministry team is dedicated to serving the spiritual needs of soldiers in combat.

Legal Service Support

Legal service support is provided to the TF on a GS basis and includes legal advice to commanders on military, domestic, foreign, and international law, and advice and representation to soldiers in military justice and administrative actions.

Finance Service Support

Finance support to the TF is usually provided through the division finance support officer and by MPTs from the area finance support center. During low-intensity operations, MPTs make combat payments in amounts established by the theater army commander or in lesser amounts if the soldier so desires. The brigade commander may establish an amount less than the maximum for personnel of the brigade, based on the tactical situation and needs of the soldier.

Postal Service Support

Postal service support is provided by the postal element, assigned to the corps DS postal company, which receives and separates mail by battalion, then turns it over to the brigade S1. The battalion mail clerk receives and sorts the mail and distributes it to the unit supply sergeant (assistant mail clerk) who delivers it to the 1SG or to the soldier himself during LOGPAC resupply. When a soldier wants to mail a letter home, the procedures are reversed. Normally, mail is delivered and received with the LOGPAC. The brigade and TF S1s must establish procedures to ensure mail is sorted and delivered based on current task organizations. Procedures must also be established to properly secure accountable mail until it is delivered to the addressee. Packages are not routinely sent forward during combat operations; procedures for handling packaged mail are normally established by division or higher.

Prisoners of War

The S1 plans and coordinates EPW operations, collection points, and evacuation procedures. EPW are evacuated from the TF area as rapidly as possible. The capturing company is responsible for guarding prisoners, recovering weapons and equipment, removing documents with intelligence value, and reporting to the main and combat trains CP. EPW are evacuated to the brigade EPW collection point on returning LOGPAC vehicles, or they are moved to the MSR under guard and their location reported to the S4, who coordinates transportation. As necessary, the S2 reviews and reports any documents or information of immediate value. The S4 coordinates evacuation of large amounts of enemy equipment. Wounded prisoners are treated through normal medical channels but kept separated from US and allied patients. The unit chaplain may conduct services for EPWs or assist by supporting detained chaplains of enemy forces.

Medical Support

Planning

TF medical support is planned by the medical platoon leader and S1 and is provided by the battalion medical platoon. Backup support is provided by the FSB medical company. To support TF operations, the medical platoon leader must understand the scheme of maneuver as well as the support plan of the FSB medical company.

Organization

The medical platoon is organized with a platoon headquarters, a treatment squad, four ambulance squads, and a combat medical section. This organization is designed to facilitate quick evacuation of wounded soldiers so that they may be treated by trained medical personnel within 30 minutes of the time they are wounded.

The platoon headquarters contains the medical operations officer and the platoon sergeant. They operate the CP and provide C3 for the medical platoon.

The treatment squad contains the platoon leader (battalion surgeon), the PA, and the treatment personnel. They can form one or two BASs capable of operating from, or forward of, the battalion combat trains using their organic M577s.

The ambulance squads operate from the company trains and from the BAS. Tracked ambulances and crews habitually work with the same company, as do medics from the combat medical section. The senior combat medic acts as the squad leader for this ad hoc company medical team.

Functions

Company medical support. These maneuvers include the following:

- Providing emergency medical treatment to the sick and wounded. Until patients are evacuated or returned to duty, protection is provided for wounded soldiers to avoid further wounding from artillery fragments and small arms by placing them inside armored ambulances or other protected enclosures.
- Assisting combat vehicle crews in evacuating injured crewmen from their vehicles.
- Providing medical evacuation for litter patients and assisting the evacuation of ambulatory patients or providing their evacuation if the tactical situation permits.
- Initiating the field medical card for the sick and wounded, and time permitting, completing this card on deceased personnel.
- Screening, evaluating, and treating patients suffering from minor illnesses and injuries. Patients requiring no further attention are returned to duty; those requiring additional treatment are evacuated to the BAS.
- Remaining abreast of the tactical situation, and complying with the instructions of the unit 1SG.
- Ensuring that the company commander and the battalion surgeon are informed of the status of patients seen and of the overall health status of the company.
- Training unit personnel to enable them to perform self-aid/buddy aid.
- Providing trained combat lifesavers with medical resupply required.

Battalion aid station. The BAS provides the facility and the medically trained personnel to stabilize patients for further evacuation, to perform immediate lifesaving or limb-saving surgery, and to treat patients with minor wounds or illnesses and return them to duty. Additionally, the BAS can operate two treatment teams if the tactical situation requires it. Other functions of the BAS include—

- Receiving and recording patients.
- Notifying the S1 of all patients processed, giving identification and disposition of casualties as directed by SOP.
- Preparing field medical records, and verifying information on field medical cards.
- Requesting and monitoring aeromedical evacuation of patients.
- Monitoring personnel, when necessary, for radiological contamination prior to medical treatment.
- Decontaminating and treating chemical casualties.

- Monitoring the activities of medical platoon personnel attached to company teams.
- Medically testing forward water points for suitability as battalion water resupply points.
- Treating patients with combat stress. These patients are comforted, given food and drink, observed for a short time, put to work assisting medical personnel, and later returned to duty.

Medical Evacuation

Medical evacuation is the process of moving patients from the point of injury or illness, through successive medical treatment facilities, to the appropriate facility for treatment, early return to duty, or evacuation out of the combat zone. Medical evacuation is the responsibility of the next higher level medical support, for example, the FSB medical company evacuates patients from the BAS, or coordinates medical evacuation from corps resources. Patients are evacuated no further to the rear than their condition requires.

Medical evacuation within the TF is routinely accomplished by the medical ambulance squads. Medical evacuation outside the TF may be accomplished by ground evacuation or by a combination of both ground and air ambulances.

Aeromedical evacuation out of the TF sector is used as much as possible. Ground ambulances are used only for patients who cannot be evacuated by air. The specific mode of evacuation is determined by the patient's condition, aircraft availability, and tactical situation. The physician or PA treating the patient normally makes this determination.

Medical Supply and Property Exchange

The medical platoon maintains a two-day stockage of medical supplies. To prevent unnecessary depletion of blankets, litters, splints, and the like, the receiving medical facility exchanges like property with the transferring agency. Medical property accompanying patients of allied nations is disposed of in accordance with STANAG 2128 Appendix C.

Preventive Measures

Combat casualties may not constitute the majority of hospital admissions. Experience in World War II, Korea, and Vietnam indicates that the vast majority of hospital admissions were for disease and nonbattle injury (injuries not directly attributable to enemy action). Commanders can reduce disease and nonbattle injury by emphasizing the following preventive measures:

- Unit and mess sanitation and personal hygiene.
- Battlefield safety.
- Combat dress identification.
- Water purification and control.
- Immunization programs.
- Venereal disease prevention.
- Heat and cold injury prevention.
- Proper work-rest cycles.
- Pet control.
- Pest control.

Weapon System Management

WSRO are discussed in depth in Section I of this chapter. WRSO at the TF level are the same as those at brigade level.

The battalion XO is the battalion WSM. He is charged by the commander to keep weapon systems manned and in shape to fight. At company and battalion level, this means cross-leveling internal assets to maximize manned, operational weapon systems to fight the current battle, as well as coordinating the flow of replacement personnel and systems.

The XO coordinates and supervises efforts of the S1 and S4 to ensure accurate reports on current personnel and logistical status. The WESS report ties key logistical and personnel information together to aid in the management of WSRO. The WESS report lists weapon systems status in terms of shortages by the type of personnel, type of equipment, and organization.

Procedures to accept replacement weapon systems differ from those used to accept individual replacements and major end item (vehicle) replacements in only one way if a ready-to-fight weapon system is issued, the crew and vehicle remain together and are assigned directly to the using unit.

SECTION III. COMPANY TEAM

Company Team Combat Service Support Overview

General

Supply Section

The only organic CSS asset at company level is the supply section. The burden of CSS is removed from the company team commander as much as possible and placed on the battalion TF. The company team commander can then concentrate on fighting his unit to accomplish the tactical mission.

CSS Responsibility

CSS responsibility at company level is primarily to report and request requirements and ensure CSS is properly executed once it arrives in the team's area of responsibility. At the company team level, this function is normally performed by the XO and 1SG, who send personnel and logistics reports and other necessary information and requests to the rear.

Headquarters and Headquarters Company

The bulk of the tank and mechanized infantry battalion's CSS assets are assigned to the HHC. A slice of the personnel and equipment from the medical platoon, maintenance platoon, POL, and transportation sections of the support platoon is designated to support each maneuver company. This slice will support the company team's combat operations.

Company Team Commander

The commander is responsible for CSS of the company; however, in combat operations, he is preoccupied with the tactical situation and depends heavily on his XO and 1SG to assist him.

Executive Officer

The XO is CSS planner and coordinator. During preparation for the operation, he coordinates closely with the 1SG to determine requirements and ensures arrangements have been made for CSS to support the tactical plan. He does this with the understanding that he is first and foremost the company 2IC and is highly involved in tactical planning. In the CSS area, the XO determines the general location for the company resupply point and receives periodic maintenance updates from his platoon leaders, platoon sergeants, 1SG, and maintenance team chief.

First Sergeant

The 1SG is the CSS operator for the company. He executes the company logistics plan, relying heavily on the company and battalion SOP. The 1SG directly controls and supervises the company trains. He receives CSS reports from the platoon sergeants and provides that information to the XO. The 1SG assists the XO in completing CSS preparations and in planning and conducting CSS operations. He also—

- Receives, consolidates, and forwards all administrative, personnel, and casualty reports to the TF combat trains.
- Directs the medical evacuation section and CMT forward when the situation requires.
- Establishes and organizes the company team resupply point.
- Meets the LOGPAC at the LRP, guides them to the company resupply point, and supervises the operations there.
- Assigns replacements to the platoons and orients new personnel to the company.
- Supervises the evacuation of casualties, EPW, and damaged equipment.
- Maintains battle roster for the company.

Supply Sergeant

The supply sergeant is the company's representative in the battalion field trains. He assembles the standardized LOGPAC and moves it forward to the battalion LRP. The supply sergeant follows the 1SG to the company resupply point and assists in the resupply operation. He also—

- Requisitions Classes II, IV, VII, and some Classes VIII and IX supply items.
- Coordinates with the support platoon leader for supply Classes I, III, and V.
- Maintains individual supply records/clothing records.
- Picks up personnel replacements at the TF field trains and prepares them for linkup with the 1SG.
- Receives and evacuates KIA to the graves registration point in the BSA.
- Returns the LOGPAC with EPW, damaged vehicles, and so forth to the BSA for further disposition.

Company Maintenance Team Chief

The CMT chief is assigned to HHC, either OPCON or DS to the company. He also—

- Organizes and supervises CMT mechanics.
- Supervises BDAR procedures, MEMO procedures, and maintenance time guidelines.
- Advises XO and 1SG on vehicle recovery, repair, and destruction.
- Ensures necessary repair parts requests are prepared and forwarded to the UMCP.
- Distributes repair parts when received.
- Supervises control exchange and cannibalization when authority is delegated.
- Coordinates with platoon sergeants for maintenance status of platoons (if not provided by the 1SG).
- Assumes responsibility for recovery operations to the UMCP or other designated MCP points.

Senior Aidman/Platoon Aidman

The senior aidman (in an armor company) or platoon aidman (in a mechanized company) is assigned to HHC and attached to the company. He also—

- Supervises triage of wounded/ill (enemy and friendly).

- Advises chain of command on wounded/ill.
- Provides first aid, stabilizes injured for evacuation, and evacuates seriously wounded under direction of 1SG.
- Controls, issues, and requests resupply of Class III, including nerve agent antidote injectors.
- Trains soldiers in first aid procedures.
- Assumes responsibility for medical evacuation team operations.
- Advises chain of command on field sanitation measures.
- Resupplies Class VIII items to combat lifesaver.

Company Trains

During combat operations, the company habitually operates with the maintenance and medical teams forward (company combat trains). The remainder of its CSS elements operate from the battalion combat trains, UMCP, or the field trains in the BSA. The 1SG is responsible for all of the company trains, but directly supervises the company combat trains from a survivable vehicle (maintenance M113). The supply sergeant is the 1SG's principal assistant; he supervises the company's assets in the battalion field trains.

The company trains will normally operate about 500 meters to 1,000 meters or one terrain feature to the rear of the company team. They provide immediate response for recovery, medical aid, and maintenance. This allows maintenance and other essential CSS functions to be performed in covered and concealed positions behind the FLOT.

Support during the battle will be limited primarily to medical and maintenance activities. Emergency resupply is performed by the 1SG when required.

During a battle, whether defensive or offensive, the 1SG continuously monitors the company command net and sends medical and maintenance support forward to the platoons, as required. He keeps the combat trains CP informed continuously, either by radio or messenger.

Supply

The supply sergeant is responsible for obtaining and delivering supplies to the company. He delivers small items and depends on the assets of the support platoon to deliver bulky or high-expenditure items. Priorities for delivery are established by the company commander, but the demands of combat will normally dictate Classes I, III, IV, V, VIII, and IX supplies as most critical to successful operations.

Class I (Rations and Gratuitous Issue of Health, Morale, and Welfare Items)

MRE are stocked on board each vehicle in a basic load based on SOP (usually three to five days). MRE and water are delivered daily to the company by the supply section from the field trains. Hot meals are served when possible. Water is a critical item and must be replenished daily, especially if the unit is wearing chemical protective clothing. Rations are automatically requisitioned and issued by the S4 section based on daily strength reports sent to the S1 by the companies.

Class III (Petroleum, Oil, and Lubricants)

Class III bulk and packaged products are delivered to the company by the support platoon. Resupply is accomplished from the battalion field trains as requested by the 1SG. If the tankers are attached to the company, they will return to the Class III point in the BSA for refill as soon as the company has been refueled. Small amounts of packaged products (hydraulic fluid and lubricating oil) are stored on each combat and tactical vehicle. These are replenished from stocks on the bulk fuel tankers.

Class IV (Construction Materials)

Class IV items are requested through command channels. Basic loads of materials required for the construction of individual fighting positions should be a part of each vehicle's load plan and specified in the company team SOP.

Class V (Ammunition)

Class V resupply is based on a report of expenditures submitted to the combat trains CP by the 1SG. The ammunition is delivered to the company by the LOGPAC. This ammunition will be pre-positioned (in a defense or delay) or distributed as part of the tailgate or service-station resupply.

Class VIII (Medical)

Class VIII items are provided by the medical platoon. Requests are submitted to the battalion TF aid station by the medics. When the medical supplies are received, they are issued to the medics by the aid station.

Class IX (Repair Parts and Documents for Equipment Maintenance)

Class IX items are requested through the PLL clerk. They may be delivered to the LOGPAC, the maintenance platoon, or the maintenance team may have to return to the UMCP to pick them up.

Maps

Maps are requested from the battalion TF S4.

Resupply Operations

General

Resupply operations can be described as routine, emergency, and prestock. Each method is developed in the company SOP and rehearsed in training. The actual method selected will depend on METT-T.

Routine Resupply

Routine resupply operations are the regular resupply of Classes I, III, V, and IX items, mail, and any other items requested by the company. Routine resupply takes place at least daily. Periods of limited visibility are best for resupply, if possible. Resupply of Class III takes place at every opportunity. M1 tank units in offensive operations routinely require refueling twice each 24 hours. The LOGPAC technique is a simple and efficient way to conduct routine resupply operations. A LOGPAC is a centrally organized resupply convoy originating at the TF field trains. LOGPACs should contain all anticipated supplies required to sustain the company for a specified time, usually 24 hours or until the next scheduled LOGPAC operation. Company team and battalion SOPs specify the exact composition and march order of the LOGPAC.

Company Resupply

Company supply sergeants assemble their LOGPACs under the supervision of the support platoon leader or HHC commander in the battalion field trains. Replacements and hospital returnees return to the company location on LOGPAC vehicles as required. Once the LOGPACs are prepared for movement, the supply sergeant will tactically move them as part of the TF resupply convoy led by the support platoon leader. In emergencies, a company LOGPAC may be dispatched individually to meet the 1SG at an LRP. This technique is not recommended because the LOGPAC is very vulnerable to attack, loss of communication, and misorientation when moving by itself.

Task Force Logistics Package

The TF LOGPAC convoy is met at the TF LRP by company 1SGs, representatives from the combat trains CP and UMCP, and even specialized separate platoon sergeants when necessary. The 1SG turns in routine reports to combat trains representatives, turns in parts requisitions and the deadline status to the UMCP representative, picks up routine correspondence, and awaits the LOGPAC.

First Sergeant

The 1SG or his representative meets the LOGPAC and then guides it to the company resupply point.

Resupply Techniques

The 1SG establishes the company resupply point using either the service-station or tailgate issue technique. The commander or XO, if delegated, will decide on the technique to be used and inform the 1SG. The 1SG will brief each LOGPAC vehicle driver on the resupply method to be used. He will also establish the company team resupply point and notify the commander that it is prepared. The commander will direct the platoons to conduct resupply based on the tactical situation. Either of these techniques, or variations thereof, are used for emergency resupply.

NOTE: In light infantry units, service-station resupply is called out-of-position resupply, and tailgate resupply is called in-position resupply.

Service-Station Method

Figure 8-2 illustrates the following procedures.

Tactical vehicles enter the resupply point following one-way traffic flow.

Only those vehicles requiring immediate unit or higher maintenance stop in maintenance holding areas before conducting resupply.

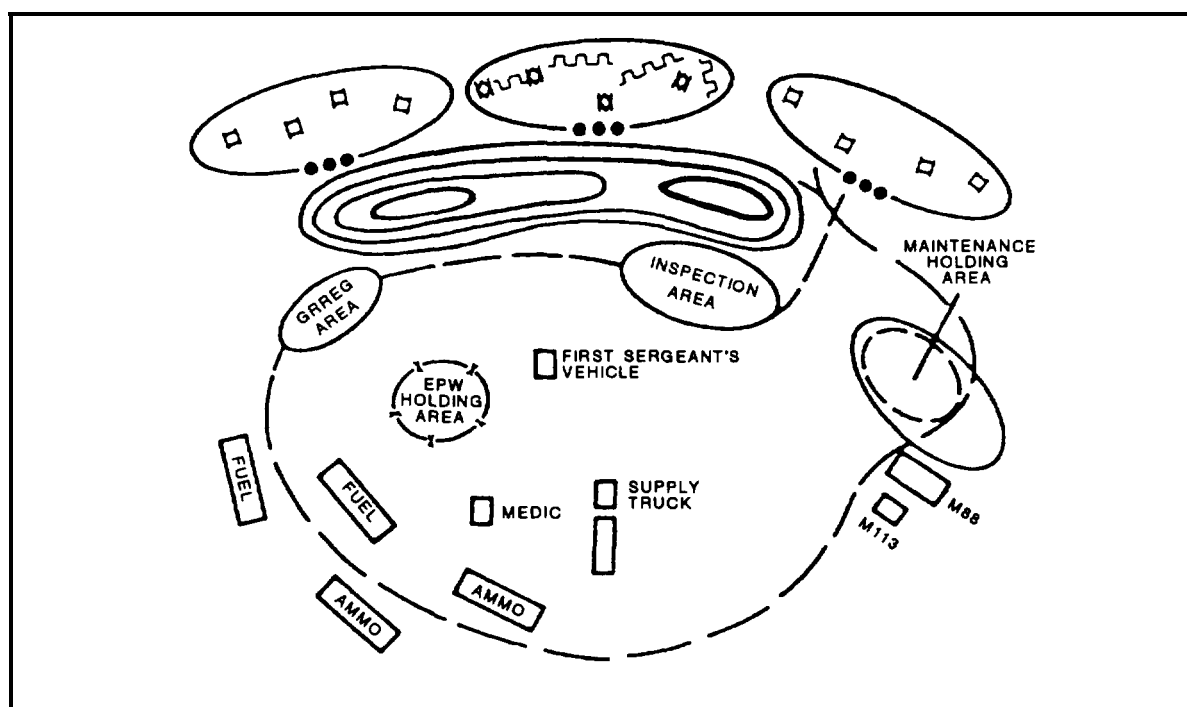


Figure 8-2. Service-station issue method.

If not already evacuated, WIA, KIA, and EPW are removed from platoon vehicles once they stop at the refuel or rearm point.

Vehicles will rearm and refuel rotating to each point.

Crews rotate individually to feed, pickup mail, pickup supplies, and refill or exchange water cans.

Once all vehicles have completed resupply, they move to the holding area, where the platoon leader or platoon sergeant will conduct a PCI (time permitting).

Based on the enemy situation, vehicles will pull out of their positions one vehicle at a time per platoon, by section, or by platoon. They will be resupplied and return, rotating until the company has been resupplied.

NOTE: Medical evacuation vehicles are positioned an equal distance between the refuel and rearm points. This decreases the number of stops that a vehicle has to make.

Tailgate Method

Figure 8-3 illustrates the following procedures.

Combat vehicles remain in place or back out of their position a short distance so the resupply vehicle is not exposed. POL and ammunition trucks go to each vehicle position in turn.

Crewmen rotate individually through feeding areas and pick up supplies, water, and mail.

KIA and personal effects are brought to the holding area by platoon personnel.

Armored ambulances pick up critically wounded; other injured are carried or walk to the ambulances for first aid.

EPW are centralized and guarded.

Vehicles requiring maintenance are brought to the maintenance area.

Inspections are completed by the chain of command at each vehicle position.

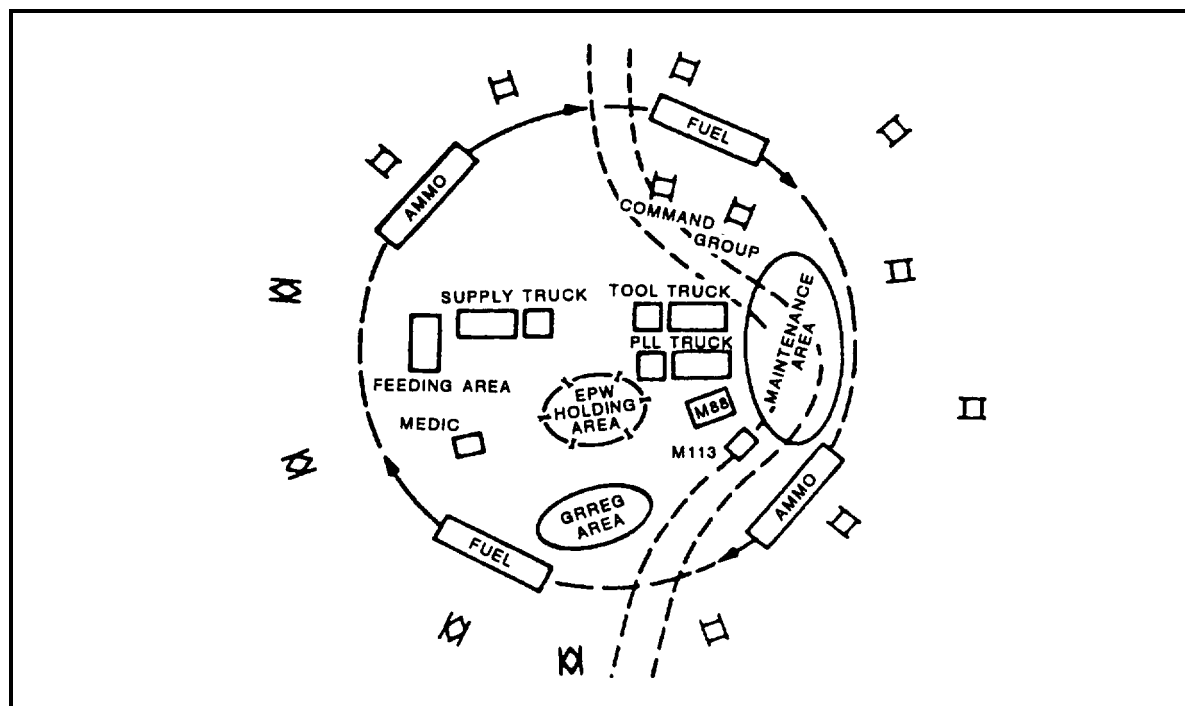


Figure 8-3. Tailgate issue method.

NOTE: The tailgate issue method is normally used only in an AA. If it is employed in forward positions, resupply must be masked by terrain. This procedure takes much longer than the service-station method.

LOGPAC Return to Battalion Trains (Preparation)

When the company team has been resupplied, LOGPAC vehicles are prepared for the return trip. Preparations include the following.

Vehicles requiring recovery for maintenance or salvage are prepared for towing and lined up (if not previously recovered to the UMCP).

KIA are placed in mortuary bags or wrapped in blankets or ponchos and placed on fuel trucks, cargo trucks, and/or disabled vehicles.

Slightly wounded who are not already evacuated by air or ground ambulances will be put on cargo trucks and/or disabled vehicles for transportation to the LRP.

EPW are consolidated on damaged combat vehicles or empty cargo trucks and guarded by infantrymen from a cross-attached platoon, walking wounded, or other company team personnel.

When resupply operations are completed, the 1SG or supply sergeant returns the LOGPAC to the LRP, where it is met by the support platoon leader. When possible, the reunited TF LOGPAC convoy returns to the field trains together. When METT-T requires, the individual company LOGPACs are dispatched individually to the field trains. Returning company LOGPACs individually is only slightly less hazardous than dispatching them forward on their own.

Emergency Resupply

Occasionally, usually as a result of combat, the company team may have such urgent need for resupply that it cannot wait for a routine LOGPAC. Emergency resupply may involve Classes III, V, and VIII; NBC equipment; and on rare occasions, Class I. The TF will usually use support platoon and medical assets in the TF combat trains to conduct emergency resupply of company teams. Because it often occurs while in contact with the enemy, special techniques must be considered. When the platoons are under fire, limited supplies can be brought forward to the closest concealed position, where the tailgate method may be used. Individual fighting vehicles drop back to resupply at the direction of the platoon leader, then return to fight. For resupply during a lull in combat, the service-station method may be appropriate.

Pre-positioning Supplies

Pre-positioning supplies is required in most defensive operations. Normally, only Class V supply items are pre-positioned. The location and amount of pre-positioned ammunition must be carefully planned, and each vehicle commander must be informed. All leaders down to TC and squad leader verify the locations of the sites during their reconnaissance and rehearsals. Pre-positioning considerations include the following:

- Pre-positioned ammunition is on pallets, preferably in covered, protected positions.
- Pre-positioning frees cargo vehicles to bring more ammunition forward.
- The possibility of capture or destruction of pre-positioned ammunition is a risk for the company. The company cannot guard pre-positioned sites with the manpower available.
- Pre-positioned ammunition must be far enough away from vehicles and individual fighting positions that its destruction will not cause friendly vehicle or personnel casualties.
- Pre-positioning fuel is difficult. It requires covered sites separate from ammunition as well as additional equipment, including fuel transfer pumps and drums, blivets, and 5-gallon cans in quantity.

Methods of Pre-positioning Supplies

The following describes the two main methods of pre-positioning supplies.

Method 1

Class V supply is located in one place inside the AA or BP (see Figure 8-4). Each vehicle pulls into the central area to upload ammunition and rations, if any are pre-positioned. Pre-positioned fuel tankers are set up at the rear of position, and refueling is done using the service-station method.

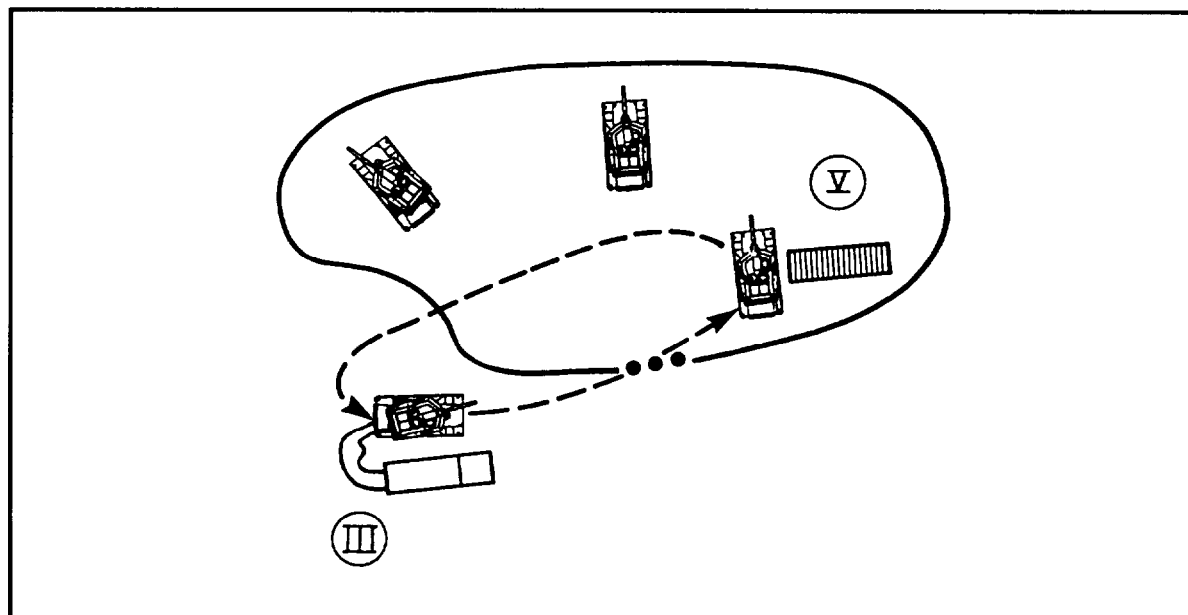


Figure 8-4. Pre-positioned supplies, method 1.

Method 2

Class V supply is pre-positioned at each vehicle position, and Class III fuel tankers are pre-positioned in one location for the entire platoon (see Figure 8-5). In this method, Class V supplies are placed on the ground in the vicinity of each vehicle position. When the platoon arrives, three vehicles move into their fighting positions and begin to rearm. The fourth vehicle stops at the Class III fuel tanker located to the rear of the position and refuels. When the refueling vehicle is full, it moves into its fighting position and begins to rearm while another vehicle moves to the refuel point.

Health Services Functions

The medical aid team attached to the company provides emergency medical aid and evacuation for the company. The team provides first aid for minor injuries or illnesses and emergency medical treatment to stabilize seriously wounded soldiers for transportation to the battalion aid station. Medics advise the commander and assist company field sanitation teams in maintaining the health of the soldiers. The medics are under the control of the 1SG. They must know where the battalion aid station is located and how to find their way there and back without assistance.

When casualties occur, they are sustained by combat lifesavers and platoon medics until they can be moved to a covered position for transfer to the company medics. The 1SG dispatches the armored ambulance to meet the vehicles with wounded aboard. If there are several casualties in each platoon, the platoons consolidate their wounded in one spot for treatment and evacuation. Based on reported severity of wounds, the 1SG requests air evacuation (for the most critically wounded) or assistance from the BAS. The company aidmen triage the wounded, stabilize them for transportation, and treat them for shock. If neither air evacu-

ation nor assistance from the BAS is available, the most serious casualties are transported to the aid station by the company's armored ambulance. The commander must approve this because it will deprive the company team of most of its medical support. For the less seriously wounded, the 1SG arranges for evacuation to the BAS using any available vehicles.

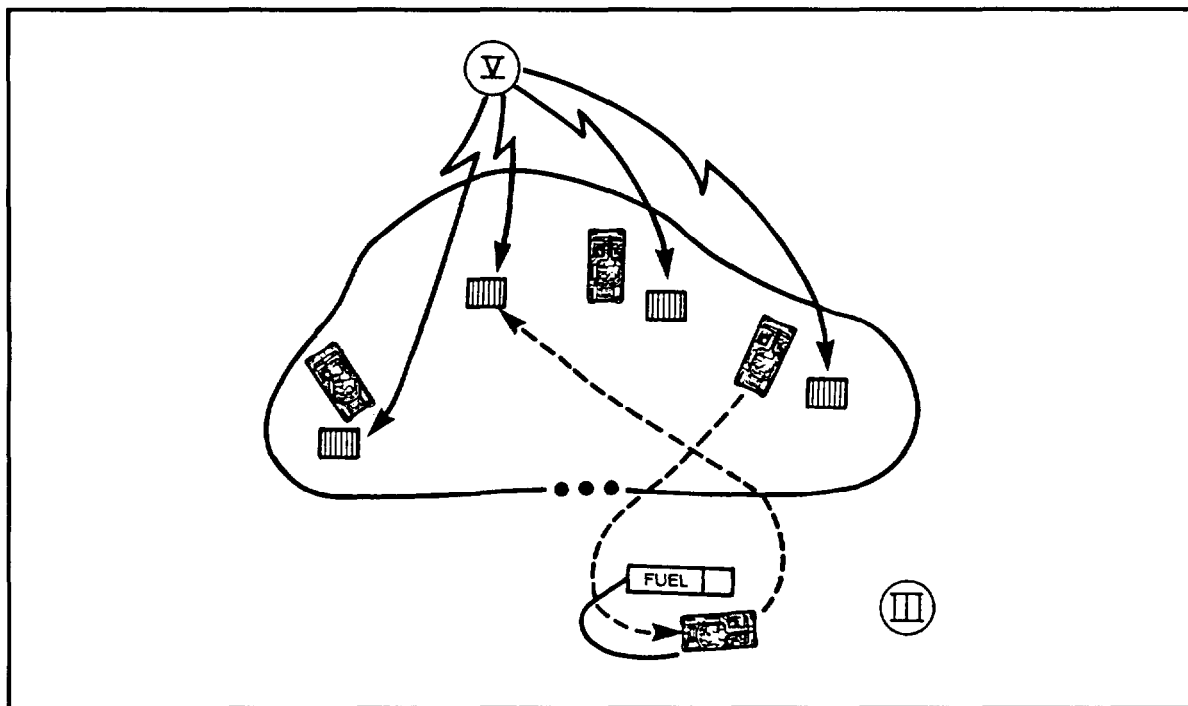


Figure 8-5. Pre-positioned supplies, method 2.

Weapons and military equipment needed immediately by the company team will not be evacuated with the wounded. The wounded will keep their protective masks and any personal items.

Enemy Prisoners of War

Transport EPW to the battalion TF EPW collection point as quickly as possible. The 1SG is responsible for the security and transportation of EPW. Guards will remain with EPW until released by the battalion S1. The exact procedure for evacuation will be according to battalion SOP.

Maintenance

Maintenance is continuous. It starts with preventive maintenance by the operator and crew and continues through repairs accomplished by maintenance personnel. Four personnel must be trained to accomplish the necessary tasks in all conditions. PMCS is a daily crew responsibility; the DA Forms 2404 are collected during the resupply operation. Vehicle commanders submit the DA Forms 2404 to the 1SG or CMT chief prior to receiving rations. The CMT performs maintenance work as far forward as possible.

Maintenance and recovery are initiated on site by the equipment operator and crew. Once the problem has been identified, the operator and crew start corrective action which includes—

- An initial status report to the platoon leader/sergeant providing the conditions, location, and circumstances.
- An estimate of the situation to determine support requirements to include self-recovery, field fixes, assistance from nearby vehicles, or assistance from battalion.

When it has been determined that the needed repair is beyond the crew's capability, the platoon notifies the 1SG, who dispatches the CMT. If additional assistance is required, the 1SG or CMT chief requests it from the BMO on the A/L net.

As a general rule, the CMT should work on a vehicle for no more than two hours. If the vehicle cannot be repaired within that time, it is towed to an LRP, to the main supply route, or to the UMCP, as necessary.

If a vehicle cannot be recovered or is damaged beyond repair, personal items, radios, crew-served weapons, ammunition, and other serviceable items and parts are removed. The automotive and weapon systems will be rendered nonfunctional to preclude enemy use. Destruction or disabling will be accomplished only on the commander's order.

The CMT normally travels at the rear of a company echelon during a road march; the exact location is an SOP item. If a vehicle becomes disabled the crew moves it as far off the road as possible and dismounts a road guide to assist the passage of other vehicles. If the crew cannot make repairs, they wait for assistance from the CMT.

Appendix A

MOVEMENT

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SECTION I. ADMINISTRATIVE MOVEMENT AND TACTICAL ROAD MARCH

Administrative Movement

An administrative movement is conducted when contact with the enemy is unlikely. Movement emphasizes efficient use of air, rail, or water transportation as well as organic transportation. Administrative movements are most often conducted in the COMMZ and in the zone of the interior. The S4 is responsible for planning administrative movements.

Tactical Road March

This is a unit move in a combat-ready posture normally conducted in the combat zone. Enemy contact is possible either during the march or soon after arrival at the unit's destination. Units normally move by tactical road marches to AAs to prepare for combat operations. The S3 is responsible for planning tactical road marches.

SECTION II. DEFINITIONS

The following are definitions used in movement and tactical road marches:

- Close column – Vehicles are spaced approximately 25 meters apart.
- Open column – Vehicles are spaced 50 to 100 meters apart. Normally used during daylight, open column can be used at night with proper night-vision equipment.
- Infiltration – Vehicles are dispatched individually, in small groups, or at irregular intervals at a rate that keeps the traffic density down and prevents undue massing of vehicles.
- March column – A march column consists of all elements using the same route for a single movement under control of a single commander. The column is normally brigade-size and is composed of three elements. The head is the first vehicle of the column. The main body consists of the major elements of the column: the serials and march units. The trail party follows the main body and conducts vehicle repair and recovery, medical aid and evacuation, and emergency refueling.
- Serial - A serial is a major subdivision of a march column and is normally battalion-size.
- March unit — A march unit is a major subdivision of a serial and is normally company-size.
- Reconnaissance party — The reconnaissance party conducts route reconnaissance of movement routes to determine travel times, bridge and underpass capacities, and trafficability. It identifies critical points, obstacles, and (if there is enough time) alternate routes.
- Quartering party (Advance Party) – The quartering party reconnoiters the new AA and guides march elements to and into the new area. See Chapter 2, *Preparation for Combat*.

SECTION III. CONTROL MEASURES

The following are control measures used in movement and tactical road marches (see Figure A-1):

- Critical Point.
- Route.
- Start Point (SP).
- Assembly Area.
- Release Point (RP).
- Traffic Control Points.

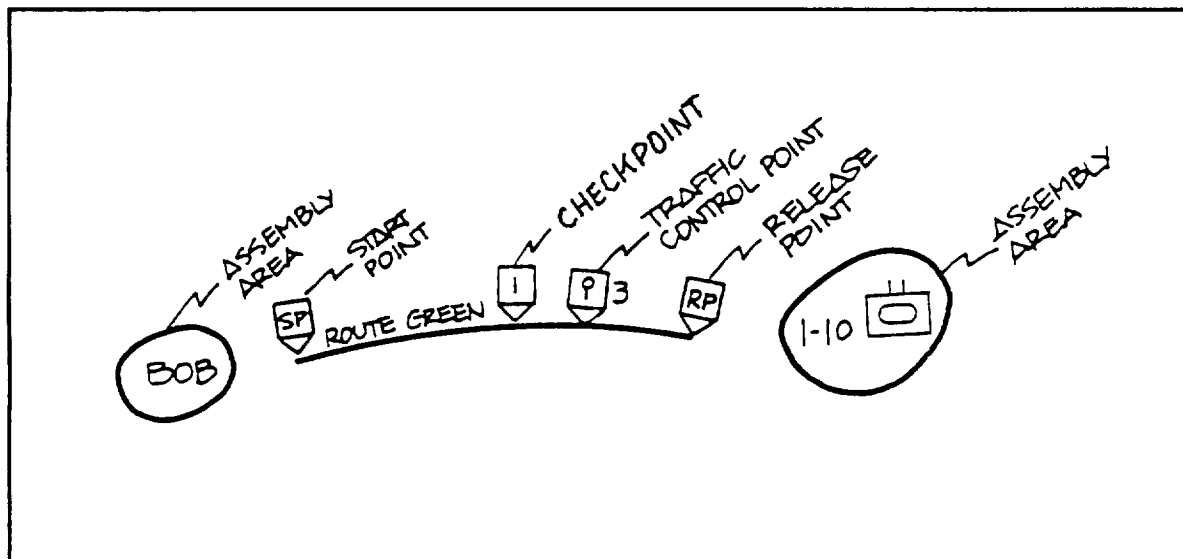


Figure A-1. Control measures.

SECTION IV. MOVEMENT FORMULAS

The following factors are used in movement formulas when planning movement and tactical road marches:

- Distance factors.
 - Vehicle distance is the space between two consecutive vehicles of an organized element of a column.
 - Column gap is the space between two organized elements following each other on the same route.
 - Traffic density is the average number of vehicles that occupy 1 kilometer of road space, expressed in vpk.
 - Length of a column is the length of roadway occupied by a column, including gaps in the column, measured from front to rear.
 - Road gap is the distance between two match elements (Figure A-2 illustrates time-distance factors).

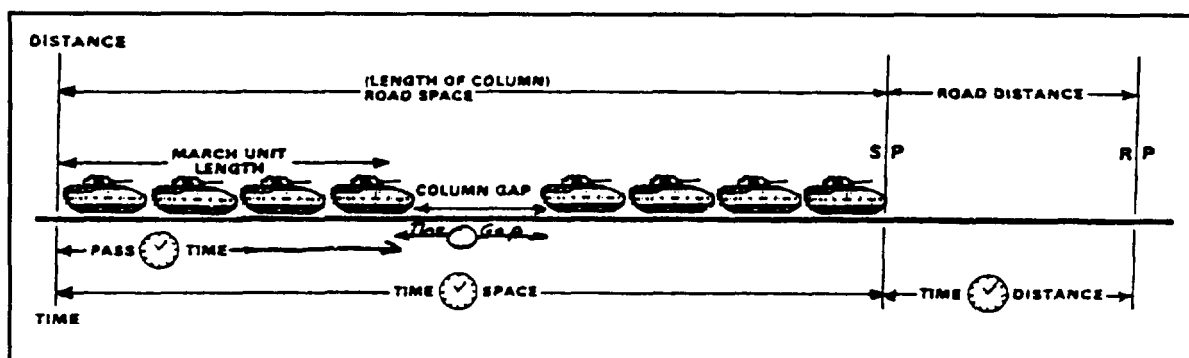


Figure A-2. Time-distance relationships.

- Rate factors.
 - Speed is the actual rate at which a vehicle is moving at a given moment.
 - Pace is the regulated speed of a march element, set by the lead vehicle.
 - Rate of march is the average number of km traveled in any given period of time, including short periodic halts. Short periodic halts normally occur every 2 hours and last 10 minutes. Rate is expressed in km/h. It is used to compute the time required for a march element to travel from one point to another.
- Time factors.
 - Arrival time is when the head of the column arrives at a designated point.
 - Clearance time is when the tail of the column passes a designated point.
 - Completion time is when the last vehicle of the column passes the RP.
 - PST is the time between the moment the first vehicle passes a given point and the moment the last vehicle passes the same point.
 - EXTAL of one minute per 25 vehicles is always added to the calculated PST of a march element. Also add one minute for a remainder of 13 or more vehicles.
 - Road clearance time is the total time a column uses to travel over and clear a section of road.
 - TDIS is the time required to move from one point to another at a given rate of march.
 - Time gap is the time between the rear and front of successive elements as they move past a given point.

Formulas

The following rules and formulas are used for computation of time-distance calculations. Round up fractional parts of a minute to the next higher whole minute. Round up fractional parts of an hour to the nearest two decimal places (Refer to Table A-1).

$\text{TDIS} = \frac{\text{distance}}{\text{rate of march}}$
$\text{PST} = \frac{\text{no. of vehicles} \times 60}{\text{density} \times \text{speed}} + \text{EXTAL} + (\text{time gaps} \times \text{min/time gap})$
$\text{EXTAL} = \frac{\text{no. of vehicles}}{25}$

Table A-1. Time-distance calculations.

Speed Miles/Kilometers per Hour	Rate of March Miles/Kilometers in the Hour	Minutes to Travel 1 Kilometer	Minutes to Travel 1 Mile
10 mph 16 kmph	8 mih 12 kmih	5	7.5
15 mph 24 kmph	12 mih 20 kmih	3	5
20 mph 32 kmph	16 mih 25 kmih	2.4	3.75
25 mph 40 kmph	20 mih 32 kmih	1.84	3
30 mph 48 kmph	25 mih 40 kmih	1.5	2.4
35 mph 56 kmph	30 mih 46 kmih	1.3	2
40 mph 65 kmph	33 mih 53 kmih	1.13	1.8

This table provides the time required to travel 1 kilometer or 1 mile while using specified march speeds. The travel times are calculated based upon rates of march (miles/kilometers in the hour) and include time for scheduled short halts and time lost due to road and traffic conditions. The time for long halts must be added to the total travel time. Multiply the total distance to be traveled (miles or kilometers) by the travel time factor for 1 mile or 1 kilometer for the designated speed.

Example: Determine TDIS for a column traveling 310 kilometers at a speed of 24 kmph. Multiply 310 (km) x 3 (min) = 930 minutes. Convert 930 minutes to 15 hours and 30 minutes.

Note. Fractional parts of an hour are converted to minutes by multiplying the fraction by 60 and rounding off to the next higher minute.

NOTE: The following sections provide examples of brigade, battalion, and company tactical road marches. Each section is organized with a situation and a step-by-step discussion of applicable troop-leading procedures.

SECTION V. BRIGADE TACTICAL ROAD MARCH

Situation

The 23d AD deployed to Europe at the start of hostilities, drew POMCUS stocks, and moved by rail to occupy STAGING AREA FRANK in the COMMZ. The division completed uploading equipment and conducting resupply when it was ordered to conduct a road march to occupy FORWARD AA JOHN in the 10th Corps rear area as corps reserve. The 1st Brigade will conduct a road march as part of the 23d AD (see Figure A-3).

Troop-Leading Procedures

Following is an example of brigade troop-leading procedures for a tactical road march.

Step 1. RECEIVE THE MISSION

1. The time is now 241800Z Nov 19xx. The 23d AD tasked 1st Brigade to be in AA JOHN NLT 251500 Nov 19xx. After initial time analysis, 1st Brigade's restated mission is as follows: "Move 250300 Nov 19xx along ROUTES RED and BLUE to occupy A-A JOHN NLT 25 1500 Nov 19xx."

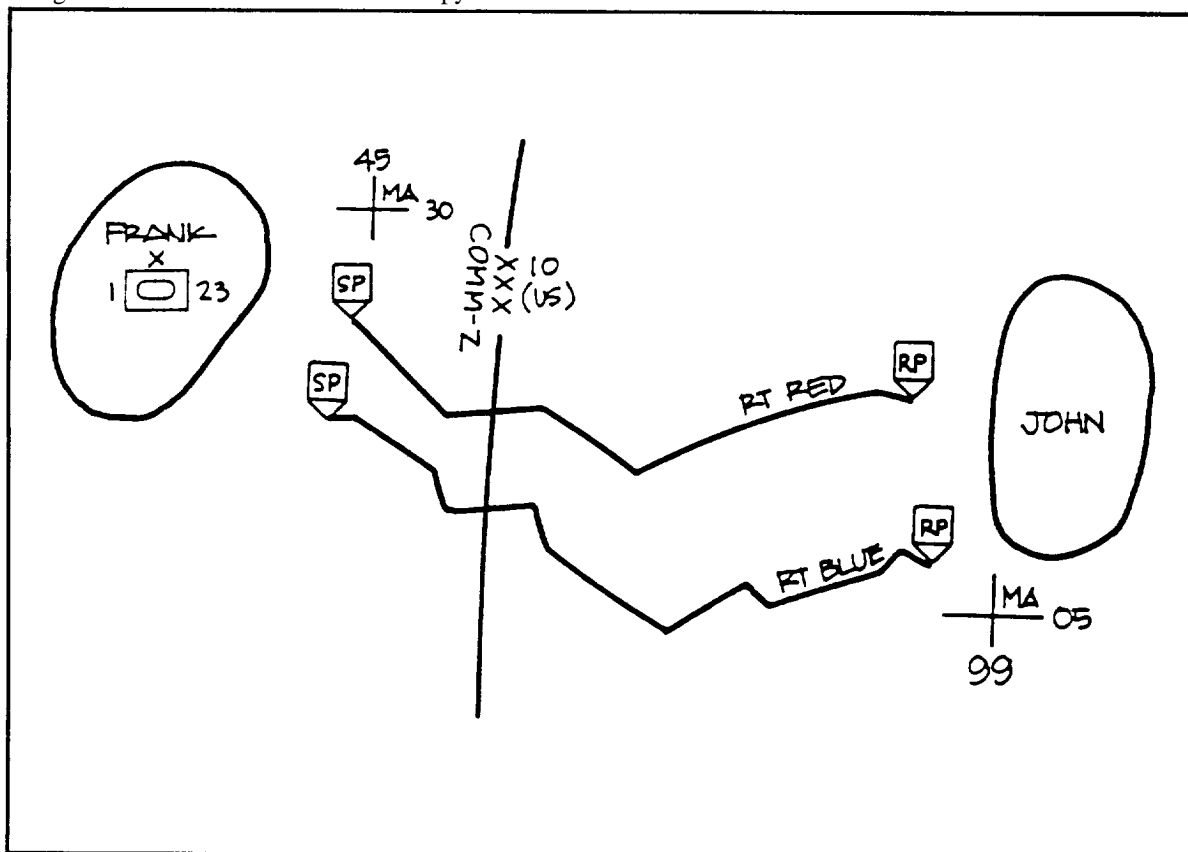


Figure A-3. Division operations overlay.

2. The assistant brigade S3, tasked with planning the movement, performs the initial time analysis, with the following results:

• Receive mission	241800 NOV 19xx
• Issue WO	241830
• Reconnaissance elements move	242000
• Quartering parties move	242200
• Issue movement order	242100
• Main body begins movement	250300

3. The mission that will follow movement drives the planning process. Movement start times and completion times usually depend on the mission immediately following completion of the movement. The staff will often find itself planning a movement as part of a larger operation.

4. Coordination. Higher headquarters may specify routes and times for brigade movement. There may be times, however, when the brigade must move, but must coordinate on its own with the appropriate movement control authority for road clearances and movement times. The staff must also coordinate for CS and CSS during the movement. LOS are dispatched early in the planning phase to improve coordination. Liaison with higher headquarters is made to keep abreast of route priorities and critical points on the routes of march. For example, other units may be crossing brigade units' routes of march. Liaison with area support commands ensures that the brigade will receive the logistical support needed to meet mission requirements.

Step 2. ISSUE A WARNING ORDER

1. WARNING ORDER.

2. A/23d Engr Bn attached to 1-10 Armor

3. Situation. 8th CAA is preparing to attack in 10th Corps sector. 10th Corps defends in sector NLT 251800 NOV 19xx.

4. Mission. 1st Brigade moves 250300 Nov 19xx along ROUTES RED and BLUE to occupy AA JOHN NLT 251500 NOV 19xx.

5. 1-91 Mech and 1-11 Armor provide scout platoons to conduct route reconnaissance along ROUTES RED and BLUE, respectively, at 242000 Nov.

6. Quartering parties move by infiltration after 242200 Nov.

7. OPORD at 242100 Nov 19xx at brigade CP.

8. MOPP 1 throughout.

9. Acknowledge.

Step 3. MAKE A TENTATIVE PLAN

1. Estimate of the Situation.

a. S2, Intelligence Estimate. The S2 initiates IPB. He analyzes terrain, weather, and the enemy in and around the area over which the brigade will move. He determines the effects of these factors on the brigade's mission.

b. S3, Operations Estimate. The S3 analyzes the friendly situation and the time required to execute the mission (see Figure A-4).

(1) Friendly situation for 1st Brigade (at 97 percent strength).

- (a) The S3 must know subordinate unit TOES to accurately calculate movement times.
- (b) Additional areas to analyze are discipline, training, leadership, morale, maintenance, and supply.

Task Organization	Subordinate Units
1st Brigade	
1-91 Mech Bn	4 Mech Cos, 1 AT Co, 1 Sct Plt, 1 Mort Plt
1-10 Armor	4 Tank Cos, 1 Sct Plt, 1 Hv Mort Plt
1-11 Armor	4 Tank Cos, 1 Sct Plt, 1 Hv Mort Plt
1-50 (155, SP) FA (DS)	3 FA Btrys
A/1-440 ADA Bn (V/S)	3 Vulcan Plt, 1 Stinger Plt
1/23d Cml Co	3 M21 Decon Trucks
A/23d Engr Bn	3 Engr Plts, 4 AVLBs, 2 CEVs, 3 dozers
1/2/A/23d MI Bn (GSR)	3 GSRs
1/23d MP Co	MP three-man squads (HMMWV)
1st Fwd Spt Bn (DS)	1 Maint Co, 1 Med Co, 1 Supply Co

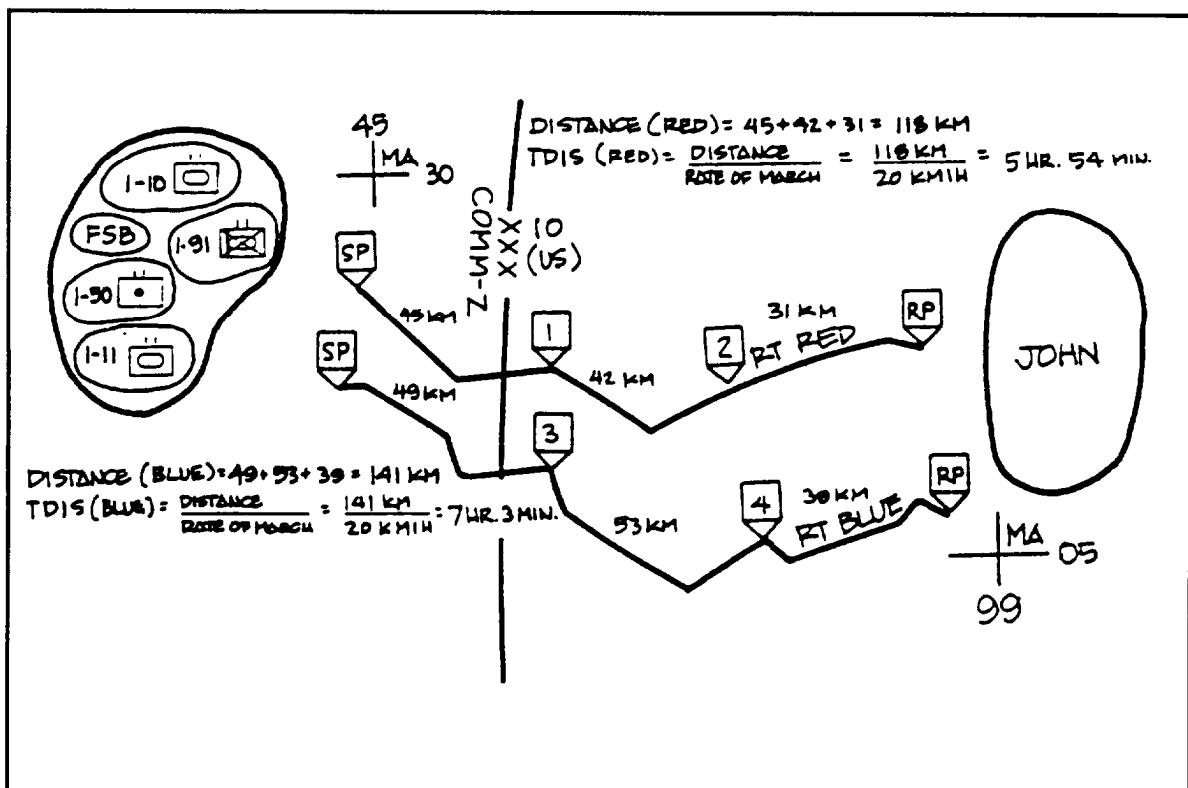


Figure A-4. Brigade time-distance analysis.

(2) Time analysis, PST. The brigade will move on two routes. Since there are five battalion units in the brigade, we can have three battalions move on one route while two battalions move on the other route. We must calculate the longest PST to ensure the brigade clears the RPs before 251500 Nov 19xx.

$$\text{PST} = \frac{\text{no. of vehicles} \times 60}{\text{density} \times \text{speed}} + \text{EXTAL} + (\text{no. of time gaps} \times \text{min/time gap})$$

ROUTE RED	VEH	ROUTE BLUE	VEH
1-91 Mech	204	1-11 Armor	186
1-10 Armor	186	1-50 FA	197
Bde CP	31	1st FSB	186
A/23d Engr Bn	58	1/23d Cml Co	4
GSR Sec	3	ADA Vehicles	<u>15</u>
ADA Vehicles	<u>20</u>		588
	502		

- Density. By SOP, vehicle interval during daylight movement is 100 meters. This corresponds to a density of 10 vpkm.
- Speed. By SOP, speed is 24 kmph for daylight movement.
- $\text{EXTAL} = \frac{\text{no. of vehicles}}{25}$
- Time gaps. By SOP, there are five minutes between march serials and two minutes between march units. Time gaps must be included in calculations because, otherwise, we would be calculating PST for one continuous column of vehicles. There is one less time gap than there are march units.

$$\text{PST (RED)} = \frac{502 \times 60}{10 \times 24} + \frac{502}{25} + (2 \times 10) + (11 \times 5) = 221 \text{ min} = \underline{3 \text{ hr } 41 \text{ min}}$$

$$\text{PST (BLUE)} = \frac{588 \times 60}{10 \times 24} + \frac{588}{25} + (2 \times 10) + (13 \times 5) = 256 \text{ min} = \underline{4 \text{ hr } 16 \text{ min}}$$

SP RED (time)	SP BLUE (time)
1500 (clear RP)	1500 (clear RP)
-0341 (PST RED)	-0416 (PST BLUE)
1119	1044
-0554 (TDIS RED)	-0703 (TDIS BLUE)
0525 (SP RED)	0341 (SP BLUE)

c. S1, Personnel Estimate.

d. S4, Logistical Estimate. Logistical status of the brigade is currently excellent. The S4 determines how much fuel will be required by the brigade upon arrival in AA JOHN.

2. The Tentative Plan. The tentative plan for the march consists of the task organization and maneuver for the march.

a. Task Organization.

1-91 Mech Bn 1/A/1-440 ADA Bn (V) A/4/A/1-440 ADA Bn (S)	Brigade Control 1-50 (155, SP) FA (DS) A/1-440 ADA Bn (V/S) (-) 1/2/B/23d MI Bn (GSR) 1/23d MP Co 1st FSB (DS) 1/23d Cml Co Tm 1&2/D/4/A/1-440 ADA (S)
1-10 Armor Bn 2/A/1-440 ADA Bn (V) B/4/A/1-440 ADA Bn (S) A/23d Engr Bn	
1-11 Armor Bn 3/A/1-440 ADA Bn (V) C/4/A/1-440 ADA Bn (S)	

b. Maneuver. The brigade will move with 1-91 Mech, brigade CP, and 1-10 Armor in order on ROUTE RED and 1-11 Armor, 1-50 FA, and 1st FSB in order on ROUTE BLUE.

c. March Table Calculations.

- Calculate TDIS. Make a sketch of the route(s). Determine the distance between critical points. Then calculate TDIS between critical points (see Figure A-5 and A-6).
- Calculate PST. Make a sketch of the march column. Determine for each serial the number of vehicles, number of time gaps, and length of time gaps,
- Make calculations for the first march unit by determining arrival times and PST at each critical point.
- Conduct calculations for the following march units by adding the time gap (10 minutes in this case) to the previous unit's PST.

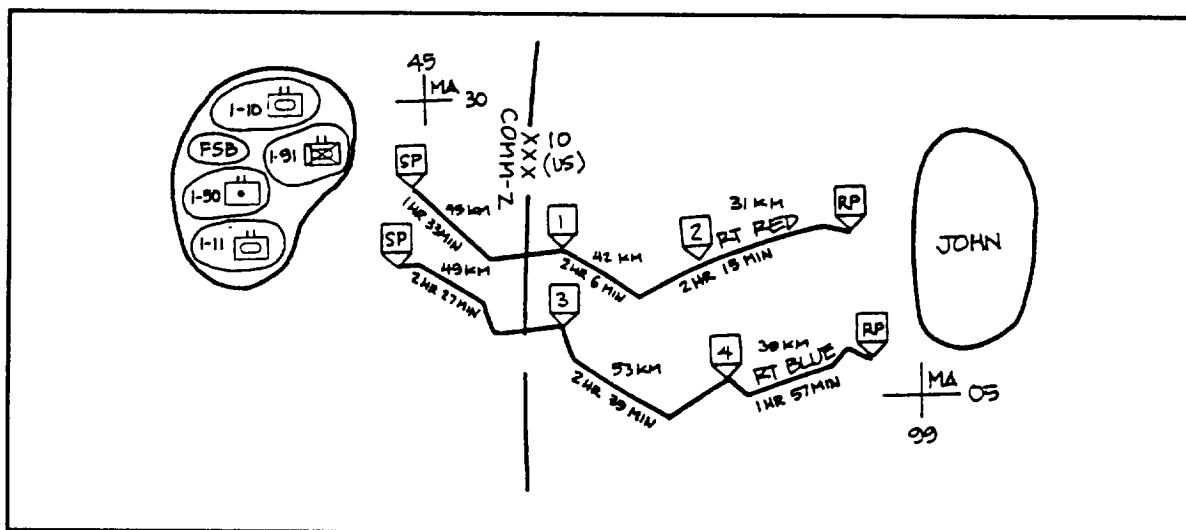
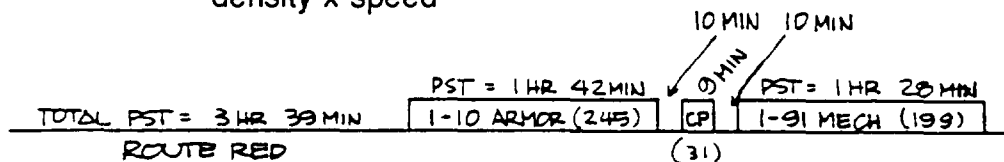


Figure A-5. Brigade time-distance sketch.

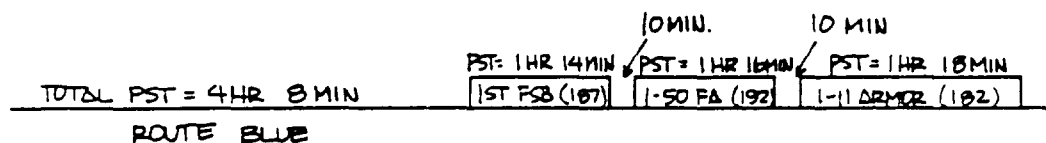
$$\text{PST} = \frac{\text{no. of vehicles} \times 60}{\text{density} \times \text{speed}} + \text{EXTAL} + (\text{time gaps} \times \text{min./time gap})$$



$$\text{PST (1-91)} = \frac{199 \times 60}{10 \times 24} + \frac{199}{25} + (6 \times 5) = 1 \text{ hr } 28 \text{ min.}$$

$$\text{PST (CP)} = \frac{31 \times 60}{10 \times 24} + \frac{31}{25} + 0 = 9 \text{ min.}$$

$$\text{PST (1-10)} = \frac{245 \times 60}{10 \times 24} + \frac{245}{25} + (6 \times 5) = 1 \text{ hr } 42 \text{ min.}$$



$$\text{PST (1-11)} = \frac{182 \times 60}{10 \times 24} + \frac{182}{25} + (5 \times 5) = 1 \text{ hr } 18 \text{ min.}$$

$$\text{PST (1-50)} = \frac{192 \times 60}{10 \times 24} + \frac{192}{25} + (4 \times 5) = 1 \text{ hr } 16 \text{ min.}$$

$$\text{PST (FSB)} = \frac{187 \times 60}{10 \times 24} + \frac{187}{25} + (4 \times 5) = 1 \text{ hr } 14 \text{ min.}$$

NOTE: Reconnaissance and quartermaster parties are not included. Thus there is a difference between initial PST calculations and those used for the march.

Figure A-6. Brigade pass time calculations.

Step 4. START NECESSARY MOVEMENT

During preparation of the tentative plan or just after its completion, necessary movement of key elements is initiated. Movement at this time is normally confined to reconnaissance and C2 units. C2 units may consist of MCTs, MPs, CPs, retransmission units, liaison elements, and quartering parties. MCTs and MPs can set up traffic control points. A CP, normally the TAC CP or a jump CP, can occupy a position along the route to take over C2 from the main CP while it moves. Retransmission units locate along the route to assist in communications. Often, a follow-on mission after the movement requires an LO to go forward early. In a passage of lines, the brigade may send the TAC CP forward early to collocate with the stationary unit's CP. Quartering parties reconnoiter, secure, and prepare the new AA for occupation by the brigade and guide the units into their new positions. Quartering parties may also do the same for AAs along routes where refueling may take place. In many cases, CSS elements may accompany quartering parties to conduct refueling during or immediately after the march.

These units must leave far enough in advance of the main body to complete the performance of their tasks. They often move by infiltration, with the reconnaissance units moving first to clear the way for following units. Subordinate units must be responsive in detaching the personnel necessary to support the movement. This should be a matter of SOP.

Step 5. CONDUCT RECONNAISSANCE

Prior to departure of the main body, reconnaissance of the routes and AAs along the routes is crucial to successful movement. Reconnaissance provides early warning of situations which will disrupt the movement plan. Since the brigade does not have an organic reconnaissance capability, it normally relies on scout platoons of the leading battalions. The scouts normally stay under control of the parent battalions. The battalions then provide information to brigade. The brigade may employ cavalry if it is attached from division. Engineers may be attached to reconnaissance units. The normal mission for these units is to conduct route reconnaissance. Tasks include determining trafficability; reconnaissance of surrounding terrain, lateral routes, and built-up areas along the route; evaluating overpasses, underpasses, and culverts; locating and clearing all obstacles; determining bypass routes; and finding and reporting all enemy activity that can influence movement along the route.

Additionally, reconnaissance units can perform area reconnaissance of AAs. Area reconnaissance tasks include reconnoitering all terrain within the area as well as tasks associated with route reconnaissance.

Before starting a march, each major unit of a serial reconnoiters its route to the SP and determines and announces the times for major units of the serial to arrive at and clear the serial SP. A thorough reconnaissance of the route leading to the SP will assist units in crossing the SP on time. Each serial must conduct its own reconnaissance.

Step 6. COMPLETE THE PLAN

1. Intelligence. The staff receives information gathered during reconnaissance to complete the plan. The staff also receives information from higher headquarters.

2. Maneuver. Brigades normally march on two routes. Movement in and out of AAs to those routes must be planned so units will not block the movement of other units.

3. Fire Support. Fires are planned on identifiable terrain features and on possible enemy positions along the route of march. FS plans can also be made for the support of positions in the new AA.

4. Mobility, Countermobility, and Survivability. Engineer elements can accompany reconnaissance units to assist in determining road and bridge capacities. Engineer equipment, moving with either reconnaissance parties or quartering parties, can be used to clear obstacles or improve routes.

5. Air Defense. The brigade conducting movement often benefits from the air defense coverage of the command through which it is passing. The brigade, however, must still employ passive air defense measures. Actions on air attack are governed by SOP. Brigade air defense units can be prepositioned along the route to provide overlapping air defense coverage and coverage of air avenues of approach. For longer moves, however, air defense units should be integrated into the march column.

6. Combat Service Support. Forces should begin a move fully supplied. At halts and on arrival at the final destination, every opportunity should be taken to refuel. Halts for refueling should be scheduled in advance by the unit commander. Halt locations should be large enough and halt periods long enough to accomplish refueling of company-size units. Sufficient fuel and lubricants should be carried in unit tins. Alternatives for refueling the units include the following: move the brigade and refuel after fuel vehicles arrive in the AA area behind the combat units; move fuel vehicles with each serial and refuel immediately upon arrival in the new AA; move fuel vehicles with quartering parties and conduct fast refueling immediately upon arrival in the new AA; or refuel along the route using one of the methods just described. For long marches, plan to refuel during a halt along the route so vehicles will not enter the AA with empty fuel tanks.

7. Command and Control.

a. SOPs and the movement order constitute elements of OPCON. The responsibility for movement control rests with the tactical commander, who executes control through his XO, the brigade MCO. SOPs associated with movement govern march discipline and serve as basic planning factors for preparation of the movement plan.

b. The commander and operations officer will move near the front of the column to provide leadership and be in a position for C2. A helicopter is very useful for movement control.

c. The XO, with overall responsibility for staff coordination and experienced in C2, serves as the MCO for a brigade. The XO plans and coordinates with higher headquarters and supervises actions associated with the unit movement plan. The commander is left free to move about the march column as his presence is required and to be at points of decision ready to command as the tactical situation demands.

d. The XO is assisted by his normal brigade staff as well as by MPs, cavalry/scouts, and other attachments as necessary. With the XO monitoring execution of the plan, the commander and his operations officer retain flexibility to refine the order as necessary, to respond to emergencies during movement, and to remain prepared to enter battle with lead units.

e. March columns move under radio listening silence. It is broken only out of tactical necessity. A brigade officer should locate initially at the SP. The brigade TAC CP will often move forward early to collocate with the CP of a unit through which the brigade will have to pass. If a CP is needed somewhere along the route, the brigade may dispatch a jump CP from the main CP. Retrans teams are located along the route to ensure continuous communications. Traffic control points are located along the route. A special movement control net, perhaps the net of the unit most involved in movement control, may have to be established. All elements use directional antennas and transmit on low power, when possible.

f. March discipline is absolutely essential throughout the movement. Adherence to march standards is the responsibility of the individual unit or column commanders. Deviation from specified routes and times may interfere with other movements and can have serious consequences. Unexpected interruptions must be dealt with by the commander immediately, and appropriate reports must be rendered. Any decision made must not interfere with the overall movement plan.

g. It is critical that units cross their SP at the prescribed time. Failure to do so results in unequal dispersion between march units. This interrupts the flow of units and necessitates adjustments to the march tables. It also affects the arrival time at the RP. Units failing to cross their SP on time must adjust their speed and rate. This adjustment must be made to fit the march table. Brigade officers should be positioned at the SP and the RP to monitor unit progress through those points.

h. MCTs are normally provided by MPs and cavalry/scouts. MPs are organized, equipped, and trained to meet requirements of movement control. They will often be tasked to satisfy competing requirements such as dealing with stragglers, refugees, and EPW. Cavalry/scouts can be a good tool for movement control. After reconnoitering routes, they can set up traffic control points if MPs are not available.

i. Each MCT should consist of at least three personnel with a radio and a strip map. An MP platoon can provide up to nine teams. A scout platoon provides up to six teams. The responsibilities of the MCTs are to—

- (1) Control traffic at key points (traffic control points).
- (2) Guard and evacuate EPWs.

(3) Control refugees and stragglers. MCTs must be thoroughly familiar with information contained in the march table to accurately monitor movement.

j. The mission of MCTs is to enforce the movement plan and SOP. They make corrections to violations and help units along the route. MCTs use three basic movement control measures in accordance with STANAG 2025 to control battlefield movement. They operate traffic control points to control movement at critical points. They use mobile patrols to travel a given area looking for and eliminating movement problems. The brigade command group also does this. MCTs also erect temporary signs to regulate, guide, and control movement along routes.

k. At traffic control points, the team leader maintains communications and keeps a record of unit movement through the traffic control points. He also compares unit movement with march table requirements. A second soldier monitors the flow of traffic. A third member of the team provides security. The team occupies positions from which it can fight.

1. If an element is late, the MCO will adjust the rate of march or vehicle interval of that element and all follow-on units. When a unit becomes lost, the MCO makes necessary adjustments to the movement table and ensures through the chain of command and traffic control points that follow-on elements adhere to new guidance. The intent of the new guidance is to close the gap created by lost serials or march units. When the lost element is found, it is reoriented and moved back toward the nearest traffic control points along the route. It is inserted into the march column, usually at the end of column.

m. The position of forces, mission requirements, time, and routes available may force convergence of units at a point along their routes. Similarly, unanticipated convergence may occur. It is necessary to prevent congestion by allowing columns to move through a convergence point separately, or together in coordinated fashion. The coordination becomes a function of the gap built into serials of the two columns and of strict traffic control by the MCT at the traffic control points where units converge. The rates of march of the converging units must be reduced to prevent a buildup of congestion at the convergence area.

n. MCTs locate and redirect stragglers in the direction of the nearest straggler collection point. For large numbers of stragglers, MCTs (normally MPs) set up straggler collection points to help them return to military control. If there are too many stragglers for the brigade to handle, the MCO requests assistance from the division provost marshal.

o. The MCO takes action to control refugee movement only when the volume of refugees threatens movement along the routes. He notifies division of the problem and requests assistance. MCTs stop or redirect refugees at traffic control points.

Step 7. ISSUE THE ORDER

A movement order is a kind of OPORD. It can also be an annex to a larger OPORD. It is composed in the five-paragraph format. Information in the movement order normally includes destination, routes, orders of march, rates of march, intervals, speeds, communications, and location of the commander. Much of the information in the SOP will not need to be included in the order. Products that normally are included with the movement order are a movement overlay/strip map and a movement table. Movement graphs are used as planning tools and are not normally issued with a movement order. The following is a sample OPORD/movement order.

Copy no. _ of _ copies
HQ, 1st Bale, 23d Armd Div
ELNHAUSEN (MB186734), FRG
242100 Nov 19xx
TU38

OPERATION ORDER 9-1

Reference: Map, series M745, GERMANY, sheets 5318 (AMONEBERG), 5320 (ALSFELD), 5322 (LAUTERBACH), 1:50,000.

Time Zone Used Throughout the Order: ZULU.

Task Organization:

1-91 Mech Bn	Brigade Control
1/A/1-440 ADA Bn (V)	1-50 (155, SP) FA (DS)
A/4/A/1-440 ADA Bn (S)	A/1-440 ADA Bn (V/S) (-)
	1/2/B/23d MI Bn (GSR)
1-10 Armor Bn	1/23d MP Co
2/A/1-440 ADA Bn (V)	1st FSB (DS)
B/4/A/1-440 ADA Bn (S)	1/23d Cml Co
A/23d Engr Bn (-)	Tm 1&2/D/4/A/1-440 ADA (S)
1-11 Armor Bn	
3/A/1-440 ADA Bn (V)	
C/4/A/1-440 ADA Bn (S)	

1. SITUATION

- a. Enemy Forces. 8th CAA is preparing to attack in 10th Corps sector.
- b. Friendly Forces. 10th Corps defends in sector NLT 251800 Nov 19xx.
- c. Attachments and Detachments. Task organization.

2. MISSION

1st Brigade moves 250300 Nov 19xx along ROUTES RED and BLUE to occupy AA JOHN NLT 251500 Nov 19xx.

3. EXECUTION

- a. Concept of Operation. Annex A (Operations Overlay). The intent is to move the brigade to a position from which it can conduct operations as 10th Corps reserve (see Figure A-7).

- (1) Maneuver. The brigade will move with 1-91 Mech, brigade CP, and 1-10 Armor in order on ROUTE RED and 1-11 Armor, 1-50 FA, and 1st FSB in order on ROUTE BLUE.
- (2) Fires. Priority of fires to 1-91 Mech, 1-11 Armor in order.
- (3) Counterair. Priority of protection to FSB, brigade CP, 1-91 Mech, 1-11 Armor in order.
- (4) Intelligence.
- (5) Electronic Warfare.
- (6) Engineer. Priority of missions is mobility. Priority of effort to 1-91 Mech, 1-11 Armor in order.

b. Tasks to Maneuver Units.

- (1) 1-91 Mech.
- (2) 1-10 Armor. Provide trail party on ROUTE RED.
- (3) 1-11 Armor.

c. Tasks to Combat Support Units.

- (1) 1-50 (155, SP) FA.
- (2) A/1-440 ADA Bn (-). Move with the brigade CP.
- (3) 1/2/B/23d MI Bn (GSR). Move with the brigade CP.
- (4) 1/23d MP Co. Establish traffic control points specified on Annex A (Operations Overlay).

d. 1st FSB. Provide trail party on ROUTE BLUE.

e. Brigade CP.

f. Coordinating Instructions.

- (1) MOPP 1.
- (2) Quartering parties depart 242200 Nov 19xx.

4. SERVICE SUPPORT

Conduct refueling immediately upon arrival in AA JOHN.

5. COMMAND AND SIGNAL

a. Command.

- (1) Command Group A on ROUTE RED; Command Group B on ROUTE BLUE.
- (2) TAC CP moves with brigade quartering party to MA610082.
- (3) Main CP moves to TAC CP location.
- (4) Corps TAC CP vic DECKENBACH (NB964185).

b. Signal.

(1) SOI index 1-7 in effect.

(2) Radio listening silence in effect.

Acknowledge

Thurman
COL

OFFICIAL:

Weber

S3

Annexes: A-Operations Overlay

B-Movement Table

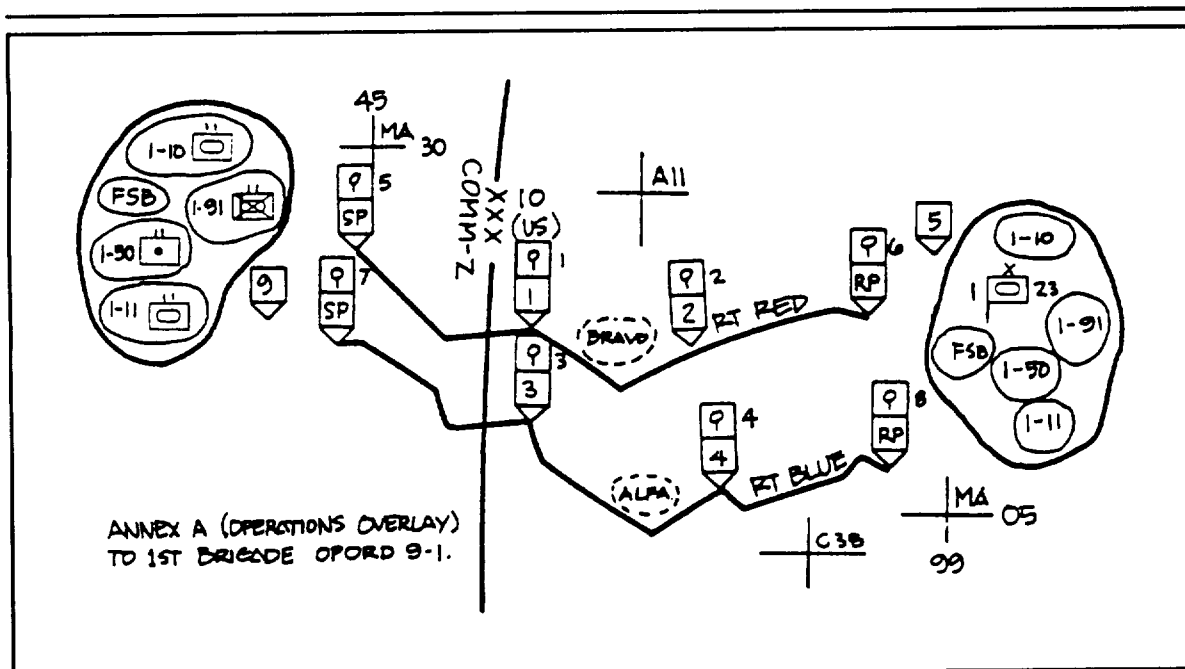


Figure A-7. Brigade operations overlay.

Table A-2. Movement table to 1st Brigade Operation Order 9-1.

1. Speed: 24 kph; maximum catchup speed: 40 kph.
2. Interval: 100 meters.
3. Time gaps: 10 minutes between serials.

Route Red					
UNIT	SP	CP1	CP2	RP	REMARKS
Recon	242000				Sct/1-91 Mech move by infiltration.
Qtr Pty	242200				Move by infiltration.
1-91	0525 0653	0730 0858	0936 1104	1109 1237	Move through CP5. PST = 1 hr 28 min
CP	0703 0712	0918 0927	1114 1123	1247 1256	Move through CP5. PST = 9 min
1-10	0722 0904	0937 1119	1133 1315	1306 1448	Move through CP5. PST = 1 hr 42 min
Trail Pty	0914				Move through CP5. Move by infiltration.

Route Blue					
UNIT	SP	CP3	CP4	RP	REMARKS
RECON	242000				Sct/1-11 Armor move by infiltration.
Qtr Pty	242200				Move by infiltration.
1-11	0341 0459	0608 0726	0847 1005	1044 1202	Move through CP9. PST = 1 hr 18 min.
1-50	0509 0625	0736 0852	1015 0131	1212 1328	Move through CP9. PST = 1 hr 16 min.
1st FSB	0635 0749	0902 1016	1141 1255	1338 1452	Move through CP9 PST = 1 hr 14 min.
Trail Pty	0759				Move through CP9. Move by infiltration.

Step 8. SUPERVISE

1. Security. March security is the responsibility of every person in the march. Vehicle commanders assign sectors of observation to their personnel in the vehicle so there is a 360-degree observation capability. Each vehicle commander designates an air guard to provide security, or specific vehicles may be designated as air guard vehicles. If a specific vehicle is an air guard vehicle, the crew (less driver) orients on air observation only rather than air and ground observation.

2. Halts. Halts are made for resting, messing, refueling, maintenance, adjusting schedules, and allowing other traffic to pass. When a column halts for even a short period, its advance, flank, and rear security establishes outposts distant enough to provide, as a minimum, early warning to the main body. The main body is disposed to counter enemy threats and facilitate the adoption of a predetermined defense.

3. **Short Halts.** By SOP, there will be 10-minute halts every two hours during the march. All march units will halt at the designated time, form a herringbone or coil, disperse, and establish local security. Traffic guards will be posted at the front and rear of each march unit. Units will conduct during-operations maintenance checks.

4. **Long Halts.** Long halts are planned in advance. The length of time of the halt is added to the total travel time. Locations for halts are normally selected to allow all vehicles to clear the road and disperse. Long halts can be used for refueling.

5. **Unscheduled Halts.** Unscheduled halts may be caused by unforeseen developments, such as obstacles, traffic congestion, or equipment failure. If a halt is necessary, the unit's first priority is to establish security. Each unit forms a herringbone. Each vehicle commander makes contact with the vehicle to his front to determine the cause of the halt and take necessary corrective action.

6. **Air Attacks.** If attacked by enemy air, units must take necessary defensive measures. Leaders must prevent the moving force from being split up and, after the attack, must get the force moving again as soon as possible.

7. **NBC Attack.** The unit commander must decide either to depart the contaminated area or to continue through and decontaminate. Upon encountering contaminated terrain, the unit should begin NBC monitoring and reconnaissance; it should mark and bypass the area. In all instances, appropriate reports must be rendered immediately.

8. **Contact with the Enemy.** Upon contact with the enemy, the principles of a meeting engagement apply. The commander must ensure that his freedom of action is maintained. Immediate reports should be rendered.

SECTION VI. BATTALION TACTICAL ROAD MARCH

Situation

The 1-11 Armor receives a WO from 1st Brigade at approximately 241830 Nov 19xx and immediately begins preparing to conduct its movement.

Troop-Leading Procedures

Following is an example of battalion troop-leading procedures for a tactical road march.

Step 1. RECEIVE THE MISSION

1. Task Analysis.

- a. Start movement at 250341 Nov 19xx along ROUTE BLUE to AA JOHN NLT 241500 Nov 19xx.
- b. Provide scout platoon to conduct route reconnaissance along ROUTE BLUE at 242000 Nov.
- c. Move quartering party at 242200 Nov.
- d. MOPP 1.

After receipt of the brigade movement order, the task analysis is updated to include the following:

- e. Move through CP 9.
- f. occupy AA 1-11.
- g. Conduct refueling immediately upon arrival in AA 1-11.

2. The battalion S3 restates the mission as, "1-11 Armor moves at 250341 Nov 19xx along ROUTE BLUE to occupy AA 1-11 at NB7108."

3. Time Analysis. The time analysis produces the following:

• Receive mission	241830 Nov 19xx
• Issue WO	241900
• Reconnaissance elements move	242000
• Receive brigade movement order	242100
• Quartering parties move	242200
• Issue movement order	242200
• Start movement	250341

Step 2. ISSUE A WARNING ORDER

As soon as it learns of a new mission, the staff issues a assistant to alert the units.

Step 3. MAKE A TENTATIVE PLAN

1. Estimate of the Situation. The assistant S3 analyzes the friendly situation and the time required to execute the movement.

a. Friendly Situation of 1-11 Armor (97 percent strength):

Task Organization	Units	# Vehicles
Co A	3 Tank Plts	23
Co B	3 Tank Plts	23
Co C	3 Tank Plts	23
Co D	3 Tank Plts	23
Scout Plt	1 Sct Plt	6
Heavy Mortar Plt	1 Mort Plt	6
3/A/1-440 ADA Bn (V)	1 Vul Plt	3
C/4/A/1-440 ADA Bn (S)	1 Str Sec	5
Battalion CP with cmd grp	—	14
Battalion trains	—	67

Additional areas to analyze are discipline, training, leadership, morale, maintenance, and supply.

b. Time Analysis.

$\text{TDIS} = \frac{\text{distance}}{\text{rate of march}}$	$\text{TDIS (BLUE)} = \frac{141 \text{ km}}{20 \text{ km/h}} = 7 \text{ hr } 3 \text{ min}$
$\text{PST} = \frac{\text{no. of vehicles} \times 60}{\text{density} \times \text{speed}} + \text{EXTAL} + (\text{no. of time gaps} \times \text{min/time gap})$	
$\text{PST} = \frac{182 \times 60}{10 \times 24} + \frac{182}{25} + (5 \times 5) = 78 \text{ min} = 1 \text{ hr } 18 \text{ min}$	

2. Tentative Plan.

Co A 3/A/1-440 ADA Bn (V)	Bn Control
Co B 1/C/4/A/1-440 ADA Bn (S)	Sct Plt Hv Mort Plt
Co C 2/C/4/A/1-440 ADA Bn (S)	C/4/A/1-440 ADA Bn (S) (-)
Co D 3/C/4/A/1-440 ADA Bn (S)	Bn Trains

a. Task Organization.

b. Maneuver. The battalion will move with Co A, Co B, CP, Co C, battalion trains, Co D, and trail party in order along ROUTE BLUE to AA.

c. March Table Calculations. Make the following calculations:

- Calculate TDIS. Make a sketch of the route(s). Determine the distance between critical points. Then calculate TDIS between critical points (see Figure A-8).
- Calculate PST. Make a sketch of the march column. For each serial, determine the number of vehicles and the number and length of time gaps.
- Make calculations for the first march unit by determining arrival times and PST at each critical point.
- Make calculations for the following march units by adding the time gap (10 minutes in this case) to the previous unit's PST (see Figure A-9).

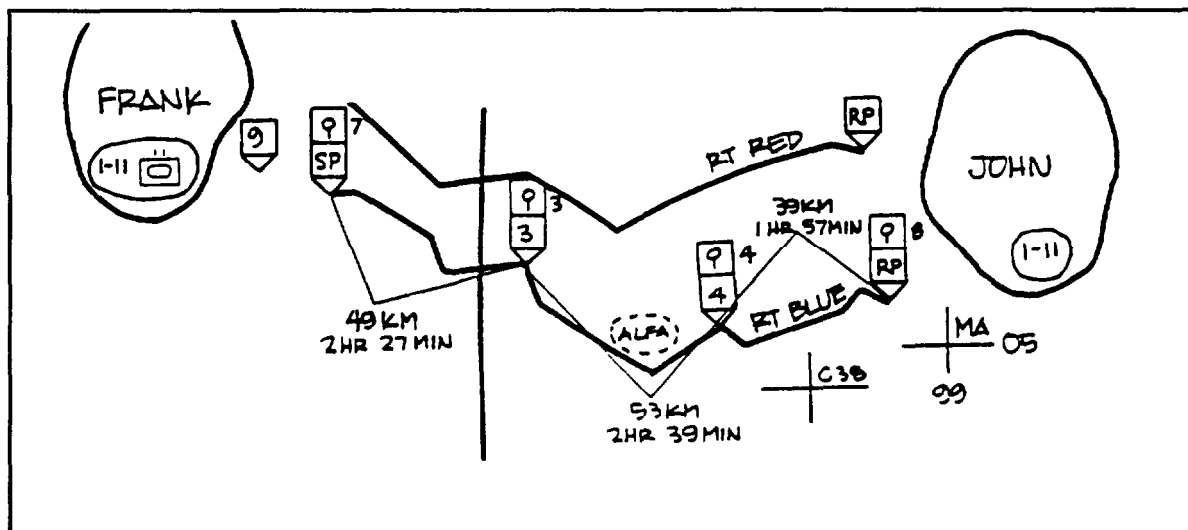


Figure A-8. Battalion time-distance sketch.

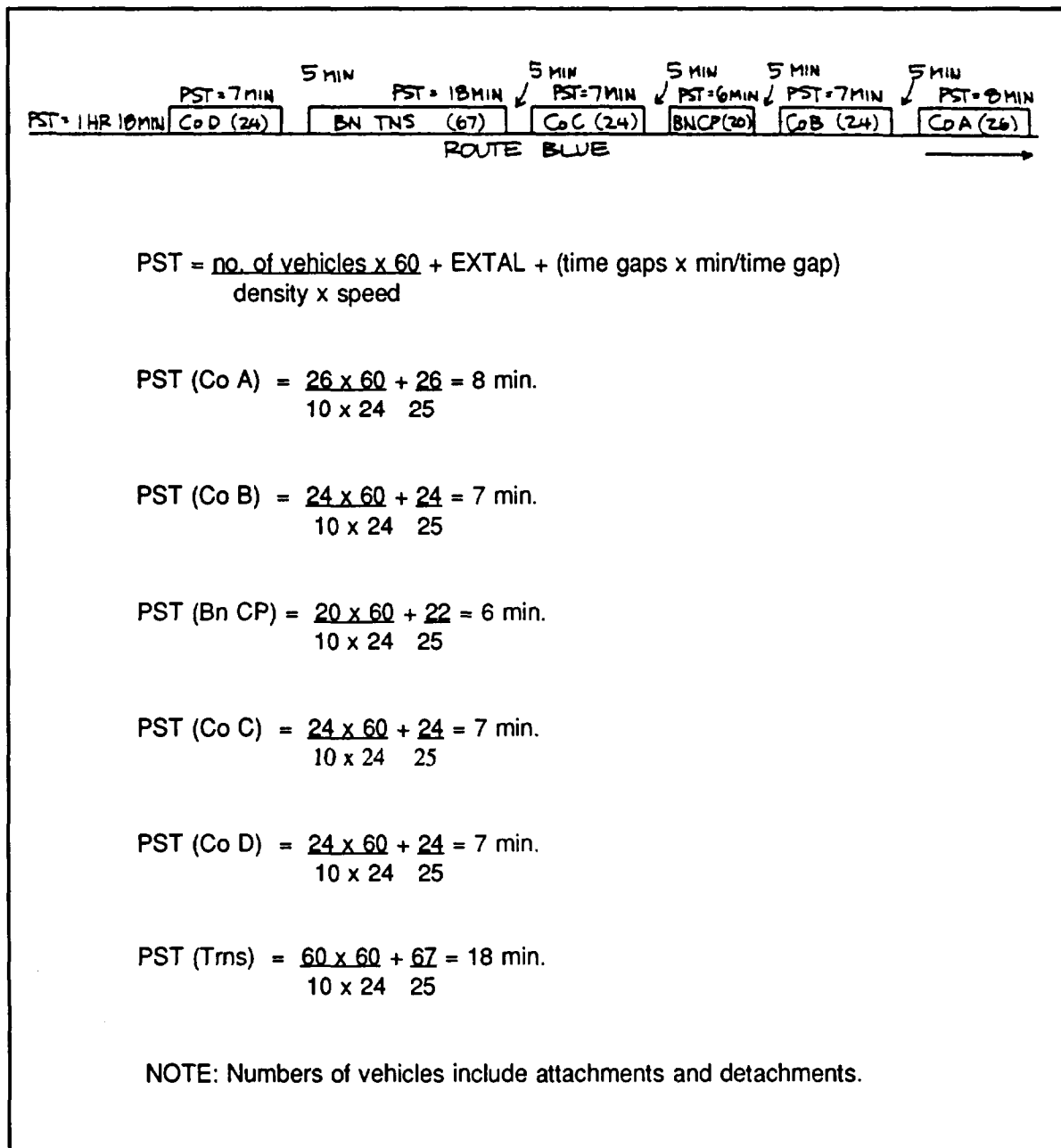


Figure A-9. Battalion pass time calculations.

Step 4. START NECESSARY MOVEMENT

The scout platoon, tasked to conduct reconnaissance by brigade, departs at 242000 Nov. This should provide time for the scouts to perform their mission. When possible, engineers and engineer equipment for road repair should be attached to the scouts.

By SOP, unit quartering parties rendezvous with the battalion quartering party OIC at a predesignated location and move at 242200 Nov. This location could be the TF SP. Fuel vehicles move with the quartering party. These will be positioned by unit quartering parties so that march units may be refueled quickly as they enter their respective AAs.

Step 5. CONDUCT RECONNAISSANCE

The scout platoon performs route reconnaissance of ROUTE BLUE. Engineers, if attached, can assist in determining the capability of the route and overpasses to handle brigade traffic. Brigade later adds the task of performing area reconnaissance of AAs for 1-11 Armor, 1-50 FA, and 1st FSB. The scout platoon, although tasked to perform the mission by brigade, remains under battalion control. The battalion will relay scout platoon reports to brigade.

The march units also conduct reconnaissance of routes out of the AA to the SP. This ensures that units cross the SP on time.

Step 6. COMPLETE THE PLAN

1. Intelligence. The battalion staff receives information from the reconnaissance party and passes the information to brigade. Additionally, the staff receives information from brigade.

2. Maneuver. Battalions normally march on a single route. Commanders conduct coordination with adjacent units to prevent congestion as the battalion moves out of the AA. If necessary, the battalion planners designate routes for specific units to use out of the AA to prevent conflicts.

3. Fire Support. Fires are planned on identifiable terrain features and on possible enemy positions along the route of march. FS plans can also be made for the support of positions in the new AA.

4. Mobility, Countermobility, and Survivability. Engineer elements can accompany reconnaissance units to assist in determining road and bridge capacities. Engineer equipment, moving with either reconnaissance parties or quartering parties, can be used to clear obstacles or improve routes.

5. Air Defense. The battalion employs passive air defense measures such as air guards. When attacked, the battalion disperses off the road. It then continues to move as soon as possible. Air defense units are integrated into the column to provide continuous air defense coverage. Active air defense measures include engaging enemy aircraft with massed small arms fire.

6. Combat Service Support. The battalion should begin the move fully supplied. Fuel vehicles will move with the battalion quartering party. At AAs, company quartering parties will emplace fuel vehicles at concealed locations within their areas so the company can conduct fast refueling using the service station method. If this method is not possible, units conduct refueling using the tailgate method. The battalion field trains normally march with the brigade trains. In this case, however, the brigade commander has decided to maintain unit trains until arrival of the brigade in the new AA.

7. Command and Control.

a. The commander and operations officer will move near the front of the column. The XO serves as the MCO. The jump CP may move to the new AA with the quartering party to assist in C2 during the march and occupation of the AA.

b. During the conduct of the march, commanders ensure their units maintain march discipline and security.

c. Radio listening silence will normally be imposed. It should be broken only when the unit is attacked, when critical points are missed by more than 10 minutes, or by higher headquarters.

Step 7. ISSUE THE ORDER

Following is an example of an OPORD. See Figure A-10 for Battalion operations overlay.

Copy no. _ of _ copies
 1-11 Armor, 1st Bale, 23d Armd
 Div
 FRIEDEN (MB206754)
 242200 NOV 19xx
 LW34

OPERATION ORDER 89-2

Reference: Map, series M745, GERMANY, sheets 5318 (AMONEBERG), 5320 (ALSFELD), 5322 (LAUTERBACH), 1:50,000.

Time Zone Used Throughout the Order: ZULU.

Task Organization:

Co A	Bn Control
3/A/1-440 ADA Bn (V)	Set Plt
Co B	Bucket Ldr/4/A/23d Eng Bn
1/C/4/A/1-440 ADA Bn (S)	Hv Mort Plt
Co c	C/4/A/1-440 ADA Bn (S) (-)
2/C/4/A/1-440 ADA Bn (S)	Bn Trains
Co D	
3/C/4/A/1-440 ADA Bn (S)	

1. SITUATION

- a. Enemy Forces. 8th CAA is preparing to attack in 10th Corps sector.
- b. 1st Brigade moves 250300 Nov 19xx along ROUTES RED and BLUE to occupy AA JOHN NLT 251500 NOV 19xx.
- c. Attachments and Detachments. Task organization

2. MISSION

1-11 Armor moves at 250341 Nov 19xx along ROUTE BLUE to occupy AA 1-11 at NB7108.

3. EXECUTION

- a. Concept of Operation. The intent is to move the battalion to a position from which it can operate with 1st Brigade's part of 10th Corps reserve.

(1) Maneuver. The battalion will move with Co A, Co B, CP, Co C, bn trains, Co D, trail party in order along ROUTE BLUE to AA.

(2) Fires. Priority of fires to Co A, Co B, Co C, Co D in order.

(3) Counterair. Priority of protection to trains, CP, Co A in order.

(4) Engineering. Priority of missions to mobility.

b. Tasks to Maneuver Units.

(1) Co A. Occupy AA A.

(2) Co B. Occupy AA B.

(3) Co C. Occupy AA C.

(4) Co D. Occupy AA D.

(5) Set Pit. When the bn arrives at the RP, screen the bn AA between CP 11 and CP 12.

c. Tasks to Combat Support Units.

(1) Hv Mort Pit. Occupy AA M.

(2) C/4/A/1-440 ADA (S) (-). Move with the trains.

d. Bn Trains. Detach fuel vehicles to quartering party. Occupy AA TNS.

e. Coordinating Instructions.

(1) Move through CP 9 on the way to the SP.

(2) Quartering party. Attach fuel section and jump CP. SP 242200 Nov. Conduct refueling by company in AA 1-11.

(3) MOPP 1.

4. SERVICE SUPPORT

5. COMMAND AND SIGNAL

a. Command.

(1) Command group follows Co A.

(2) Jump CP moves with quartering party to MA783 104.

(3) Main CP moves to jump CP location.

(4) Brigade TAC CP vic MA610082. Brigade main CP follows 1-91 Mech to TAC CP location.

b. Signal.

(1) SOI index 1-7 in effect.

(2) Radio listening silence in effect.

Acknowledge

Derrick
LTC

OFFICIAL:

Calder

S3

Annexes A—Operations Overlay

B—Movement Table

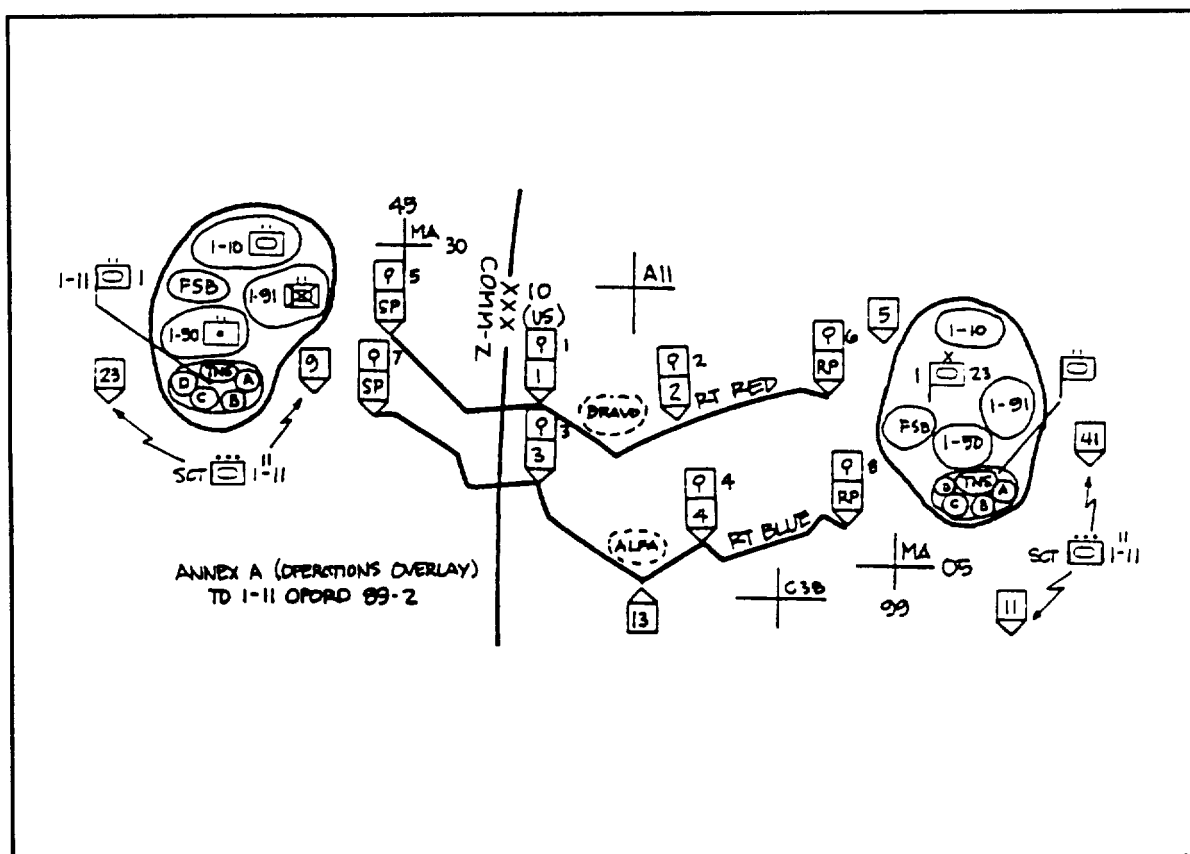


Figure A-10. Battalion operations overlay.

Table A-4. March table to 1-11 Armor Operation Order 89-2.

1. Speed: 24 kph; maximum catchup speed: 40 kph.
2. Interval: 100 meters.
3. Time gaps: 10 minutes between serials.

UNIT	SP	CP3	CP4	RP	REMARKS
Recon Pty	242000				Move by infiltration.
Qtr Pty	242200				Move by infiltration.
Co A	0341 0349	0608 0616	0847 0855	1044 1052	PST = 8 min.
Co B	0354 0401	0621 0628	0900 0907	1057 1104	PST = 7 min.
CP	0406 0412	0633 0639	0912 0918	1109 1115	PST = 6 min.
Co C	0417 0424	0644 0651	0923 0930	1120 1127	PST = 7 min.
Bn TNS	0429 0447	0656 0714	0935 0953	1132 1150	PST = 18 min.
Co D	0452 0459	0719 0726	0958 1005	1155 1202	PST = 7 min.
Trail Pty	0457				Move by infiltration.

Technique: Preprepared march tables based on standard task organizations, intervals, and march rates will greatly simplify march planning. PST calculations can already have been accomplished.

Step 8. SUPERVISE

1. Security. During the march, the companies maintain security through observation, weapon orientation, dispersion, and camouflage. Commanders ensure there is 360-degree observation. Main weapons are oriented on specific sectors outward from the column. The first elements cover the front, following elements cover alternate flanks, and the last elements cover the rear.
2. Air Security. Air security is maintained with an air guard in each vehicle. Specific vehicles can also be designated as air guards, providing air observation exclusively.
3. Short Halts. By SOP, there will be 10-minute halts every two hours during the march. All march units will halt at the designated time, form a herringbone or coil, maintain dispersion, and establish local security. Traffic guards are posted at the front and rear of each march unit. Units will conduct during-operations maintenance checks.
4. Long Halts. Long halts are planned in advance. The length of time of the halt is added to the total travel time. Locations for halts are normally selected to allow all vehicles to clear the road and disperse. Long halts can be used for refueling.
5. Unscheduled Halts. Unscheduled halts may be caused by unforeseen developments such as obstacles, traffic congestion, or equipment failure. If a halt is necessary, the unit's first priority is to establish security.

Each unit forms a herringbone. Each vehicle commander makes contact with the vehicle to his front to determine the cause of the halt and take necessary corrective action.

6. Obstacles. The scout platoon should eliminate obstacles within its capability. If an obstacle cannot be eliminated, it should be bypassed. If it cannot be bypassed, the battalion will have to breach it. Following units move at decreased speed or get off the road.

7. Enemy Indirect Fire. Should the battalion come under attack by enemy indirect fire, the unit in contact will continue to move. The remainder of the battalion attempts to bypass the impact area.

8. Air Attack. If attacked by enemy aircraft, the march unit that is attacked will disperse off the road into covered and concealed positions and engage the aircraft with all available automatic weapons. The rest of the battalion moves to covered and concealed areas until the engagement ends. The movement resumes as soon as possible.

9. Ambush. Ambushes will be fought through without delay. The march unit in the kill zone will increase speed, fight through, and report the ambush. The battalion will conduct a hasty attack to destroy the ambush force.

10. Disabled Vehicles. Disabled vehicles must not obstruct traffic. Disabled vehicles are moved off the road, and their status is reported immediately. Each crew establishes security and posts guides to direct traffic. The trail party recovers the vehicle whether the crew repairs it or not.

11. Contamination. Units should always try to avoid contamination. Contaminated units should decontaminate as soon as possible. Upon encountering contaminated terrain, the unit should begin NBC monitoring and reconnaissance: it should mark and bypass the area. In all instances, appropriate reports must be rendered immediately.

SECTION VII. COMPANY TACTICAL ROAD MARCH

Situation

The company commander of Company B receives a WO from battalion at approximately 241900 Nov 19xx. He immediately begins preparing his unit to conduct the movement.

Troop-Leading Procedures

Following is an example of company troop-leading procedures for a tactical road march.

Step 1. RECEIVE THE MISSION

The company commander conducts a task analysis and time analysis.

1. Task Analysis/Restated Mission.

- a. Move at 250354 Nov along ROUTE BLUE.
- b. Occupy AA B.
- c. Provide a quartering party to quarter the AA.
- d. Move through CP 9.
- e. Refuel in the AA.

f. Restated mission: B Co moves at 250354 along ROUTE BLUE to occupy AA B (MA715095).

2. Time Analysis.

• Quartering party departs	242200 Nov 19xx
• Receive the mission	242200
• Issue a WO	242230
• Reconnoiter route to the SP	242300
• Issue movement order	242315
• Stand-to	250320
• Move from AA	250320
• Cross SP	250354

Step 2. ISSUE A WARNING ORDER

The company commander issues a WO immediately after receiving a WO from the battalion. After receiving the movement order, the company commander issues another WO with updated information for his subordinates.

Step 3. MAKE A TENTATIVE PLAN

1. Estimate of the Situation.

a. The company commander conducts a map analysis of the route and the new AA.

b. He determines the assets available to him: 14 tanks, one Stinger team, the FIST, one M88 VTR, one medical M113, one two-and-one-half ton truck, and two HMMWVs. The ISG takes the maintenance track and one man from each platoon to conduct quartering party operations.

c. The company commander uses the march table provided in the battalion movement order to determine the time required to accomplish the mission.

2. The Tentative Plan.

a. Task organization.

- 1st Pit.
- 2d Ph.
- 3d Pit.
- Combat trains.
- Stinger team.

b. Maneuver. The company moves from the AA, through CP 9, along ROUTE BLUE to AA B with the following order of march: 1st Pit, company and FIST, 2d Pit, 3d Pit, XO, combat trains. The quartering party will meet us at the RP. We will conduct fast refuel as we enter the AA. Occupation of the AA: 1st Pit, AA1; 2d Pit, AA2; 3d Plt, AA3; combat trains, AA4.

Step 4. START NECESSARY MOVEMENT

The company quartering party departs to rendezvous with the battalion quartering party and battalion fuel vehicles for their movement to the new AA.

Step 5. CONDUCT RECONNAISSANCE

The company commander and the platoon leader of the lead platoon, 1st Platoon, conduct reconnaissance of the route from their present AA, through CP 9, to the SP. During the reconnaissance, they also do a time

check to determine how long it takes to move to the SP from AA positions. The commander coordinates with the other company commanders to prevent movement conflicts as the units move out of the AA.

Step 6. COMPLETE THE PLAN

1. Intelligence. While in AA positions, the company is normally connected to battalion by landline. The company can be given intelligence information from battalion using landline communications. The company commander must otherwise rely on map reconnaissance, personal reconnaissance, and the reconnaissance information obtained by his platoons.

2. Maneuver.

a. Getting the company out of its AA positions and moving on time in the dark can often be difficult. Company commanders should set stand-to early enough to give their units time to get organized for the move out of the AA. Unit leaders should rehearse, or at least discuss how the unit will move out of the AA.

b. The company normally conducts a march in column formation. A combat column can be used if there is no traffic traveling in the other direction. In the corps rear this is unlikely since there are so many units using the existing road net. Additionally, The roads often will not be wide enough to go into combat column. The normal order of march is shown in Figure A-11.

3. Fire Support. The company commander and FIST plan fires on easily identifiable terrain features and on possible enemy positions along the route of march. FS plans can also be made for the support of positions in the new AA. The FIST receives a copy of the battalion FS plan from the battalion FSO. The company commander disseminates the consolidated FS plan to his subordinates.

4. Mobility, Countermobility, and Survivability. Engineer equipment normally accompanies the reconnaissance party to reduce obstacles. If the company encounters an obstacle, it develops the situation and reports to battalion. Reduction of the obstacle will probably require engineer support. The company either bypasses the obstacle or participates in battalion actions to overcome the obstacle.

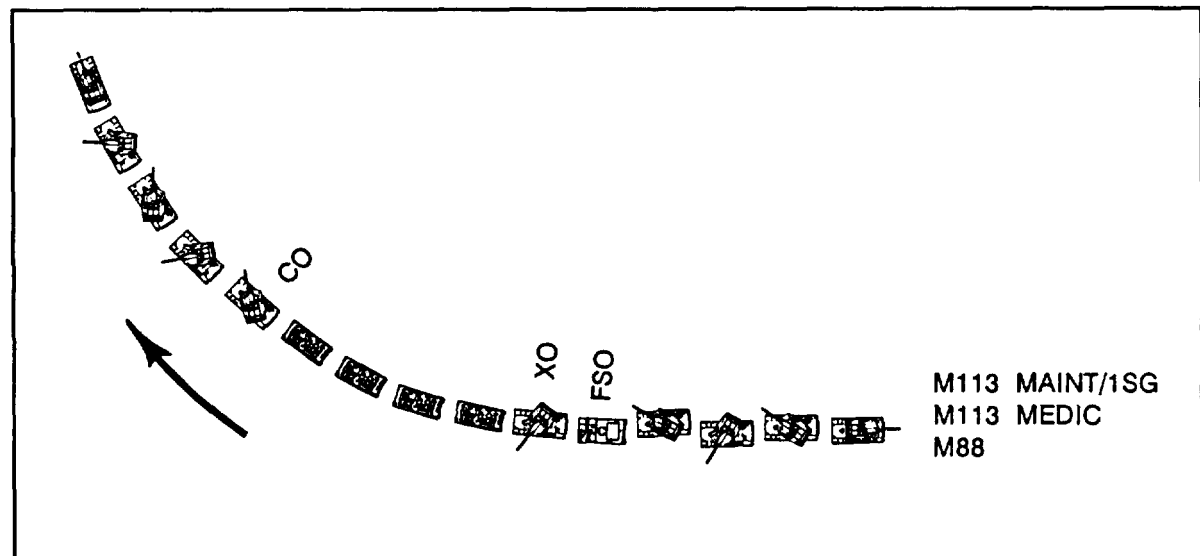


Figure A-11. Company column.

5. Air Defense. During a road march, the company employs air guards in each vehicle. The air guards on tanks are usually the loaders. Machine guns are normally oriented upward. The Stinger team can be employed near the front of the column for earliest engagement of attacking aircraft. Another option would be to split the team, employing the gunner on the maintenance APC near the rear of the column to engage aircraft attacking from that direction. The Stinger gunner, however, will not be able to monitor the early warning net.

6. Combat Service Support. Before the company moves, it should be fully uploaded and topped off with fuel. Fuel vehicles may accompany the company during a road march, move forward with the quartermaster party to refuel the company at a distant location, or move under control of their parent unit to refuel the company after the company has occupied its AA positions. If the fuel vehicles move with the quartermaster party, the quartermaster party normally sets them up to refuel the company as it moves into its AA positions.

7. Command and Control. The commander is normally near the front of the column. The FIST is normally

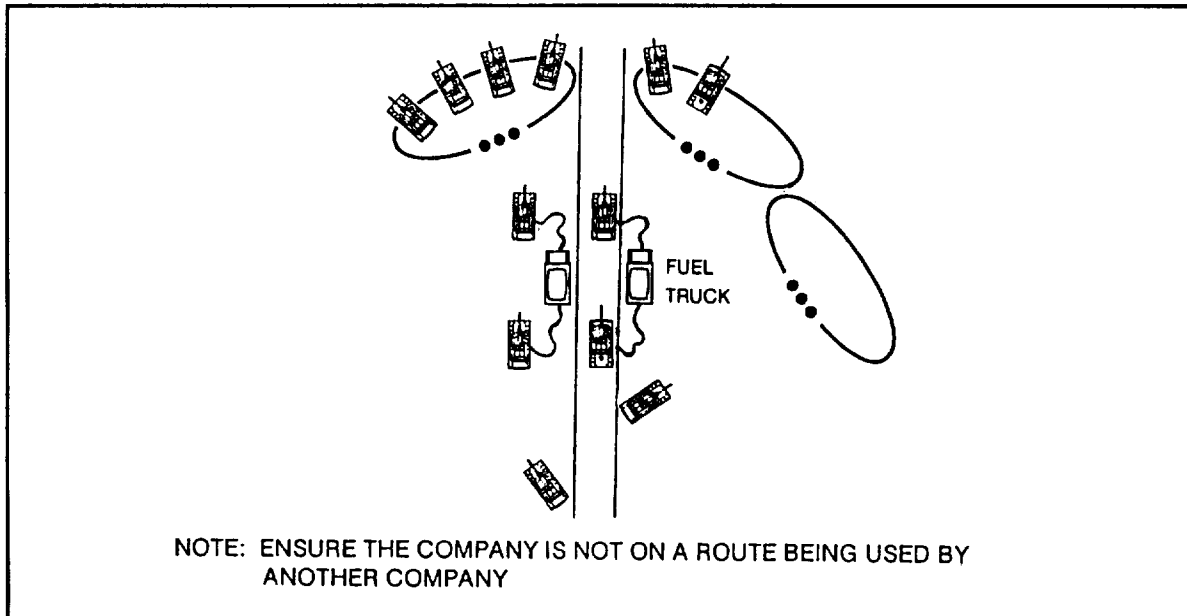


Figure A-12. Fast refuel.

with him. The XO is near the rear. The 1SG normally leads the quartermaster party. If not, the 1SG leads the combat trains. The company normally moves in radio listening silence, but monitors the battalion and company command nets. Radio listening silence is broken only during emergencies (see Figure A-12).

Step 7. ISSUE THE ORDER

The order is issued orally. Information includes changes to task organization, enemy and friendly situation, and mission. Execution includes intent. The scheme of maneuver should contain information on order of march, route, speed, interval, unit AA positions, refueling instructions, and stand-to. Designate priorities of fire and disseminate the FS plan. Provide necessary instructions for air defense and for actions at obstacles. CSS should include location of combat trains and any instructions not covered by SOP. Command and signal should include location of the commander and signal instructions. The order should be accompanied by an operations overlay or strip map showing arrival times at critical points.

Step 8. SUPERVISE

1. Security. Each vehicle's loader is designated as air guard. He is also responsible for rear security. Machine guns are pointed skyward. Vehicles alternate gun tube orientation to cover both sides of the road. Each vehicle has 360-degree observation.

2. Security During Halts.

a. Short and Long Halts. By SOP, there will be 10-minute halts every two hours during the march. Long halts will be scheduled by the battalion. The company will halt at the designated time, form a herringbone or coil, maintain dispersion, and establish local security. Mounted security is maintained at all times. Traffic guards are posted at the front and rear of each march unit. Units will conduct during-operations maintenance checks.

b. **Unscheduled Halts.** The unit's first priority is to establish security. The company forms a herringbone. Each vehicle commander makes contact with the vehicle to his front to determine the cause of the halt and take necessary corrective action.

3. **Air Defense.** If attacked by aircraft, move away from the axis of attack. Occupy covered and concealed positions. Engage aircraft with all available weapons.

4. **Artillery.** If attacked by artillery, button up and continue to move out of the impact area.

5. **Ground Attack.** If the company is engaged by the enemy during a road march, it should conduct actions on contact:

- a. Return Fire.
- b. Seek Cover.
- c. Report.
- d. Develop the Situation.

6. **Disabled Vehicles.** Move disabled vehicles off the road and report their status immediately. The company continues to move. The crew establishes security and posts guides to direct traffic. The crew works to repair the vehicle within its capability. The combat trains maintenance section either repairs the vehicle or requests the vehicle be recovered by the trail party. In any case, the crew awaits the arrival of the trail party to continue the move or to be recovered.

7. **Break in Column.** The leading element in front of which the break took place slows approximately 10 kmph from march speed for one minute. It speeds back up to normal road march speed when the break is closed. If a TC has lost sight of the vehicle to the front and is not sure he is going in the correct direction, there is a danger he has taken a wrong turn. In cases such as this, following vehicles tend to continue to follow the wayward vehicle. To continue in the wrong direction will make matters worse. The TC, therefore, should stop his vehicle along the side of the road and request assistance from his platoon leader.

8. **Assembly Area Occupation.** The company must clear the RP and quickly move from the RP to its AA. The following method accomplishes this. The 1SG, in the maintenance M113, meets the company at the RP and leads the company toward the AA. The platoon quartering party personnel are dispersed along the route, awaiting the arrival of the company. The 1SG stops the column at a designated location just long enough for the platoon quartering party personnel to get on the lead vehicle of each platoon. The quartering party personnel then direct the platoons into their positions (see Figure A-13).

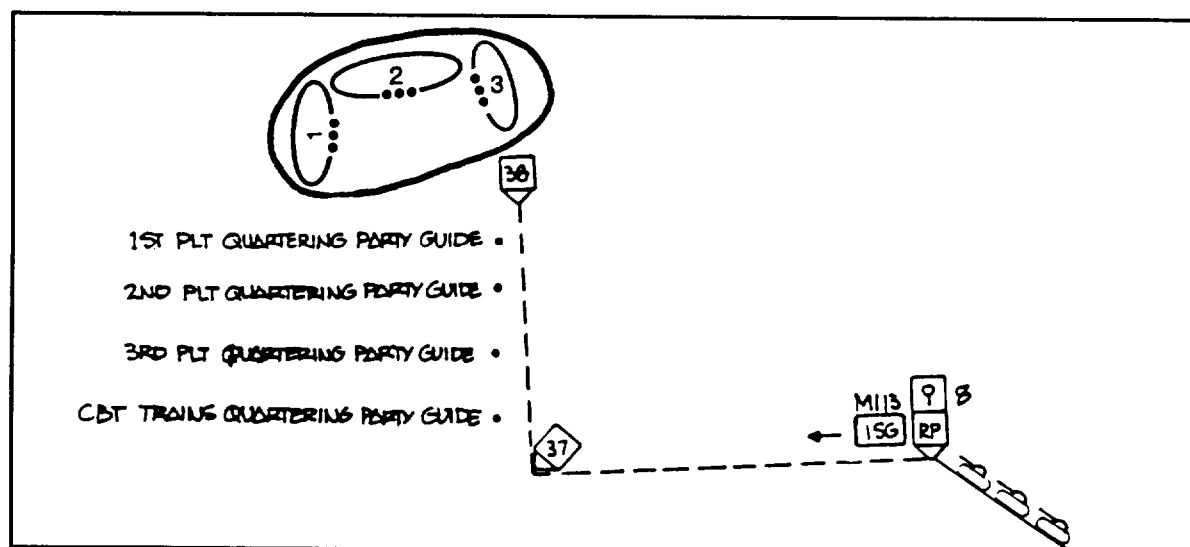


Figure A-13. Assembly area occupation.

Appendix B

INTEGRATION OF HEAVY, LIGHT, AND SPECIAL OPERATION FORCES

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SECTION I. GENERAL

Across the spectrum of terrain and enemy, there is an overlap of environment in which both heavy and light forces can operate. The use of a mixed force in this overlap takes advantage of the strengths of both forces and offsets their respective weaknesses. The integration of heavy and light forces can take advantage of the enemy's force structure to attack its weaknesses and seize the initiative. (See Figure B-1.)

The following definitions are from the Heavy-Light Forces Integration Improvement Plan, issued by the Department of the Army Deputy Chief of Staff for Operations and Plans, 31 March 1989.

- Light infantry: infantry that has no organic carriers, including airborne and air assault infantry.
- Heavy forces: armor and mechanized/motorized infantry.
- Heavy/light operations: light forces reinforcing a heavy force on a heavy force battlefield against an enemy heavy force.
- Light/heavy operations: a heavy force supporting a light force in close terrain occupied or controlled by the light force.

- Special operation forces: support conventional military operations at all levels of war; influence deep, close, and rear operations. Optimal use is deep operations at strategic and operational level. SOF include Army Special Forces and Rangers and SOF personnel from other services (PSYOP, civil affairs, etc.).

This appendix will look at planning, preparing, and executing operations at the brigade level and below. The focus is on tactics, techniques, and procedures, rather than doctrine.

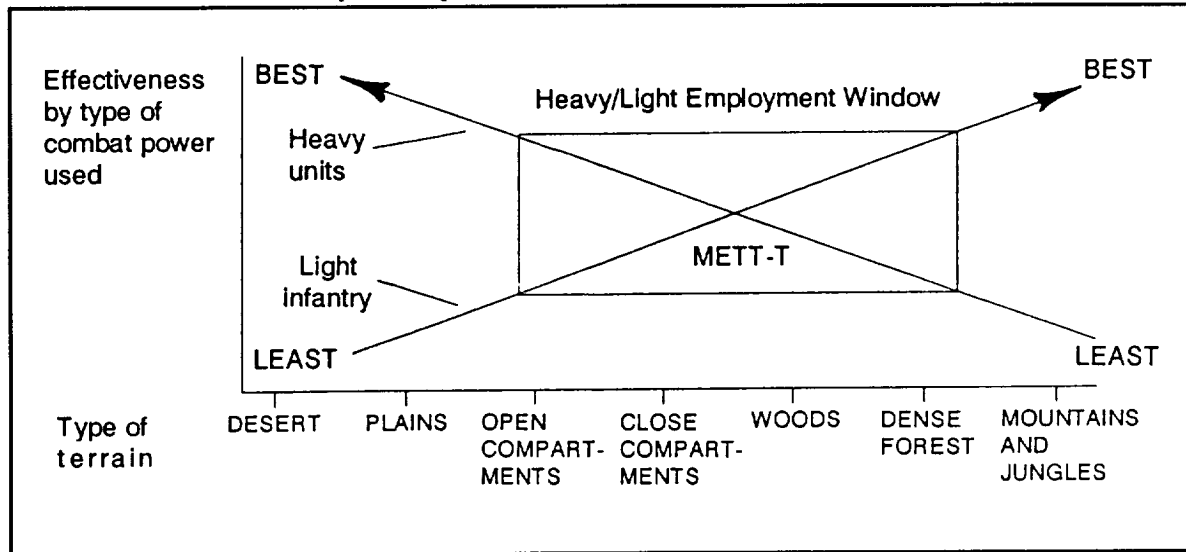


Figure B-1. Strengths and weaknesses of heavy/light forces.

SECTION II. SPECIAL OPERATION FORCES

General

Brigades and battalions may operate near or with SOF. The command relationship will be determined by the higher headquarters. SOF personnel normally provide a liaison team (an SOCCE) to coordinate with other units, usually at brigade level, and to control SOF within the AO. Most often, SOF personnel will precede conventional forces into the AO.

Capabilities

SOF can—

Infiltrate and exfiltrate specified operational areas by air, land, or sea.

- Operate in remote areas and nonpermissive environments for extended periods with little external direction and support.
- Organize, equip, train, advise, and direct indigenous military and paramilitary units and personnel.
- Train, advise, and assist US and allied forces.
- Conduct reconnaissance, surveillance, and target acquisition.
- Conduct direct-action operations, including raids, ambushes, sniping, emplacement of mines and other munitions, and terminal guidance for precision-guided missions.
- Conduct rescue and recovery operations.

Limitations

SOF—

- Depend on the resources of the theater army to support and sustain operations.
- Cannot conduct conventional combined arms operations on a unilateral basis. Their capabilities are limited to advising or directing indigenous military forces conducting this type of operation.
- Do not have organic combined arms capability. They habitually require support or attachment of other combat, CS, and CSS assets.
- Cannot provide security for operational bases without severely degrading operational and support capabilities.

Employment Considerations

The following are considerations, by battlefield operating systems, for the employment of SOF during the decisive combat operations phase of contingency operations.

Intelligence

Special reconnaissance (SR) gives the CINC, JTF, JSOTF, or ARFOR commander the ability to conduct HUMINT collection in denied areas at the operational and strategic level. For example, the Special Forces MI team can provide information on critical enemy C3 nodes.

Civil affairs assets can provide timely intelligence to the commander through interviews with refugees.

Maneuver

Special Forces and Ranger units, under the C2 of SOF headquarters, can conduct direct-action missions against high-value targets, such as critical enemy C3 nodes.

Audiovisual PSYOP teams can aid the tactical commander's deception plan.

SOF can improve host nation military forces through training and advisory programs.

Fire Support

SR or direct-action teams can conduct terminal guidance operations for high-performance aircraft against high-value targets using LTDs or beacons.

SR or direct-action teams can provide nonattributable target acquisition and adjustment of deep fires in deep operations.

SOCCE coordinates with fire control elements to prevent fratricide of SOF elements in the conventional unit's area of influence.

SOF can conduct training to improve host nation FS assets.

Air Defense

SOF participate in JSEAD operations by reporting neutralized enemy ADA sites.

Combat Service Support

SOF assist in the identification of and coordination for host nation assets.

CA elements assist in the implementation of population resource control measures.

SOF assist in refugee control measures.

Command and Control

SOF direct-action units remain under the control of an SOF headquarters and establish a liaison element with the conventional headquarters to provide time-sensitive information.

Direct-action units can be placed in GS a DS of a conventional unit. In that case, the SOF unit headquarters would be collocated with the conventional unit's headquarters. This allows the flow of timely information and facilitates planning for and integration of the SOF unit into the conventional unit's operations.

SECTION III. HEAVY/LIGHT OPERATIONS

Heavy/light operations are the logical extension of the Army's force modernization of the early 1980s. The current potential is to use both form together to capitalize on each others' strengths, offset their weaknesses, and attack the perceived weaknesses of the Soviet-style heavy force structure. The interjection of light forces in a heavy theater allows a flexible response to increasing tensions and a rapid response in the face of a sudden all-out attack.

Heavy and light forces will not routinely be mixed. The decision to cross-attach light infantry will be based on corps-level war planning or on the initiation of a subordinate commander's request for light infantry augmentation. In all cases, the decision to use a heavy/light force must be driven by the factors of METT-T.

One primary advantage to the heavy/light combination is that it allows the maneuver commander more flexibility in tailoring his task organization. Light infantry can infiltrate to attack key C2 nodes, for example, while mechanized infantry creates a penetration for an armored task force to exploit. The mechanized infantry can then follow and support the armor, while light infantry air assaults or parachutes to continue to seize

The challenge of heavy, light, and SOF operations is to understand the capabilities and limitations of each type of heavy and light force structure. (For a detailed explanation of the different types and TOEs of infantry units, see SH 7-176. For armor and cavalry units, see FKSM 71-8.) This appendix will use the Infantry Division (Light) Battalion TOE 07015L000 as an example to highlight discussion.

The Heavy Brigade/Light Battalion

The brigade is the most likely heavy element to have a light unit attached. This is because, of all the light infantry organizations, the light battalion is the one requiring the least augmentation from either its losing parent organization or its gaining command.

Characteristics of the Light Infantry Battalion

The light infantry battalion is an austere combat unit whose primary strengths are its abilities to operate under conditions of limited visibility and in close combat.

Organization

The light infantry battalion is organized as depicted in Figure B-2.

Summary of Equipment

The primary weapon of the light infantry battalion is the M16. There are 65 M203 grenade launchers, 18 M60 machine guns, and 18 Dragon in the battalion. There are four TOWs, four 81-mm mortars, and six 60-mm mortars. The battalion has 27 HMMWVs and 15 motorcycles. There are no 2-1/2 ton or larger trucks in the battalion. There are 42 AN/PRC-77 radios, which are the primary means of communications within the battalion. There are no redundant radios. This information is from the AOE Nov 89 TOE and may not reflect modifications made to specific unit MTOEs.

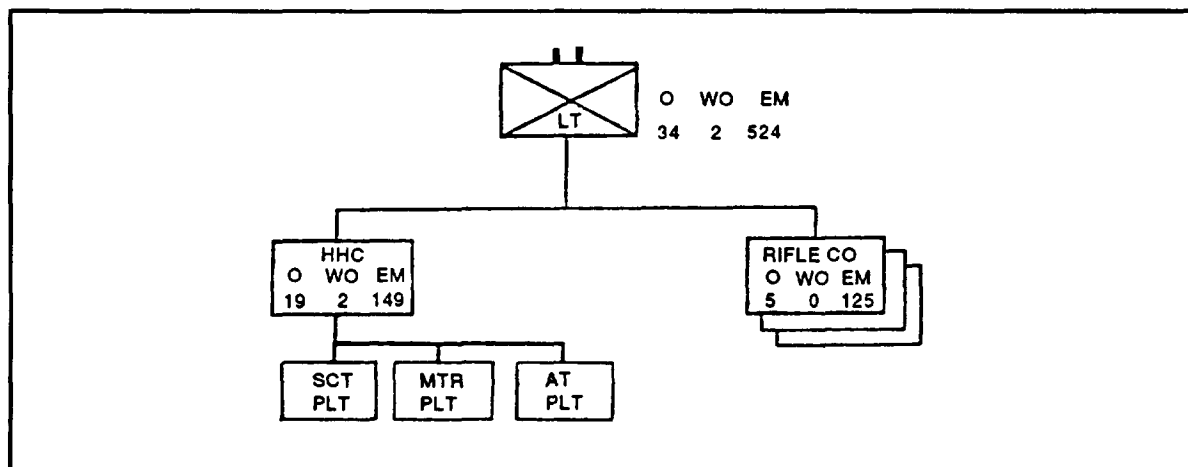


Figure B-2. Light infantry battalion.

Augmentation

It is important to understand exactly what resources a light battalion actually has, regardless of TOE. In most cases, a light battalion will require augmentation to fight in a mid- to high-intensity environment. Augmentation could consist of the following:

Possible Augmentation:	Provided by:
1 GSR section	Heavy brigade GSR slice or light division MI battalion
1 Stinger platoon	Heavy brigade CS slice
1 VF MED w/FSO	
3 FIST DMDs	
12 DMDs R	
1 light engineer platoon	Light division engineer battalion
1 light truck company (-)	Corps
1 unit level maint team	Light brigade
1 maint team (IDS)	Light division
1 mess team	Light brigade
1 smoke/decon platoon	Corps
LOs	Heavy brigade/light battalion
1 REMS team	Light division MI battalion

LOs should be exchanged at the time of task organization. LOS know their units' capabilities and strengths and should be exchanged for both maneuver and logistics cells.

Missions

The missions given to a light infantry battalion in heavy brigade/light battalion operations must take into account the heavy enemy's superiority in mobility and firepower. The light infantry must offset its vulnerabilities with dispersion, cover and concealment, and use of close and hindering terrain to slow the enemy. Possible light infantry tasks may include the following:

Heavy Brigade Mission	Light Battalion Task
Movement to Contact	Clear and secure restricted areas; follow and support
Hasty Attack	Use air assault to fix enemy

Heavy Brigade Mission (cont)	Light Battalion Task (cont)
Deliberate Attack	Use reconnaissance, infiltration, air assault to seize objectives, breach obstacles; create a penetration
Exploitation	Secure LOC, use air assault to seize terrain or attack enemy forces
Pursuit	Clear bypassed forces; use air assault to block enemy escape
Follow and Support	Secure key terrain and LOC; provide rear security
Cover	Provide reconnaissance, deception, stay-behind operations
Defend in Sector	Block dismounted avenues; conduct counterreconnaissance; occupy strongpoint; ambush; provide rear area security; conduct MOUT
Delay in Sector	Occupy positions in depth; conduct spoiling attacks
Breakout from Encirclement	Create penetration
Linkup	Serve as follow-up echelon
Demonstration	Conduct display operations
Withdrawal	Serve as advance party
Retirement	Serve as advance party

Operational Planning Considerations

When employing a heavy/light brigade, both forces' battlefield operating systems must be integrated.

Intelligence

Because of the light battalion's relative lack of mobility and differences in weapons ranges between the light force and opposing heavy units, light infantry pays a heavier price for imprecise IPB. Enemy locations must be pinpointed to eight-digit grid coordinates. Avenues of approach and mobility corridors must be evaluated for both heavy and light forces. Heavy enemy weaknesses must be well defined.

Incorporate the light battalion into the R&S plan. Use it to conduct reconnaissance patrols, set out LPs/OPs, and leave stay-behind teams. The limited radio ranges of light units can be overcome by integrating them with heavy scout assets.

Given appropriate terrain, light infantry can perform a screen mission as either the hunter or killer team, or both.

Maneuver

Use light infantry in close or restrictive terrain to deny the enemy avenues of approach. Enemy mobility is reduced, and the advantage of long-range weapons is nullified.

Plan the movement of light infantry to coincide with darkness, severe weather, smoke, or fog. To help prevent detection, move light infantry during conditions of limited visibility.

Linkup operations involving a heavy force reinforcing a light force must be executed in a timely manner. If the light battalion is to attack in advance of the heavy brigade, the heavy brigade must relieve the pressure when planned. Light units left in contact with an enemy heavy force may be overrun or decimated by artillery.

Flank coordination between the light battalion and adjacent heavy units must emphasize weapons ranges, EAs, trigger lines, and recognition signals.

Fire Support

Since light forces are extremely vulnerable to indirect fire, the heavy brigade needs to work through division artillery to have designated counterbattery support for the light battalion.

The lack of DMDs and VFMEDs forces the light battalion to send its calls for fire over a voice net. If the heavy brigade cannot operate with both voice and digital traffic on the fire control nets, it must supply the light battalion with this equipment.

Integrate the light battalion's mortars into the indirect fire plan. The improved 81-mm mortar has nearly the same range as the heavy battalion's 4.2-inch mortar, with the same lethality.

Air Defense

Light infantry's primary means of air defense are passive: do not fire first, move at night, and camouflage troop concentrations.

The positioning of the light infantry battalion and its Stinger teams can create a secure air avenue of approach. It can also deny that same air avenue to enemy aviation.

Resupply of missiles hampers continuous air defense coverage.

Stinger teams must either dig themselves in or move immediately upon firing. Missile contrails point to firing positions.

Mobility, Countermobility, and Survivability

Within the light battalion, engineer priority is usually survivability, countermobility, and then mobility.

The tight engineer platoon has no vehicular haul capacity. When pushing Class IV to light infantry, plan to drop small loads at specific sites along the obstacle belt.

Build obstacles in such a way that flanking fires can be used to stop the enemy and force him to dismount to clear the obstacle. Light infantry has limited antitank assets and relies on destroying enemy vehicles within small-arms range.

The loads soldiers must carry for the sapper are a critical consideration.

When breaching, lanes must be thoroughly reconnoitered. Use limited visibility to conceal breaching efforts.

Combat Service Support

Light infantry CSS works on the basis of push, not pull. The light brigade ordinarily uses throughput distribution to its battalions. It is based on planning and status reporting, rather than requisitioning. This is the major reason for the need to exchange logistical LOS.

Class I for the light infantry unit is normally handled at brigade level. The light battalion should have a mess team from its parent brigade. The team consists of eleven enlisted personnel, one 5-ton truck, and one M149A1 water bailer. It is the only dedicated water-haul asset in the battalion; water resupply is an item of command interest.

Class III resupply is handled by centralized top-off in the trains and the exchange of 5-gallon cans. The light battalion support platoon has two 500-gallon collapsible fuel blivets.

Class V differences lie mainly in mortar ammunition. Light infantry uses both 60-mm and 81-mm mortars. However, because of possible force modernization differences, be careful to check DODACs. There could be differences in 5.56-mm requirements (SAW, M16A1 versus M16A2) and in pistol calibers.

Medical evacuation in the light infantry relies on four HMMWV ambulances per battalion. The battalion should be augmented by MI 13s from the FSB's medical company. Ambulance exchange points will reduce turnaround time.

Class IX for the light battalion focuses on replacement of assemblies at the brigade level. The light battalion has one assigned mechanic; the light brigade augments the battalion with a unit-level maintenance team and a DS maintenance team.

Transportation of both the unit when not in contact and of supplies must be managed. The battalion support platoon allocates five HMMWVs to haul ammunition, one for POL, one for other classes of supply, one for the support platoon leader, and three for command vehicles for the rifle companies. OPCON transportation assets should be placed in the BSA under control of the battalion S4 NCOIC.

Command and Control

Heavy and tight force commanders and their staffs must understand the capabilities and limitations of each others' units. Since this presents problems to both units, LOs should be exchanged and main CPs collocated if possible. Exchange SOPs and SOIs.

Orders at the brigade level must be simple, timely, and easy to execute. In the light infantry battalion, it is difficult to make changes in either plans or execution and then to verify those changes up and down the chain of command.

Communications planning must take into account the limited number of radios in the tight battalion and the typical terrain profile assigned to a light battalion. The battalion TOC has three AN/VRC radios. In the defense, dig in communications wire because of artillery blast effects and the relative immobility of the light battalion.

The Heavy Battalion/Light Company. The use of a light infantry company within a heavy battalion will be an extremely rare situation. A light infantry battalion can muster nearly twice the number of dismounted infantry as a heavy infantry battalion. A tank battalion is normally task-organized mechanized infantry for support. The task organization of a light infantry company to the heavy battalion task force is still driven by METT-T; it will not be habitual. It will begin with the request by the battalion task force commander. At the first level, staff interaction is not possible, and the subordinate light unit relies entirely on the heavy unit's staff.

Characteristics of the Light Infantry Company

Most light infantry companies are more austere than their parent battalion.

Organization

The light infantry company, TOE 07015L000, is organized as shown in Figure B-3. It also receives four medics from the battalion and three artillery observers from the DS artillery battalion.

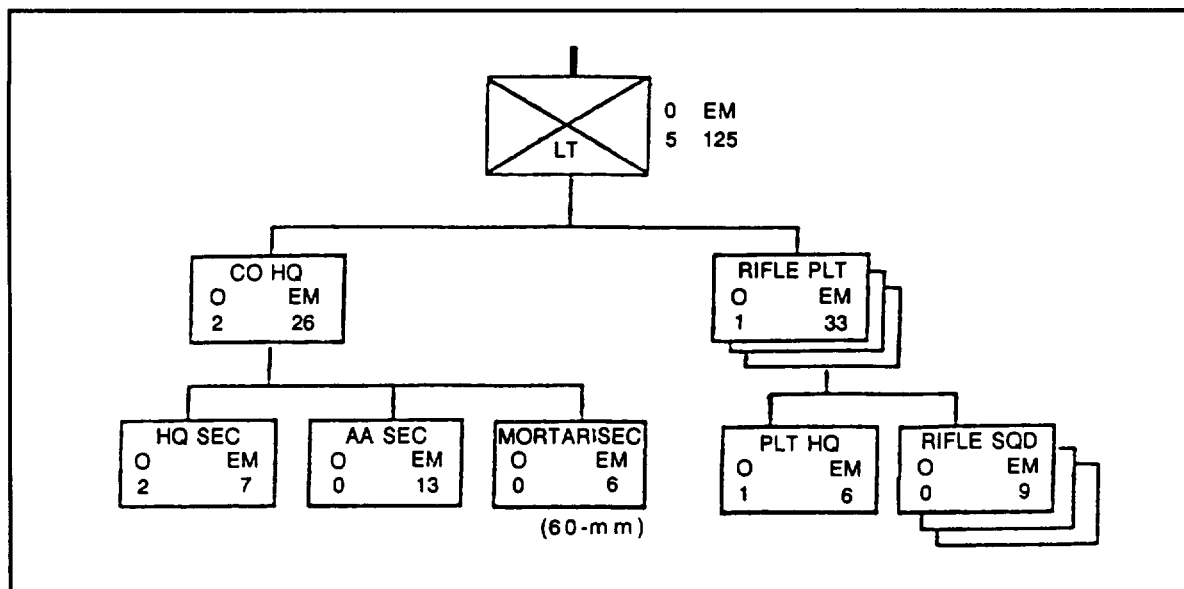


Figure B-3. Rifle company.

Summary of Equipment

The light infantry company is equipped with a weapons mix similar to that of the light infantry battalion. Individual weapons are the primary weapon of the individual soldier. There are 19 M203 grenade launchers and six SAW machine guns. There are six 60-mm mortars and six Dragons in the company headquarters. Again, the AN/PRC-77 radio is the primary means of communication, and there is no redundancy of systems. There are no vehicles in the company.

Augmentation

There is no set list of augmentation requirements for an attached light infantry company; however, its capabilities and limitations are usually identical to those of its parent battalion. Most light companies will need transportation, mess, FO, air defense, and engineer support.

Light Infantry Company Missions

The relationship of light infantry company tasks to heavy/light battalion task force missions is consistent with those at the heavy/light brigade; see paragraph A3 of this section for a listing of *possible* missions.

Operational Planning Considerations

The need to integrate battlefield operating systems remains. The focus shifts to staff-company interaction and to differences in equipment not normally planned for by heavy force staffs. (The following considerations are specific to TOE 07015L000; most apply to all light companies.)

Intelligence

Without its parent battalion S2, a light infantry company is without access to intelligence. The heavy force S2 must understand the light infantry company commander's need for detailed information and terrain analysis.

Maneuver

Without the ability to exchange an LO, the light infantry company commander and the heavy battalion S3 must clearly communicate intent, capabilities, and limitations. To ensure proper utilization of the light infantry company, the commander must often be involved early in the planning process.

Not fielded but on the TOE are six sniper rifles per light infantry company. Plan for the use of three two-man sniper teams.

Fire Support

The company level is the lowest at which light infantry has organic indirect FS. The range of the company's two 60-mm mortars is from 50 meters to 3,400 meters. They can fire direct lay, direct alignment conventional indirect, or hip shoot missions. Calls for fire are normally issued on the company command net.

Mortar ammunition is hand-carried, usually one round per soldier in the company. Four types are used HE, handheld HE (command triggered), smoke, and illumination. In a company movement, ammunition is dropped off at the mortar position as the soldier files through.

Air Defense

SAFAD is the only means of active air defense for a light infantry company.

The heavy battalion air defense officer must plan to keep the light infantry under the umbrella of coverage or recommend attachment of assets to the light infantry.

Mobility, Countermobility, and Survivability

The largest engineer tool in the light infantry company is the entrenching tool. There are no pioneer tool kits. Plan for engineer support to help dig survivability positions, trench networks, and cache bunkers.

Combat Service Support

There is no opportunity to exchange LOs in the logistics arena, so preplan logistics requirements with the light company XO and ISG. Remember that resupply must be pushed to the light infantry company. Use pre-positioning (caches) if the tactical situation permits, particularly in Classes I (including water), IV, and V.

Light infantry companies have no organic vehicles. The heavy battalion will need one or two trucks to haul the light company's B-bags. Moving a company (with gear) takes seven to eight trucks.

Command and Control

The light infantry company has AN/PRC-89s and AN/PRC-77s. Plan to use retransmissions to cover gaps in communications ranges.

The commander is on foot, so designate a vehicle for him to use or to pick him up.

Considerations Below the Team Level

Although light/heavy force integration will occur routinely at the company level, it is extremely unusual in heavy/light operations. There are several reasons why.

Mixing Forces

The purpose of mixing forces is to take advantage of the factors of METT-T relative to the enemy's force structure. In the heavy/light environment, you want to take advantage of your ability to place more infantry than the heavy enemy can afford to invest in terrain that offsets the heavy enemy's firepower and mobility advantage. The dismounted infantrymen of a heavy/tight tank company team are almost outnumbered by the dismounted infantrymen in a Soviet-style MRP. The inherent advantages of both heavy and light forces are lost because of a lack of mass of tanks or infantry.

Things Heavy Forces Forget About Light Forces

To place a light platoon within a heavy company team forces the problem of mobility, firepower, and protection differentials onto the tactical level least equipped to handle it. At the company level, there is time only for troop leading, not staff-like coordination or planning. The remainder of this section, therefore, will examine those operational considerations that both forces tend to overlook in each other, at the level of individual soldier, crew, and squad.

Dismounted Road March

The least common experience shared by the heavy force with a light force is the dismounted road march. The following is a synopsis from FM 21-18.

Factors that affect the rate of march for dismounted soldiers are tactical considerations, weather, terrain, march discipline ordered, acclimatization, water, morale, self-confidence, and individual load. Rates of march for normal terrain follow:

	Roads	Cross-Country
Day	4.0 kph	2.4 kph
Night	3.2 kph	1.6 kph

Normal length of march for a 24-hour period is from 20 to 32 kilometers, marching from five to eight hours at a rate of 4 kph. A march in excess of 32 kilometers is considered a forced march.

Forced marches usually increase the number of hours marched, not the rate of march, and can be expected to impair the fighting efficiency of a unit. Maximum recommended distances are 56 kilometers in 24 hours, 96 kilometers in 48 hours, or 128 kilometers in 72 hours.

Tank-Mounted Infantry

Infantrymen may have to ride on tanks once again. This can be difficult and dangerous, but it is not impracticable or impossible. It will always be a commander's call to mount infantry on tanks after weighing the mobility of forces gained versus the potential dangers. Here are the steps that at a minimum, should be taken prior to mounting soldiers on tanks.

The following considerations apply for mounting infantry on MI-series tanks.

- You must first decide whether to disengage the turret stabilization. To do so means disconnecting circuit breakers and degrading the fire control system. You sacrifice the tank's capability to fire on the move when you do this. Again, the commander's risk analysis will determine if this is practical.
- Mount up to one infantry squad on the turret in such a way that soldiers' legs cannot become entangled between the turret and the hull by an unexpected turret movement. Rope may be used as a field expedient infantry rail to provide secure handholds.
- Ensure that everyone is to the rear of the smoke grenade launchers. This will automatically keep everyone clear of the coaxial machine gun and laser range finder.
- No more than one soldier should sit on any of the turret blowout panels. In case of an ammunition bustle event, the panels will not eject properly if there is 250 or more pounds of pressure.
- If the turret stabilization has not been disconnected, the gunner and TC must keep their hands off the palm switches. This will prevent the turret from moving, but is not a fail-safe measure. Brief the infantry to always be prepared for sudden turret movement.
- Before bringing the turret into action, alert the squad leader and stop the tank in a covered and concealed position, if possible. Give the infantry time to dismount and clear away from the tank. This drill needs to be practiced prior to movement.
- The infantry should not ride with anything more than their battle gear. Rucksacks and B-bags should be transported elsewhere.

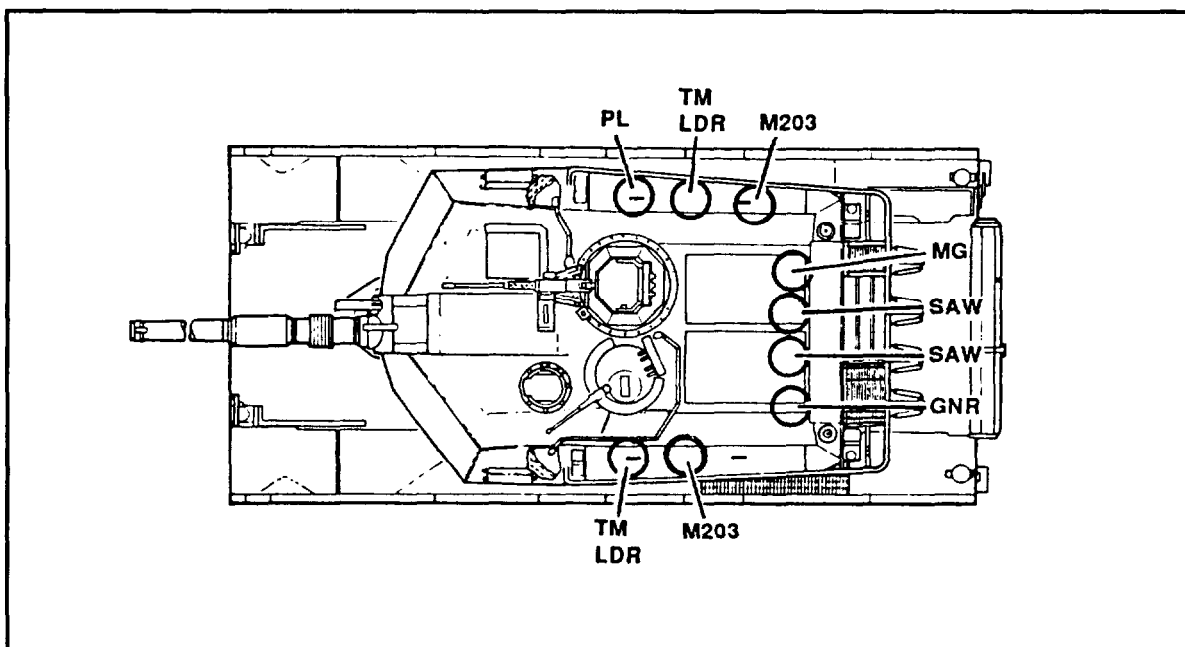


Figure B-4. Mounted infantry on a tank.

The following considerations apply for mounting infantry on M60-series tanks.

Turn off the turret stabilization switch.

Mount up to one infantry squad on top of the turret or on the back deck clear of the turret. The problem of sudden turret movement is not as great as with MI-series tanks, but the infantry must still be prepared for it (See Figure B-4).

Keep soldiers to the rear of smoke grenade launchers.

Before reengaging turret stabilization, stop and dismount the infantry. Again, it is preferable to do this in covered and concealed positions and only after having drilled the dismount procedure.

As on MI-series tanks, there is not enough room for the infantry to ride with anything more than their battle gear.

Things Light Forces Forget About Heavy Forces

Communications

Communication between the infantry on the ground and the crewmen on the tank is difficult. M60-series tanks have an external phone on the right rear of the tank, but the MI series has no external phone. Voice communication with any tank crew while a tank engine is running is restricted to shouting at the TC or climbing up to talk to him. In either case, the infantryman has to get the attention of the TC first. Unplanned visual signals may work, but it is better to use preplanned signals. Short of these measures, the dismounted infantry and armored forces must communicate by FM radio.

Visual Capability

The visual capability of the heavy force is sometimes overlooked or, conversely, exaggerated. Although the MI-series tank, the M2 Bradley, and the M60A3 tank have outstanding thermal sights and limited I2 capability, they generally cannot identify IFF beyond the range of 1,500 meters. Vehicle identification is possible to 2,500 meters. M113s have only a driver's IR vision block and IR headlights. Other considerations are discussed in the following paragraphs.

- Visual capability is altered by rain, snow, fog, and smoke. I2 device capability is degraded by increasingly lower light levels and fluctuations in light caused by flame and illumination. Thermal imagery is degraded by a condition known as crossover. If the ambient air temperature or the background is close enough in temperature to the heat given off by potential targets, thermal sights will not pick up any targets.
- MI- and M2-series vehicles do not have I2 devices above the hull. If in defilade, they rely solely on thermal imagery.
- M60A3 tanks have both thermal and I2 above the hull, and their thermal capability is more user friendly. It produces less eye strain and gives a sharper image.

MI, M2, and M60A3s have I2 devices for the driver and can easily be driven under conditions of limited visibility.

The only tanks still in the Army inventory which have organic searchlights are the M60A1 and earlier M4 models.

Tank and Armored Vehicle Hazards

Both light and mechanized infantry lack a base of knowledge about main gun hazards. All infantry need to be aware of the following considerations.

- Firing of sabot rounds creates a downrange hazard in the discarding of the stabilizing petals. The aluminum petals are discarded in an area 70 m left or right of the gun-target line, extending from the

muzzle a range of 1 km. Infantrymen should not be near or under the direct line of fire unless they are under considerable cover.

- The M1A1 main gun creates noise in excess of 140 db which, through repeated exposure, will deafen soldiers. This noise extends up to 635 meters. Single layer hearing protection, such as ear plugs or muffs, will allow infantry to work within 25 meters of the side or rear of the tank without significant hazard. There is, however, no data on blast overpressure forward of the gun tube.
- MIs have an extremely hot exhaust plume that exits from the rear of the tank and angles downward. Personnel cannot stand in this exhaust it can burn cloth and skin. To follow closely behind an MI, infantrymen must stay directly behind the tracks. The noise of MI tanks and M2 Bradleys is deceiving. You can hear them better as they move away from you; you cannot hear them well as they approach directly toward you.

Ammunition Capabilities

There is no antipersonnel round for the 120-mm gun. The following lists the types of ammunition available by gun size, with their "shorthand" oral designations in quotation marks.

Type of Ammunition	105-mm	120-mm
Armor-piercing, fin-stabilized, discarding sabot-tracer (APFSDS-T); "SABOT"	x	x
High-explosive antitank-tracer (HEAT-T); "HEAT"	x	x
High-explosive plastic-tracer (HEP-T); "HEP"	x	
White phosphorous-tracer (WP-T); "SMOKE"	x	
Antipersonnel (APERS); "BEEHIVE"	x	

SECTION IV. LIGHT/HEAVY OPERATIONS

Historically, heavy forces have played a key role in supporting light infantry in theaters that initially were assumed to be too restrictive for their use. Only eight months before the Korean War, the US Army Korean Military Assistance group advisor reported to the Chief of Staff that Korean terrain was not suitable for tanks and that there was no armored threat from the North Korean army. Heavy forces have also been used successfully in places such as the Hurtgen Forest during World War II and in Vietnam.

Just as with heavy/light operations, the challenge in light/heavy operations is to understand each force's capabilities and limitations. This section focuses on the perspective of the heavy force commander to assist in understanding those capabilities and limitations. The focus is on tactics, techniques, and procedures.

The task organization levels used in this section do not mirror those used in Section III on heavy/light operations, but reflect the historical task organization of heavy forces in support of light forces.

The Light Brigade/Heavy Company

The task organization of a heavy company to a light brigade has been the norm in the US Army since World War II. The brigade commander has the option either to employ the heavy company as a separate combat element, or to further task organize heavy platoons to light battalions. This subsection will cover the employment of the heavy company as a single combat element.

Characteristics of the Light Brigade Headquarters

The TOE of the brigade headquarters varies by type of light force. While all brigade headquarters serve to provide command control, and supervision of tactical operations, different brigade organizations have varying degrees of capabilities and limitations. The structure and capabilities of the parent light division also affect the integration of a heavy company into a light brigade. The heavy company commander assigned to a light brigade must understand what his brigade is capable of in terms of service and support. Consider the following points about types of light brigades.

Light Infantry Brigades

Light infantry brigades are the most austere headquarters in terms of communications ability and numbers of staff officers. There is no assistant S3-Air or ALO; there are fewer vehicles in the main CP; there are no high-power radios in the brigade rear. All organizational maintenance is centralized at the brigade maintenance section. All Class I is prepared by the brigade mess team. The light infantry division and brigade depend on corps transportation. One notable characteristic of light infantry is the limited antitank capability of the brigade there are 12 TOWs and 54 Dragons per brigade.

All Assault Brigades

These brigades most closely mirror heavy brigade staffs in staff composition and robustness of the CSS system. Although the number and distribution of high-power radios is the same as in the light infantry brigade, the air assault brigade frequently uses attached helicopters to extend C2 capabilities. These brigades have habitual relationship and attachment with an assault helicopter battalion that provides lift for the brigade. Air assault units are not tied to secure ground lines of communications for logistics as are heavy units. There are 60 TOWs and 54 Dragons per air assault brigade. Plus, the air assault division has an aviation brigade consisting of three attack helicopter battalions, giving it a greater divisional AT capability.

Airborne Brigades

Airborne infantry brigades have the highest communications capability of all light brigade organizations. Once forced entry operations are complete, airborne brigades operate as light infantry, but with a greater capacity in terms of combat and CSS than a light infantry brigade. Antitank capabilities are the same as for the air assault brigade. However, the airborne division has only one attack helicopter battalion, as does the light division.

Augmentation

Heavy forces below brigade level normally should not operate with light forces for more than three days because of the tremendous logistics burden that heavy forces place on light forces. The combat capability of both the heavy and light forces would begin to be degraded after three days. Light units have difficulty supporting heavy units because the logistics support structure of light units is generally austere. Heavy forces operating with light forces for more than three days require considerably more detailed CSS planning and augmentation at all levels throughout the light force up to corps level.

When possible, a heavy company should be placed OPCON to a light brigade. A heavy company would have to be logistically supported by its parent unit. This would be possible when the parent unit is adjacent to the light brigade's zone or sector.

A heavy company should be attached to a light brigade when the parent unit is not adjacent to the light brigade's zone or sector and is not close enough to logistically support the heavy company. Attachment requires the light brigade to support the heavy company. To do this, the light brigade and division must receive attachments of CSS assets from corps to support the heavy company. This should include Classes III and V transportation and heavy maintenance assets. It may be possible to route assets from the parent division through the corps to the light division.

A heavy company that is either attached or OPCON to a light brigade should come with a slice of attached CS and CSS assets. Much of this slice can be standardized, with the final determination based on the tactical situation. In addition to its own assets, a heavy company working in a light brigade should be augmented with the following:

Possible Augmentation:	Provided by:
Fire support team (FIST-V)	Parent heavy DS artillery battalion
Medical evacuation team (M113)	Parent heavy battalion
Maintenance team (tool truck, PLL parent heavy battalion truck, 2 M88s, M113)	
Support section (2 cargo HEMMTs, 2 Parent heavy battalion fuel HEMMTs, mess team)	
DS maintenance contact team (auto-	Parent heavy FSB
motive team, armament section with limited DX, comm-elec section, 5,000-gallon POL tanker, shop office section with limited ASL	
Mech engineer squad	Parent heavy division engineer battalion

Higher echelon units (light brigade, light division) should be augmented with heavy maintenance and transportation assets by the corps.

The integrity of the heavy company should be maintained as much as possible. This is best for achieving mass, for C2, and for providing CSS to heavy units. In some situations, however, it will be necessary to attach or OPCON heavy platoons to light battalions. It will be prudent under most circumstances to maintain a heavy reserve at brigade level.

Missions

The missions for light/heavy brigade, with tasks for the heavy company, are listed below.

Light Brigade Mission	Heavy Company Task
Movement to Contact	Serve as reserve; overwatch enemy AA; attack by fire provide mutual supporting fire; direct fire suppression on prepared positions; overwatch/assist in reducing obstacles; service as covering force/guard, counterattack force
Hasty Attack	Attack by fire; assault breach; conduct reserve/exploitation
Deliberate Attack	Isolate the objective; attack by fire; provide direct fire; deceive enemy concerning main effort; overwatch counterattack routes; conduct reserve/exploitation
Exploitation	Lead the exploitation; serve as overwatch, reserve, security force
Pursuit	Serve as enveloping force; lead direct pressure force; serve as overwatch, reserve, security force
Follow and Support	Direct FS; reduce obstacles; clear bypassed forces; secure key terrain and LOC; provide rear area security
Cover	Accept battle handover; conduct screen, counterreconnaissance
Defend in Sector	Defend a battle position; cover obstacles with long range fires; serve as covering/security force, reserve; deceive enemy about main defense

Light Brigade Mission (cont)	Heavy Company Task (cont)
Delay in Sector	Overwatch; counterattack by fire; conduct deception; reinforce; serve as reserve, counterattack force
Breakout from Encirclement	Serve as rupture force rear guard
Linkup	Serve as contact element, security force, reserve; conduct overwatch
Demonstration	Conduct display operations
Withdrawal	Serve as DLIC, rear guard, covering force, reserve; overwatch; fix enemy attack; conduct deception; occupy positions in depth
Retirement	Serve as trail party

Operational Planning Considerations

Intelligence. The light brigade may be able to use the mobility and thermal sight capability of the heavy company to conduct R&S. The heavy force may also participate in security operations. Light brigade R&S plans should incorporate these capabilities.

Maneuver

Terrain and weather considerations. Light infantry should be employed at night when possible. Night operations increase light infantry survivability and allow it to use stealth to gain advantage over the enemy.

Light infantry is best employed in close, restrictive terrain during both offensive and defensive operations. In this case, the heavy company assists the operations of the light brigade. In restrictive terrain, the heavy company will be vulnerable to enemy infantry and will be dependent on light infantry for protection.

In more open terrain, light infantry will be vulnerable to enemy heavy forces and will become more dependent on the heavy company for protection. The heavy force will be more predominant with the light force assisting its operations.

Force considerations. Mobility disparity. Tanks normally should not lead attacks because they will leave the light infantry behind. Both forces will then lose the mutual support they need. Infantry may be carried on top of tanks or in trucks (if available), but only before enemy contact. When enemy contact is likely, the survivability of infantrymen riding on such vehicles is greatly reduced. Tanks may assault enemy positions. They should not go so far that the enemy is able to recover and take countermeasures before friendly infantry arrives.

The light infantry normally conducts an area defense to hold ground. The light brigade may want to employ heavy elements forward to assist light units in their defense. The brigade, however, should employ a heavy reserve. This highly mobile reserve would be able to respond quickly to any portion of the brigade AO to eliminate enemy penetrations.

Firepower disparity. The heavy company possesses weapons of greater range and destructive power than light infantry. Heavy weapons will assist light infantry in accomplishing missions by suppressing or destroying enemy infantry and armor. This can be done from ranges that exceed the ranges of light infantry weapons. One caution is that the firing of M1 main gun APFSDS and M2 armor-piercing ammunition is dangerous to friendly infantry forward of those weapons. The ammunition contains discarding petals which could strike anyone within a range of 1,000 meters and 70 meters left or right of the gun-target line.

Fire Support

Light forces do not have TACFIRE. The heavy company FSO should plan to conduct FS planning and coordination by manual or voice communications means. In light brigades, FS execution is centralized at brigade level.

Air Defense

Air defense for heavy companies should be kept mobile and under armor. It must also have communications access to the air defense early warning net. This can be accomplished if the heavy company's air defense slice includes Vulcans. If Stinger teams are provided, arrangements will have to be made to protect them under armor. Stinger HMMWVs may be used to monitor the early warning net if employed farther to the rear of the combat elements. If this is not possible, the company should provide a dedicated radio to allow air defense personnel to monitor the early warning net.

Mobility, Countermobility, and Survivability

Light force sappers are not capable of supporting heavy units. Sappers will also be busy supporting light infantry. The heavy company must therefore come to the light infantry brigade with the necessary engineer support to be self-sufficient. The heavy company should coordinate with the light brigade to develop a common mobility, countermobility and survivability plan. The light brigade has a limited capability to carry barrier materials to areas where they will need to be employed. The brigade will need assistance from higher headquarters in accomplishing this.

Combat Service Support

Light forces conduct CSS more frequently, but require less materiel than heavy forces. The heavy company must coordinate closely with the light brigade to establish procedures for CSS. Procedures include the timing of support, amounts normally needed, and types of supplies needed. Much of the heavy unit's ammunition will not be familiar to the light unit. Special arrangements may have to be made so that spare parts for the heavy company are received in a timely manner.

The heavy company supply sergeant should keep the company's field trains in the light brigade's FAST. He should learn the locations of all supply points such as food, fuel, and ammunition. It may be necessary to coordinate with the brigade either to go to higher unit supply points to receive supplies or to receive throughput supplies from higher units. The heavy company should be prepared to assist in the resupply of light units during more mobile situations.

Command and Control

Providing continuous liaison from the heavy company to the light brigade headquarters will greatly enhance C2. The heavy company does not have the capability to provide liaison from organic assets without degrading the unit's effectiveness. The heavy company will need LNO augmentation from the unit's battalion or brigade prior to deployment.

It is likely that the heavy company and light brigade will not have each other's SOI. It will therefore be imperative that each unit obtain the other's SOI information as soon as possible.

The heavy company and light brigade should determine SOPs that will be used. The company will have to use the light brigade's report formats. Common hand-and-arm signals must be determined for heavy and light units to understand each other. The company will have to learn the light force's procedures for conducting CSS. The light brigade must determine how to meet the CSS needs of the heavy company. The heavy company FSO should determine the FS procedures used by the light brigade. The heavy company and the light brigade should review procedures for working together to execute tactical operations.

The heavy company and light brigade should review operational terms to ensure mutual understanding. The heavy company commander should be included in all command group meetings and in all rehearsals. These activities will provide opportunities to clear up misunderstandings, ensure the best employment of combat power, and improve synchronization of operations.

The Light Battalion/Heavy Platoon

This is the first level at which the heavy unit leader is untrained in interacting with the controlling headquarters staff. Further, the platoon leader must simultaneously act as the heavy force advisor to the battalion commander and rely on the staff for immediate CS and CSS. If the heavy platoon's company commander is in the vicinity of the sector or zone, some assistance may be coordinated through that commander however, this is not a certainty.

The heavy platoon may be used as a separate special platoon, or it may be OPCON to one of the light companies. This section will address the concerns of the heavy platoon leader under those conditions.

Characteristics of the Light Battalion Headquarters

The characteristics of the battalion depends on the TOE, which vary by type of light force. Some important generalizations can be made.

Light Infantry Battalion

The light infantry battalion is the most austere battalion and is most different from the organization of the heavy battalion. There are only three rifle companies and a headquarters company in the battalion. The differences between this battalion and air assault and airborne battalions are greatest in the organization of the support and logistics. There are no trucks larger than the 27 cargo HMMWVs in the light battalion. There is no mess team in the battalion; Class I is prepared by brigade. There is only one mechanic in the entire battalion; repairs are conducted at brigade level. The battalion has only 18 long-range radios. Finally, the antiarmor capability of the rifle companies is consolidated under the company headquarters.

Air Assault Battalion

The air assault battalion and the airborne battalion are similarly organized with three rifle companies, an antiarmor company, and a headquarters company. Tactical movement usually is a combination of air insertion and foot marching. But a major characteristics of the air assault battalion is in the number and types of wheeled vehicles. The battalion has six 5-ton cargo trucks and 45 HMMWVs. There is a mess section and a 17-man maintenance platoon. Communications are served by 29 long-range radios. The antiarmor capability of the line company is decentralized down to each rifle squad.

Airborne Battalion

Once inserted, the airborne battalion tactically performs much as a light infantry battalion by walking as a means of transportation. It has 10 two-and-a-half-ton trucks and 36 cargo HMMWVs and can move nontactically by truck. It has a mess section and a 16-man maintenance platoon. The airborne battalion has 30 long-range radios. Its rifle squads also have an antiarmor capability.

Augmentation

To support a heavy platoon requires nearly the same CS and CSS as needed for the heavy company. Given that this may not be routinely possible, it must be recognized that heavy platoons may have to fight in a degraded posture, as related to maintenance, medical evacuation, and Classes III and V support. When being task organized to a light battalion, the heavy platoon should be augmented using the following guidelines, based on the type of light battalion and the battalion's augmentation from its higher headquarters.

Possible Augmentation:**Provided by:**

HMMWV for C2

Parent heavy battalion or company

Maintenance team (M88, tool truck with parts trailer) Parent heavy battalion or company

Ammo section (2 5-ton trucks/1 cargo HEMMT) Parent heavy battalion

Fuel section (1 HEMMT)

Parent heavy battalion

Supply section (5-ton truck with water trailer) Parent heavy battalion

Missions

The relationship of heavy platoon tasks to light battalion missions is consistent with those at the light brigade/heavy company level. See paragraph A3 of this section for a listing of possible missions and tasks.

Operational Planning Considerations***Intelligence***

The assignment of a heavy platoon to a light battalion will in some cases double the number of stabilized thermal sight systems in the battalion.

The heavy platoon can perform screen operations when used in conjunction with the battalion's scout platoon or antiarmor company.

The light battalion S2 may not be aware of the IPB needs of the heavy platoon: number, armor protection level, and armor-piercing capability of threat forces; presence of AT jamming emitters; and terrain analysis for mobility corridors. The heavy platoon leader must ask for these as PIR.

Maneuver

The primary use of the heavy platoon will be as an AT element, then in direct FS of dismounted infantry.

For DS of dismounted infantry, the priority of target engagement is antitank, bunker emplacements, machine gun positions, and massed infantry.

Light/heavy operations normally use one of four types of maneuver:

- The heavy force attacks by fire while the light force advances for the assault. The heavy force joins in the assault.
- Heavy and light forces advance together.
- The heavy force overmatches the light force and attacks by fire only.
- The heavy and light forces approach the objective on different axes.

Fire Support

FS internal to the battalion consists of an 81-mm mortar platoon and 60-mm mortar sections in each rifle company. Calls for FS are voice only.

Make it clear in your call for fire if you are calling for airburst on your position. This is an effective technique if you are buttoned up and there is no friendly dismounted infantry in the vicinity.

You can use smoke to screen yourself from dismounted infantry while maintaining observation with your thermal sights.

Air Defense

As a heavy platoon, you will not have dedicated Stinger or Vulcans. You must do as the light force does: practice concealment from the air. You will always have the largest signature in the area and will draw attention to the light battalion. Put up your camouflage nets.

Consider yourself the largest air defense weapon in the light/heavy battalion. Know and enforce the ADA weapons status.

Mobility Countermobility, and Survivability

It is highly unlikely that heavy engineering forces will be available to the light battalion. It should, however, have 2 SEEs, which are small, truck-mounted backhoes. They are best suited for digging individual fighting positions, not vehicle fighting positions. The light battalion also receives an engineer sapper platoon.

The heavy platoon leader will have to work closely with the light engineer platoon leader in conducting mobility operations, route reconnaissance, and bridge classifications.

Combat Service Support

For the most part, the heavy platoon will live on what it comes with and will have to work through the light battalion S4 to coordinate resupply. Accurate and timely reporting of the platoon's status of supply Classes I, III, V, and IX is imperative.

Remember the fundamentals of count, report, cross-level.

If a vehicle is evacuated for maintenance, strip it of ammunition and, if possible, fuel. If the vehicle still has functioning weapon systems, leave only enough ammunition for limited self-defense.

Command and Control

The heavy platoon leader must exercise tact in acting as the battalion commander's principal advisor on the employment of the heavy platoon. Tell the commander what the heavy platoon can and cannot do, ask for the commander's intent, and back-brief him on exactly how you understand your mission.

Keep both the platoon leader and platoon sergeant on the battalion command net. If you have an on-order mission to support another unit, have the platoon sergeant monitor that command net to stay abreast of that battle.

If working directly with dismounted infantry, put one of the platoon sergeant's radios on the dismounted infantry's net. The platoon leader should still monitor the battalion and platoon net.

The Light Company/Heavy Section

Task organization of a heavy section to a light company is usually for accomplishment of a specific task and for a limited duration. Frequently, this is under the framework of the parent heavy platoon being given simultaneous missions to execute within a light battalion, necessitating the platoon to be split up. However, a heavy section may be needed in a sector that has no other heavy forces. This is true particularly in theaters with a limited amount of heavy assets or in terrain that restricts use of heavy forces to single vehicle actions.

While terrain may dictate single vehicle actions, heavy forces should not operate below the section level. Reasons for this will be covered under operational planning considerations.

This subsection will address the use of a heavy section in working with a light company. Heavy and light forces are not normally integrated below the tactical command level of a company commander.

Characteristics of the Light Company Headquarters

Subtle differences between the three types of light forces infantry companies evolve from TOE differences. While the numbers of men and types of weapons are nearly identical, the following generalizations may be made.

Light Infantry Company

Light infantry companies are based on the the nucleus of the company headquarters. The company headquarters contains both the antiarmor section and the mortar section. The rifle platoons centralize their machine guns under the platoon headquarters. The rifle squads consist of two fire teams, armed with M16s and M203s only. There are no radios in a light infantry squad.

Air Assault Infantry Company

The air assault infantry company is capable of more independent platoon action. Each of three rifle platoons has its own weapons squad, as well as three rifle squads. These weapons squads have both machine gun crews and antiarmor missile crews. The company headquarters retains only the 60-mm mortar section. The air assault rifle squads have no radios.

Airborne Infantry Company

The airborne infantry company features more independently capable rifle squads. Organization and weapons makeup of its company headquarters and rifle squad are almost identical to those of the air assault rifle company and squad. The key difference is that each airborne infantry squad also has two AN/PRC-68 radios or two PRC-126 radios.

Augmentation

Because the organization of a heavy section to a light company is usually done to accomplish a specific task, the section does not deploy with any special support package except those items of special CS or CSS that are required for that unique mission. Considerations of what augmentation may be required follow those for the light brigade/heavy company in paragraph A2 of this section.

Missions

The relationship of heavy section tasks to light company missions is consistent with those at light brigade/heavy company level. Paragraph A3 of this section has a listing of missions and tasks.

Operational Planning Considerations

Intelligence

The heavy section leader will have to monitor the light company command net for spot reports and intelligence updates. He will also make his spot reports and BDA reports to the light company commander on the company command net.

The section leader must work through the commander to ensure that the lead dismounted infantry elements conduct a thorough mute reconnaissance. Road width, obstacles, minefield, overhead clearance, and slope must be determined by the lead elements. If time permits, the section leader should conduct a mute reconnaissance.

Maneuver

The primary reason a heavy force should never operate below section level is to provide each M1 or M2 the ability to fire and maneuver. One element covers the other wherever possible, just as in a two-man buddy team, the lowest infantry tactical formation.

Direct fire control measures must be established. Because of the differences in weapons ranges and effects, fire control measures must state in clear terms the desired effect on the enemy, such as kill, prevent any maneuver, or destroy a fortification.

Fire Support

If the heavy section is being brought under effective fire from close range, call the company mortars and request airburst. Ensure that no friendly infantry forces are in the area.

Because of the radio capabilities of the heavy section, you may be requested to relay a call for fire to a higher net.

Air Defense

Do not fire unless fired upon. You will only bring attention to the light forces and yourself. However, when fired upon or when told to fire on aircraft, the heavy section will be the largest caliber weapon system engaging the enemy.

Tanks should use APFSDS-T (sabot) ammunition when firing at slow-moving aircraft. It is less affected by wind, distance, and gunnery under degraded conditions.

Mobility, Countermobility, and Survivability

The mobility of the heavy section in close terrain depends on using the combined arms team at its lowest level: an infantry company providing security for an engineer squad, overwatched by the heavy section.

Where possible, dismount and accompany the infantry on reconnaissance of the routes leading to the objective.

Combat Service Support

Another reason that heavy forces should never operate below section level is that in the absence of adequate CS and CSS support, the section can cross-level ammunition, recover each other, and continue the mission. While any redundancy is expensive, the assumption in task organizing a heavy section to a light company is that the mission cannot be accomplished without the presence of that combat power.

Expenditure rates for small arms ammunition basic load in the light/heavy environment will exceed the expenditure rate for main gun basic load.

Command and Control

The heavy section will be working in close proximity of the infantry. The leaders on the ground must come to a common understanding of hand-and-arm signals, means of communications, and desired operating distances between heavy and light forces.

Another advantage of never working below the heavy section level: the key leader will be either the platoon leader or platoon sergeant.

Light/Heavy Forces Attacking In MOUT

Considerations of the Situation (METT-T)

The MOUT battlefield is complex and three-dimensional. It is characterized by close, restrictive terrain. Fields of fire and maneuver space are very restricted. Cover and concealment are plentiful. Built-up areas themselves are obstacles. Inside these areas, obstacles are relatively easy to construct. Avenues of approach are primarily dismounted. Dismounted approaches could be underground, through buildings, along edges of streets, and over rooftops. Mounted avenues of approach are canalized, restricted mostly to streets.

The difficulty of maintaining C2 makes it necessary to decentralize the fight down to small unit level. It is difficult to mass combat power because much of the fighting is isolated. Units become separated easily. Effective communications are often difficult because the terrain limits the range of radios.

Fighting in built-up areas consumes large amounts of ammunition. It also produces severe psychological strain on soldiers.

The MOUT fight is predominantly an infantry fight. The defender has the advantage because of the restrictiveness of the terrain. Tanks must support the fight. Tanks, however, have vulnerabilities. Because they are restricted primarily to the streets, they lack maneuverability inside built-up areas. There is 10.8 meters of dead space around the tank into which it cannot fire its weapons. This makes the tank vulnerable to enemy infantry firing antitank weapons from cellars and drains. The back deck prevents the gun tube from depressing even more. There is also weapons dead space overhead, which makes the tank vulnerable to

enemy fires from upper floors of buildings. To traverse the turret, the tank crew must ensure the gun tube is clear of buildings and other obstructions. The result of these vulnerabilities is that tanks are dependent on infantry for all-around protection.

HE or HEAT is the most effective tank main gun ammunition to use against concrete. It is most capable of blowing holes in buildings large enough for infantry to pass through for entry. The antiarmor kinetic energy round, APFSDS, is less effective. Additionally, the discarding petals are lethal to exposed troops.

Combined Arms

Infantry has the following tasks:

- Assault enemy positions.
- Provide local security to tanks to protect against enemy antitank weapons. Specific infantry units (one squad per tank section) should be dedicated to provide protection.
- Locate enemy targets for tanks.

Tanks have the following tasks:

- Suppress or destroy enemy positions for infantry.
- Breach walls for infantry and reduce obstacles with cannon fire.
- Protect infantry from enemy tanks. Protect the flanks of infantry.
- Provide some protection to infantry from enemy small arms and fragmentation.
- Engineers have the following tasks:
- Sappers support dismounted infantry.

For heavy units, heavy engineers are needed. The CEV can use its demolition gun and blade to reduce obstacles. Tanks fitted with blades can clear debris.

Indirect fires are most effective in the more open spaces of built-up areas. High-trajectory indirect fires are more effective than lower-trajectory fires. Because of this, mortars are normally more desirable than artillery for FS in MOUT.

The light/heavy company team attacking in a built-up area should consist of the following:

- Light infantry company.
- Tank platoon
- Engineer squad (light).
- Heavy engineers with CEV.

Procedures for Light/Heavy Forces Attacking In MOUT

Encircle and isolate the built-up area. This will prevent the reinforcement and resupply of enemy forces inside the built-up area. It will also prevent the escape of enemy withdrawing from the built-up area.

Penetrate the built-up area to secure a foothold. The attacking force should attack perpendicular to the long axis of the built-up area. This will separate enemy units defending the town and break up the continuity of the enemy's defense. Tanks normally support by fire the infantry assault to secure a foothold. The tanks then move forward to provide close support to the infantry inside the town. Tanks could also assault across open ground to secure a foothold in a town. If tanks assault, they should be quickly joined by infantry before the enemy can take countermeasures against the tanks.

Fight inside the town (house-to-house). Inside the town, the area should be divided into zones. Each successive zone should split the enemy force into smaller pockets of resistance. Limited objectives should be assigned. Actions will be decentralized. A tank platoon should support a light infantry company, and a tank section should support an infantry platoon. The command relationship should be OPCON. (See Figure B-5.)

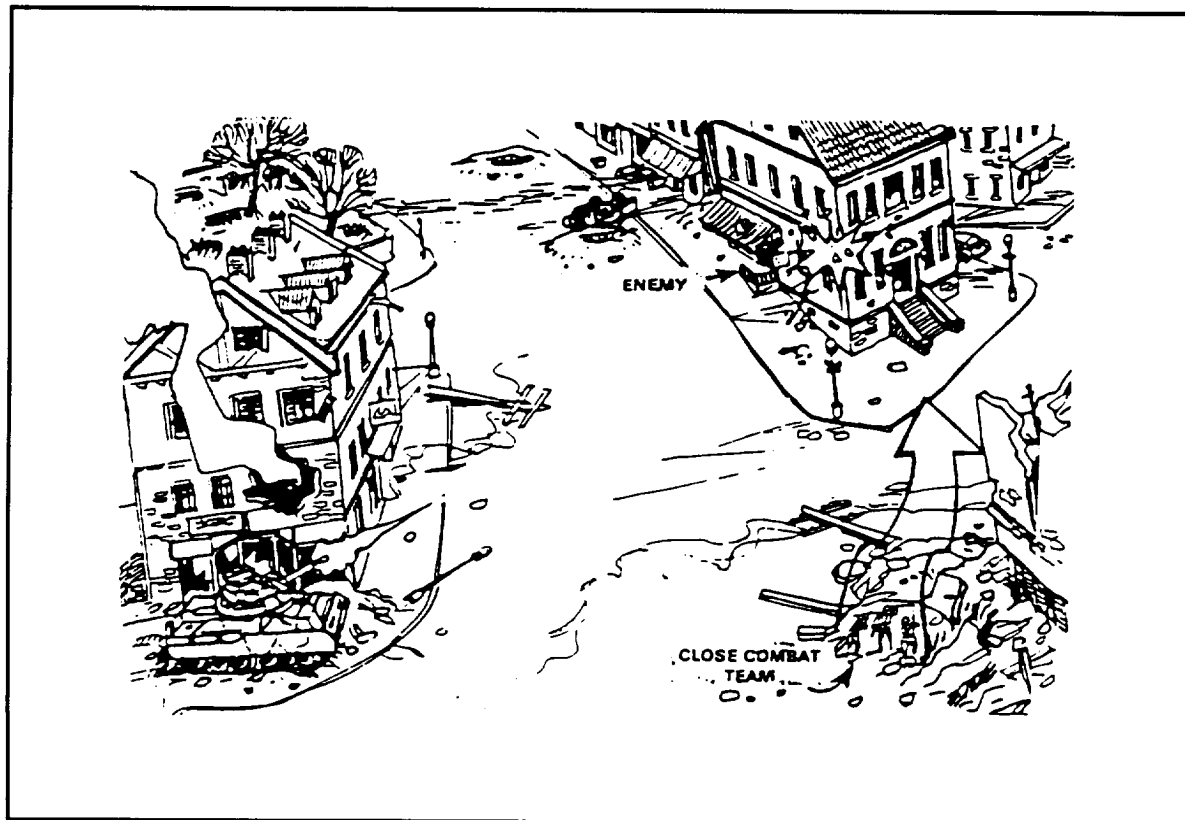


Figure B-5. Light/Heavy attack inside a town.

Tanks work within the infantry formation. Tanks follow behind the infantry in traveling overwatch and support by fire. During an advance down a street, a tank section may be supporting an infantry platoon. At any given time, only one tank may be able to support by fire the infantry advance. The other tank should overwatch. The infantry designates targets for the tanks. The tanks will communicate with the infantry leader on the ground using hand-and-arm signals, the telephone on the tank's back deck, or radio. The tanks will suppress or destroy enemy positions and breach walls for the infantry.

At least one infantry squad provides close protection to the tanks. This squad should provide all-around security. Each tank is on one side of the street, oriented toward the opposite side. The infantry likewise moves along both sides of the street. Tanks may need to be buttoned up for protection from overhead enemy threats.

Infantry-Tank Communications

Means of communications between infantry and tanks include—

- Ann-and-hand signals.
- Back deck telephone (when available). If there is no telephone, then a line can be fed from the AM 1780 to a field telephone.
- Radio on the supported unit's net.

Appendix C

NIGHT OPERATIONS

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According to FM 100-5, "Night...reduces the useful ranges of most weapons. Despite technical advances in night vision equipment, conditions usually require a change in tactics."

SECTION I. SOVIET-STYLE NIGHT DEFENSIVE DOCTRINE**Doctrine**

Inherent differences are recognized in combat operations at night. While holding that the principles of defense during day and night are the same, Soviet-style doctrine acknowledges that the methods will vary. The change in methods of night defense arises from the perception of the advantages and disadvantages of night operations.

Advantages

Advantages include using darkness to achieve surprise, conceal battle formations and fire plans, deceive the enemy as to the size of forces committed, prepare the main body for daylight actions, and repair and replenish units and positions.

Disadvantages

Disadvantages to be overcome in night operations are natural limited visibility, difficulty in orientation and maneuver, and vagueness about battlefield conditions.

Tactical Methods

The following are highlights of changes in tactical methods in night defense by battlefield operating system.

Intelligence

Reconnaissance of the enemy is increased, with the goal of gaining and maintaining contact with the main body.

The combat outpost is reinforced and will be moved in closer. Sound monitoring is initiated to prevent surprise attack by the enemy. Priority of artillery fire is given to the combat outpost.

Illumination posts will be used at both the combat outpost and the company positions. These are teams that illuminate an assigned area on order. Assets range from handheld flares to dedicated artillery support.

Maneuver

The emphasis for the night defense is on preparing weapons for aimed fire, especially those with observation devices. Numbers of antitank weapons on the FEBA are increased.

Fire planning and control are established with the goal of surprising the enemy with sudden concentrated fire. The combat outpost also will engage to stun and disrupt the enemy main body.

Fifty percent of all personnel are to remain in their positions at night, ready to open fire and repel attacks. This figure normally is 20 percent during daylight hours.

Whenever possible, the counterattack force will conduct both a daylight and night rehearsal and reconnaissance. This force is typically smaller at night than during the day. It is also deployed nearer to the main body or the area to which it is expected to be employed. The goal of the counterattack force is to defeat any penetration of the defense prior to dawn.

Fire Support

Artillery, mortars, and aviation will provide illumination for the primary purpose of exposing the enemy's first echelon, missile launchers, artillery fire positions, and approaching reserves. This line of illumination extends to the maximum tank main gun range, or to where the enemy is expected to be deployed into company columns.

An additional use of illumination is intentionally to blind the enemy's NODs. Normal illumination shells blind image intensified, incendiary shells and fire pits will wash out enemy thermal sights. The line of blinding illumination is closer to the defense than the first line of illumination or where the enemy is then expected to be in platoon formations. This is still outside the planned fire control line of the Soviet-style antitank systems; the idea is to blind first, then kill.

Mobility, Countermobility, and Survivability

Observation and patrolling of obstacles is increased at night, both to detect enemy activity and to protect the obstacle.

Air Defense

Air defense weapons are used to shoot down the enemy's illumination flares if those flares are exposing friendly troops.

Combat Service Support

Most CSS is to be carried out under the cover of darkness, to include replenishment of supplies and evacuation of the wounded.

Logistical resupply will not be conducted while in contact unless the unit will completely exhaust its ammunition and must be resupplied or be overrun.

Command and Control

"The commander's personal example plays a great role in repelling enemy attacks," said Tactika, the Soviet Union's handbook on unit level tactics. Unit commanders must overcome their soldiers' natural fear and panic in night combat operations, as well as cope with the factor of fatigue.

Plans for night defense are to be simple, based on daylight reconnaissance whenever possible. If the defense is organized at night, it should be verified and/or reorganized as soon as practicable after sunrise.

TRPs should be visible at night; if not, they will be illuminated once contact is gained.

Movement routes are to be simple and avoid the crossing of adjacent units. These routes should also be marked with illuminated signs. Movement speed will be slower in night operations.

SECTION II. US NIGHT OFFENSIVE DOCTRINE

Purpose

Night offensive operations are conducted to exploit the possibilities for security and surprise or to continue combat operations. By conducting night operations the commander expects to conceal his action from the enemy, achieve surprise, exploit earlier success, or maintain the momentum. In each case, the focus is gaining or retaining the initiative.

Advantages and Disadvantages

Advantages

Advantages of night offensive operations include the following:

- Defenses are more susceptible to infiltration.
- Despite increased efforts at protection, the defender is more susceptible to NBC attack because of reduced efficiency and sleep rotations.
- Movement of large forces is concealed by darkness.
- Physical and psychological factors favor the attacker. Shock, disorientation, and isolation are more easily achieved.
- Air assets can operate more safely due to difficult observation.
- Surprise is enhanced. Defenders are more susceptible to deception techniques (dummy lights, noise, smoke, fires).
- The speed at which a defender can employ his reserves is reduced at night. Decision points must be farther out in time and space.

Disadvantages

Disadvantages of night offensive operations include the following:

- C2 and coordination of units become more difficult and it is easier for the defender to react to a changing situation and alter operations than it is for the attacker.
- It is difficult for the attacker to determine the limits of obstacles.
- Attackers can be deceived with light, smoke, noise, and fires.
- The attacker can lose momentum during the final assault because of the reduced speed of the attack,
- Navigation is difficult for night attacks. Units may be separated, C2 lost within units, and support elements moved out of position.
- The battlefield can be changed during darkness. Obstacles that escape reconnaissance can be emplaced under darkness.
- Attacking units are easier to ambush at night.
- Adjustment of indirect fire is difficult even with the use of night vision devices or illumination.
- Units require significantly larger quantities of signal ammunition (smoke, tracers, flares, illumination rounds).
- Locating and evacuating casualties is very difficult.

Tactical Planning Considerations

The following is a list of tactical planning considerations, by battlefield operating system, that are different for a night offensive operation when compared to a daylight offensive.

Intelligence

Reconnaissance of the enemy should not be confused with reconnaissance of the routes to the objective. Units should reconnoiter their routes and rehearse if possible. Reconnaissance assets may be tasked to provide guides to a point on the battlefield, but are best used to pinpoint enemy fortifications. Reconnaissance of night objectives should include the following:

- Presence and number of searchlights and night vision devices.
- Location of illumination points.
- “Duty” positions, that is, those that are continuously manned. These may also be false positions for daylight occupation only.
- Locations of AT weapons and FA guns. These generally indicate the axes of the defense.
- Forward locations of the reserve, COP positions, and counterattack routes.

Maneuver

The forms of maneuver for the night offense are the same as for the daylight offense; however, conditions of METT-T may change the commander’s perception of which form of maneuver will best ensure mission accomplishment. Some additional planning considerations for night maneuver follow.

If attacking an enemy that has technological parity in night observation equipment and training or has the means to fully illuminate the battlefield, the envelopment or the turning movement can take advantage of darkness to flank or avoid enemy fields of fire, since not all areas of the defense will have equal coverage of night vision equipment.

Conversely, if the attacker has the advantage in night observation technology or is better trained than the defender, darkness may be used to conduct a penetration, infiltration, or frontal attack that may not have been feasible in daylight.

Unit reconnaissance of routes and axes is invaluable in conducting a night maneuver. Plans for night movement should include—

- Leader reconnaissance, in daylight, as far forward as possible.
- Measuring distances to checkpoints, phase lines, and other control symbols along the route of advance.
- Designation of guides for the combat formations.

Fire Support

The adjustment of indirect fire by human observation becomes unreliable at night. Darkness and the use of NODs both degrade depth perception. To counter these effects, plans should include the use of radar, illumination, and terminally guided munitions to ensure accuracy of adjustments.

Indirect fires can be used as a deception measure to—

- Cover the sound of advancing units.
- Draw attention with illumination or smoke to areas away from the main effort.

Illumination should always be planned for. A nonilluminated attack plan ceases to be one with the first enemy illumination round. Contingency plans should be made to illuminate at any point of the attack or to switch to continuous illumination.

Counterobservation should be planned to degrade NODs. Illumination rounds can white out enemy 12 sights, and smoke can obscure the ambient light needed to use 12 devices.

Mobility, Countermobility, and Survivability

The breaching of obstacles at night requires more time, effort, and planning. The following considerations apply:

- Securing the breach at night requires more troops.
- Obscuration planning should include covering the flash/bang of any explosive reduction method. Stealth breaches of a minefield are extremely time-consuming at night. Again, smoke generally works best at night.
- Suppression needs do not change at night. Even stealth breaches must have a plan for suppression in case they are discovered.
- Reduction of obstacles also takes much longer at night.

Man-intensive countermobility efforts require more time, effort, and planning at night. Artillery-delivered minefields are quicker and generally more accurate.

Air Defense

At night, IFF relies mostly on electronic interrogation. Visual detection capability depends on the ambient light available.

SHORAD has immense signatures; it should not be positioned where it will bring return fire onto adjacent units.

SAFAD should not normally be employed at night, except for immediate self-defense.

Combat Service Support

Units in a night offensive must be resupplied, rearmed, and refueled, before execution. Logistics activity is much tougher at night.

Casualty location, identification, and evacuation require additional control measures and ground resources. The battalion aid station should be farther forward, and plans for aeromedical evacuation must include marking signals for the pickup zones.

Pre-positioning supplies and services forward helps support night attacks. OPSEC must be maintained in such a way that an imminent offensive is not detected.

CSS should be brought forward rapidly at first light to allow for the continuation of momentum of the offensive.

Command and Control

This is the area of tactical planning that changes most during night offensive operations. That is because centralized control can more easily produce a simple, synchronous plan.

Graphic control measures are usually more restrictive for a night attack. There are graphic control measures that apply specifically to limited visibility operations: point of departure and probable line of deployment (see FM 101-5-1). All leaders *must* be familiar with these terms and symbols. All control measures should translate into easily identifiable locations on the ground, under all levels of visibility.

Navigation at night must be planned in greater detail and take advantage of visual and nonvisual technological capabilities. It may also include the use of guides and traffic control points.

Communications must also be planned in greater detail. Plans must include redundancy and multiple methods, such as wire, radio, visible and invisible light, heat, smoke, audible sound, messengers, and event-oriented communications.

SECTION III. SOVIET-STYLE NIGHT OFFENSIVE OPERATIONS

Night Offense Doctrine

Purposes

The night offensive is conducted for three primary reasons:

- Continuation of a daylight offensive.
- A separate offensive oriented on a limited objective.
- Predawn initiation of a daylight offensive.

Differences

Soviet-style leaders do not seem to stress the differences between daylight and night in the offense as much as they recognize day-night differences in the defense. They do recognize a different series of advantages and disadvantages in night offense, as opposed to daylight offense.

Advantages in conducting night offensive operations include the following:

- The attacker maintains the initiative.
- Darkness favors the attacker with surprise.
- Night allows the attacker to mass combat power and achieve objectives with minimum losses.
- Night offense raises the morale of the troops.

Disadvantages in conducting a night offensive include the following:

- Obscuration of friendly and enemy actions cannot be completely overcome by *technical equipment*; observation is difficult.
- Navigation and position-finding is difficult.
- Synchronization, or “cooperation,” is more difficult.
- C2 is difficult to maintain.
- Operating at night requires more physical and psychological effort; it causes greater personnel fatigue.

Tactical Planning Considerations

The differences between day and night operations, including the advantages and disadvantages, change tactical planning considerations for an attack at night. The following summarizes these considerations by battlefield operating system.

Intelligence

In preparing for night attack, commanders place exacting demands on their intelligence resources to determine—

- Location of nuclear attack means.
- Location of enemy positions and night observation equipment.
- Location of enemy illumination means.
- Any changes in enemy locations (reserves) made after dark.
- Location of any unsuppressed or untargeted fire means.
- Location and depth of obstacles and barriers.
- Location of any zones of contamination.

Maneuver

Night attacks are most often launched two to three hours before dawn to permit daylight exploitation.

Positive control of maneuver at night is maintained by assigning attack azimuths, cent.mil points, and guide units.

Subunit leaders are required to memorize night orders.

Vehicles and troops are marked with white or reflective materials to aid in recognition and coordination.

The reserve for an MRB in a night attack is usually a reinforced platoon.

Within the attack formation, distances between tanks, AFVs, and dismounted infantry are reduced at night, depending on the amount of illumination available. Battalion frontage may drop to as little as 1 km.

All units down to platoon level will formulate an illumination and night vision plan. This plan will designate illumination “posts” (or teams), which are the subunits tasked to illuminate with searchlights, flares, and/or IR devices.

Fire Support

Illumination is planned for any point of a night attack. Usually, it is fired continuously only on the initiation of the final assault or to defeat enemy counterattacks.

HE artillery preparation at night is normally brief but intensive, targeted on known strongpoints and firepower means.

One platoon per battery will be designated to fire illumination missions.

In preparation for a night offensive, artillery units may move within 1 to 3 km of the FEBA. This is due to the problems of displacement and surveying-in firing positions at night. Fire adjustment and target reconnaissance can be done in daylight, and firing data can be prepared in advance. If moved at night, batteries stay close to roads.

Mobility, Countermobility, and Survivability

Engineer OPs, which normally contain three men during the day, will be increased to a full squad at night. This squad will break into three teams and move forward at night to reconnoiter obstacles.

In a night march, the engineer squads ride in reconnaissance vehicles to mark and report obstacles.

Air Defense

As previously noted, air defense assets may be employed to shoot down enemy flares that are exposing troops.

Unless pre-positioned in daylight, air defense units will generally be located along roads.

Combat Service Support

Estimates call for a 15- to 30-percent increase in supply rates for a night offensive. Units are usually supplied for a night attack one or two days in advance of the actual attack.

The Soviet style is to evacuate wounded at night. Their system relies on truck ambulances, trained dogs to locate wounded, and limited aeromedical evacuation.

Command and Control

Doctrine calls for the commander to place himself center front in the night attack formation.

Commanders are also restricted by the doctrine of radio silence during the night attack.

Wire is the preferred method of communications.

SECTION IV. US NIGHT DEFENSIVE DOCTRINE

Planning and Preparation

Night defensive operations require more detailed planning and preparation than daylight operations; however, they still have the objective of seizing the initiative and destroying attacking forces.

Advantages and Disadvantages

The advantages and disadvantages of a defensive operation at night are parallel to those identified for night offensive operations in Section II of this chapter.

Tactical Planning Considerations

Tactical planning considerations for night defense do not vary greatly from those for daylight defense. By battlefield operating system, changes for conducting a night defense include the following.

Intelligence

Scouts should be assigned smaller, critical areas to observe, such as NAI and TAI.

All reconnaissance activity needs to be coordinated in detail. This precludes friendly fire and fratricide between subunits. The FSO must also monitor calls for fire to prevent one unit from engaging another.

Increased use of remote sensors and GSRs covers areas no longer visible at night.

Maneuver

Counterreconnaissance by all units is key to maintaining the integrity of the defense. Night amplifies the defender's vulnerability.

Counterattack routes must be practiced in darkness.

An observation plan for each engagement area must be set, delineating what number and mix of observation devices will be used.

Fire Support

Counterbattery fires to take away the use of illumination must be planned and supported.

FPF should be surveyed and registered in daylight.

Authority for the use of illumination by weapon type and duration should be centralized.

Smoke magnifies the effect of darkness on the attacker's formations and on his 12 devices.

Adjustment of fires will be inaccurate if only visual means are employed.

Mobility, Countermobility, and Survivability

FASCAM is more effective at night; it can be emplaced rapidly and is difficult to spot.

Engineer work time is increased as light decreases.

Engineers must be provided with security forces at night.

Sound travels farther at night. It can be used to deceive or can be covered by artillery fire.

Air Defense

Assets should be given point (critical) targets to defend, rather than area targets.

The pairing of systems with IFF capability with those that do not have it will allow both systems to engage targets.

Combat Service Support

The threat to rear areas increases at night and must be planned for.

Medical evacuation routes must be rehearsed in the dark.

Class I served between 0200 and 0400 hours counters the physiological "low" of the body.

Increases in supply rates for flares, illumination rounds, batteries, light sticks, smoke pots, wire, and general ammunition must be planned in advance.

Command and Control

Control measures are usually tighter and more restrictive at night. These include mutes to and from BPs, light lines, and no-fire zones.

Wire is the preferred communications method, followed by messenger, radio, visual signals, and event-oriented plans.

GSRs can be used to vector moving units, such as patrols, LPs/OPs, and scouts.

SECTION V. SOVIET-STYLE EQUIPMENT AND TECHNIQUES FOR NIGHT OPERATIONS

Equipment and Employment

Night Vision Equipment and Employment

Emphasis is placed on both active and passive electro-optical night operation equipment. Active systems can be operated in a passive mode to detect enemy IR illuminators and laser range finders. Their passive systems are light amplification devices that depend on ambient light from moonlight, starlight, or low levels of artificial illumination; the more light, the greater the detection and identification. However, too much intense light in the field of view of a nightsight or observation device can cause the electro-optics to “white out” and “blind” the device for several seconds; it can even cause permanent damage. (Present US 12 devices use more up-to-date technology than known Soviet-style systems and are not susceptible to total whiteout.) Soviet-style and US 12 systems have similar field-of-view characteristics, but Soviet-style systems generally require more time to detect a target because of greater distortion around the periphery of the field of view.

The array of Soviet-style IR nightsighting devices includes IR binoculars, driver’s vision blocks, and IR searchlights installed on vehicles.

Active IR devices operate on the principle of “illuminating” the target with IR rays and converting the reflection of targets into a visible image. However, since the enemy can easily detect emissions from active devices, they are used sparingly. The IR system, NSP-2, and the IR night-driving device, TVN-2, can be used either actively or passively. Used in complete darkness, these devices make it possible to identify local features, maintain observation of activities, conduct aimed fire, and drive without headlights. These devices are not effective in heavy rain or fog.

Tanks also have IR sighting equipment for the main gun and searchlights that can be IR filtered and can identify targets at ranges up to 800 meters. Tank drivers regularly use binoculars in night training, but TCs use binocular-type passive IR sensors. Ongoing modernizations are putting passive vision blocks in the driver’s hatch of BMPs and in T-64 and later series tanks.

The APN series of IR sighting equipment has a range of approximately 150 to 950 meters. It is employed on Soviet-made recoilless, antitank, and field guns of 57 to 100 mm, as well as some medium tanks. The PPN series of IR sighting devices is employed on Soviet-made light and medium machine guns of 7.62 and 12.7 mm.

Sound Monitoring

Some open source materials refer to the employment of sound-monitoring techniques and equipment. Expect sound-monitoring devices to be used, especially when night vision devices are ineffective or cannot be used for security reasons.

Thermal Imagery

There are no open source discussions on use of thermal devices. Bispectral smokes and obscurants have been developed and thermal imagery is seen as easily countered.

Land Navigation

Inventory of night navigational equipment is extensive and technically advanced. The three basic configurations are the directional gyroscopic compass, the coordinate and course indicator, and the topographical mapping system. All three systems depend on a directional gyroscope and are not susceptible to intercept, jamming, or electrical countermeasures.

Gyroscopic Compass

There are two types in the inventory, the GPK-48 and GPK-59. Both require the driver to switch the device on, warm it up, and set the heading. The GPK-48 has no built-in compensation for the rotation of the earth. The GPK-59 does; it can operate accurately for up to 90 minutes without resetting. All medium tanks and most scout vehicles (BDRMs) have these compasses.

Coordinate and Course Indicator

This device is used by artillery units to establish survey data. Average error is no more than 1.3 percent for the course covered, plus or minus 20 feet in 30 minutes.

Topographical Mapping System

Known by the nickname “the coordinator,” this device is installed in some C2 vehicles. It displays map coordinates in northings and castings, rounded off to the nearest 10 meters, and is 90 percent reliable. Once set, it can be used to navigate within a 100-kilometer grid square using map scales from 1:25,000 to 1:100,000. An improved version displays coordinates on either a 1-kilometer or 200-meter scale.

Inconsistencies and Vulnerabilities

Doctrinal Inconsistencies

Some evidence suggests that an offensive of several days’ duration in which units are committed on a 24-hour-a-day basis may not be feasible. Such a “continuous battle” does not fully conform with requirements to plan and prepare with the precision, detail, and deliberation indicated that is required to operate successfully at night. Since divisions typically operate in two echelons, it may be more likely that one echelon will be committed to daylight operations while the other prepares for night operations. In this way, the division as a whole would be operating continuously, but the subordinate units would get some relief each 24-hour period.

A sustained offensive would appear to be limited to daylight attacks by the first echelon, followed by smaller, limited objective attacks at night by second echelon units and the resumption of the offensive early in the morning of the following day with the first echelon again. Such an approach would certainly have the advantage of permitting the development of extensive nighttime expertise in those units which attack only at night. Doctrinally, once penetration is achieved, the offensive is to continue around the clock by *all* units until successful pursuit is accomplished or the offensive is terminated.

Vulnerabilities***Night Vision***

Intense light in the field of view of a Soviet-style nightsight, such as from a flare or searchlight, can blind a soldier for several seconds and could cause permanent damage to his eyesight.

Soviet-style 12 devices require a longer time to detect a target than do US devices.

Smoke will defeat Soviet-style 12 devices.

Radars

All Soviet ground radars, except the “Tall Mike” GSR, lack moving target indicators. Moving targets can be lost in ground clutter, such as wood lines and undulating terrain.

All Warsaw Pact ground radars are line-of-sight devices and can be countered by terrain shielding.

Land Navigation

Soviet-style doctrine for night attacks requires movement to final assault positions with preplanned tables of azimuths and distances, a gyrocompass, and confirmation with visual checkpoints. In this phase, forces can be forced into total reliance on the gyrocompass if checkpoints are obscured by smoke. This can greatly reduce march rates.

Several factors can disrupt the approach and the final assault. Vehicle odometers can become unreliable in rough terrain where wheel slippage occurs. The gyrocompass cannot be turned on while the vehicle is in motion; it must be warmed up for five minutes before use. Since the final assault is normally conducted dismounted on a specified azimuth, disorientation can cause forces to miss their objectives. Light, smoke, and artillery can help disorient the approach and assault.

Night movement and maneuver are vulnerable in several ways:

- The Soviet-style doctrine has a very detailed and well-planned traffic control system for movement rearward from the FLOT and for marking routes forward to it. If the route markers or guides are destroyed movement may become chaotic.
- To ensure effectiveness, artillery, air defense, and C2 units often position themselves near roads so they can reposition faster. Artillery units often move to firing positions just before sunset to lay in the guns before dark and to develop firing data.
- Nighttime reserve and counterattacking forces are smaller than their daylight counterparts and can be dealt with more easily. This should be planned for accordingly.

SECTION VI. US TECHNIQUES AND PROCEDURES FOR NIGHT OPERATIONS

This section is not intended to be an all-inclusive checklist to ensure success in night operations; it is intended to stimulate thought on better ways to ensure mission accomplishment at night. These tips are organized under general subject headings.

Land Navigation

- Odometers should be used at night to measure distances. This compensates for loss of depth perception at night.
- Field artillery PADS vehicles may be used by maneuver units to navigate at night. Place them in the movement formation.
- The optimum night road march interval when wearing night vision goggles is 25 meters.
- When traveling cross-country, tank main gun stabilization can be used to maintain general headings.
- Routes can be marked with illumination, such as chemlights, flashlights, and burning cans of diesel-soaked dirt. Place illumination so lights are visible from only the friendly side.
- The driver's 12 vision blocks are best if you are not in contact. Blinding illumination will force you to stop and drop the block, or to risk driving and fighting with the driver's view blocked from 11 o'clock to 1 o'clock or with the driver having a partially open hatch.
- Vehicle marking systems at night can use either lights or reflective panels. Chemlights can be used, with colors, patterns, or numbers indicating subunits.
- A vehicle equipped with thermal viewers can overwatch and vector forces in a desired direction.
- Radar can do the same, although the size of the cross section is smaller.
- Tracers fired at irregular intervals can delineate boundaries.
- Stars can be used for short periods of time as a heading reference. The night sky rotates, as does the moon; only the North Star is reliable enough for a constant heading.
- Even passive IR has a signature. If you spot a glow from a passive IR viewer, the operator can see you, too. Turn away and go to 12 to find the target again.

- Dominant terrain or man-made features can be used only for general orientation. The greater the distance, the more unreliable this method becomes.
- Experienced guides are the most effective night maneuver technique.

Target Engagement

- Target detection at night can be improved by illumination from a light source offset from the observer's line of sight. This produces contrasts that differ from straight-on vision and helps improve camouflage penetration.
- Interlocking sectors of night vision observation are as important as interlocking fires.
- Thermal viewers should be kept on wide field of view until engagement. This prevents gaps between systems, aids in target detection, and reduces eye strain.
- Rotate gunners and other NOD users frequently. Eye strain degrades performance rapidly.
- 12 devices can spot heat buildup in crew-served machine guns. Squad leaders with NODs should periodically glance at machine gunners to ensure that excessive heat is not building up around the breech assembly.
- 12 devices can also spot laser range finders that are pulsing. The image is a streak of light across the field of view.
- An ITV section can be used to triangulate sources of heat, and fix their grid coordinates. Accurately plot the ITV positions and true headings, take their spot reports with their turret azimuth ring readings, and do the simple intersection on the map. Accuracy increases as the baseline distance between the ITVs increases.
- TRPs should not give away your EA. Shield the source of heat or light.
- An engineer's U-shaped picket is ideal for a chemical light TRP. Face the "U" toward friendly forces with the chemlite inside the "U."
- For a thermal picket, join two 9-volt batteries at the terminals and wedge them into the "U" of the picket. These last about six hours.
- Cans of burning diesel slurry or charcoal must likewise be shielded by plywood or some other material to block transmission of the heat source to the enemy.
- Tracer rounds can be used to "illuminate" a target or area for observation by an 12 device.
- Never forget that tracers work both ways.
- During periods of thermal crossover, intensify observation efforts by other, complementary means, such as I2 binoculars, and patrols.
- Muzzle flash gives away your location. Move!
- When setting a defense at night, dead space can be determined by putting a chemlite on the back of a soldier's LBE and having him walk the weapon's range.

Fire Support

- For laying in artillery guns or mortars at night, give each gun a different lens color. Give corrections by gun color, not number.
- PADS are not only useful in surveying in the battery locations, but for surveying in critical targets as well. First-round hits eliminate the difficulty of adjustments at night.

- Illumination rounds can blind 12 devices, enemy and friendly. If you can blind the enemy and use your thermals to kill, so much the better. Put the illumination in front of, or on the ground between, the enemy and you.
- If you must put illumination in your line of sight and use your 12 to kill, keep illumination at least 300 feet off the ground before burnout. You will avoid whiteout of your 12 devices.
- Illumination and white phosphorus can be used to assist in C2. Use them to mark boundaries, designate objectives, and signal.
- Collocate your FAC and FSO. Most CAS still depends on artillery illumination to engage targets.

Air Defense

- Only the Chaparral has both IFF and night-sighting capability.
- To enhance the use of Vulcans at night, pair them with Stinger operators. The Stingers can interrogate, then the Vulcans can kill (without a large contrail signature).

Security

- Work hard at reducing noise signature. When in the defense, control vehicle start-up sounds.
- Rock-filled cans attached to barrier wire or across approach routes can provide warning of intrusion.
- Blue light is more difficult to see at night and does not destroy night vision as easily.
- Put generators into pits to hide their noise.
- To protect the perimeter, nothing replaces the roving guard on the ground.

Appendix D

REAR OPERATIONS

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SECTION I. GENERAL

AirLand battle doctrine recognizes three types of operations: deep, close, and rear. Today, increased air mobility and weapons with longer ranges are coupled with tactical emphasis on striking deep into enemy territory. In an AirLand battle, this will pose an unprecedented likelihood of extensive combat action in what were previously safe rear areas. Sophisticated and highly accurate weapon systems can inflict heavy damage on both sides. Forces will direct active reconnaissance and surveillance against both forward and rear areas. Target acquisition efforts and EW will be directed against forward and rear areas on both sides. Massive troop concentrations or destructive firepower will make some penetration by both sides almost inevitable.

Unlike previous wars, in which military operations were often followed by lulls, allowing resupply and reconstitution, the next war is likely to be a continuous operation. Resupply and reconstitution will, however, be imperative. Rapid movement and replacement of troops, ammunition, and material will be critical to combat success.

Purpose of Rear Operations

Rear operations are conducted primarily to retain overall freedom of action in close and deep operations. Rear operations are a critical fight for the brigade commander. The AirLand battle cannot be won solely by fighting in the rear, but it could be lost there.

Rear operations are an integral part of the AirLand battle. Security and swift movement of assets behind the FEBA are crucial to combat success; therefore, rear operations must be as carefully planned and executed as all other combat operations.

Rear operations consist of those actions, including area damage control, taken by all units, singly or in a combat effort, to secure the force, neutralize or defeat enemy operations in the rear, and ensure freedom of action in deep and close operations. They form a system designed to ensure continuous support. Rear operations are not just the protection of logistics facilities. They include movement of friendly units throughout the rear area. Tactical combat forces may be required to defeat the rear threat. Rear operations may divert forces from the brigade close operation.

The brigade's rear area consists of all space behind the battalions' sectors of responsibility. This rear area is usually delineated by a specific phase line, but otherwise can be considered to begin about 8 to 10 kilometers behind the FEBA or just behind the battalions' combat trains.

Intelligence

The S2 should give equal emphasis to the brigade rear and forward areas when developing the IPB. The likely axes of advance through the brigade and possible LZs and DZs must be identified. The S2 should acquire information and disseminate all intelligence concerning enemy agents, terrorists, sympathizers, and special purpose forces. Although these individuals or groups are of little to no threat to combat forces, they can devastate CS and CSS. The S2 should incorporate the MP platoon leader into his collection plan. The MP platoon can greatly assist in intelligence collection and as a liaison with the host nation. It is important that the S2 identify the enemy's target priorities in the brigade and division rear areas. Once these are identified, he analyzes ammunition transfer points, POL assets, and other critical elements that must survive to sustain the brigade.

There are three levels of threat:

- Level I. Threats that can be defeated by a base/base cluster.
- Level II. Threats beyond the capability of base/base cluster, but which can be defeated by a response force.
- Level III. Threats that necessitate the commitment of a combined arms TCF to defeat.

Command and Control

The brigade commander is responsible for plans and operations throughout the depth of his operation. To execute those responsibilities, he assigns tasks to subordinate and supporting commanders. The brigade S3 includes detailed planning for the entire rear area during operational planning for offensive and defensive missions.

When the commander plans for the defense of the rear area, he needs to have complete knowledge of what elements are in his sector of responsibility. What assets does each unit have that will allow it to defend itself and identify what elements can defend against a large enemy threat? Doctrine states that most CS and CSS units in the brigade rear area are located in the BSA. Many small elements form bases, with the entire group of bases making up a BSA, which in itself is a base cluster. The BSA or base cluster is under the C2 of the FSB commander. All units in the BSA are under OPCON of the FSB commander. The FSB commander is responsible for the defense of the BSA.

The brigade commander's goal is to retain overall freedom of action for fighting close and deep operations. This means the MSRs are clear, unobstructed, and secure; units can move quickly and in an orderly fashion throughout the brigade area; logistical resupply and reconstitution are sustained and all CS and CSS units are secure. To accomplish this, there must first be an understanding of the different levels of threat.

The planning considerations for rear operations include—

- Securing the rear area and facilities.
- Preventing or minimizing enemy interference with C3.
- Preventing or minimizing disruption of CS and CSS to forward units.
- Providing unimpeded movement of friendly units throughout the rear area.
- Finding, fixing and destroying enemy incursions in the rear area.
- Providing area damage control after an attack.
- Identifying combat units, ground, and aviation (if available) that will have the on-order mission to defeat the enemy in the rear area.

SECTION II. PLANNING FOR THE REAR AREA OPERATION

Sustainment

The only specific asset the brigade commander has that is trained for and has the primary mission of rear area operations is the military police platoon. With their ability to shoot, move, and communicate, MPs on the battlefield provide the commander both technical and tactical advantages. Commanders can rely on MPs to help keep enemy activity in the rear area from delaying his reinforcing units and disrupting C2.

MP elements are task-organized to accomplish their missions. Size and composition of a tasked element depend on mission needs and the tactical situation. MP teams have the experience, initiative, and ability to operate independently or as part of a larger unit.

Three-man teams are the building blocks of MP units. Each MP team has a vehicle, a crew-served weapon (an M60 machine gun or a MX-19 grenade machine gun), and a vehicle-mounted radio. The team leader observes and maintains communications. A second MP drives, and the third MP is the gunner and alternate driver. They are all capable of calling for indirect FS and using light antitank weapons. The team is equipped with night-vision devices to detect NBC contamination and with equipment for secured radio communications. MP teams fight mounted or dismounted to suit the tactical situation.

In the rear area, MPs are a critical part of the commander's on-the-ground intelligence-gathering assets. They are his rear area scouts. MP teams are mobile over large geographical areas. As part of their BCC mission, MPs routinely travel the battlefield road networks. As part of their area security mission, MPs routinely move off-road for area reconnaissance and other area security operations. They help find the enemy and identify his strengths and weaknesses. MPs collect and disseminate vital information to help commanders see the battlefield. Information about conditions in the rear area and the presence and nature of the enemy helps a commander know when and where to concentrate combat power. The MP's mobility and communication assets allow them to detect and monitor activity throughout their bread AOs and report their findings quickly. Swiftly changing combat situations make timely and accurate information about the location of units, road conditions, and enemy activity imperative.

In the rear area, the MPs are a flexible economy-of-force organization that can significantly multiply the commander's combat power. MPs do this without increasing the commander's total force or diverting his combat resources from more critical operations. Because of their mobility and dispersion in the rear area, MPs are likely to be the first forces on the scene of a threat insertion in the rear area. If this occurs, MFs fight to preserve the security of the area. MPs encountering enemy forces engage them with individual and crew-served weapons. They destroy enemy elements within their capability. Organized in small tactical elements, their experienced use of initiative, their mobility and firepower, and their communications ability enable the MPs to operate independently as well as fight as part of a larger force. As squads or platoons defending a base or countering small enemy incursions, MPs generate substantial short-term combat power for the tactical commander. Though MP elements are highly mobile and are equipped for and capable of limited combat missions, the commander should carefully consider mission priorities for these valuable assets because of their small size.

The MP platoon carries out four basic missions in support of the commander and the rear operations mission. These are--

- BCC. Expediting forward and lateral movement of combat resources to ensure a way is open to move reinforcing troops, fuel, food, and ammunition across the battlefield.
- Area security. Helping the commander to provide security and protection in the rear area.
- EPW operations. Collecting, evacuating, and interning EPW to relieve the tactical commander of the responsibility.
- Law and order operations. Conducting these when necessary to extend the combat commander's discipline and control.

Any one of the above missions can easily require the entire MP platoon and more; therefore, it is important that the factors of METT-T be considered when using the platoon. It is best to keep MPs mobile, acting as the eyes and ears of the commander. During offensive operations, the MPs will most likely be employed in BCC and EPW missions. In the defense, they will be employed in BCC as area security.

Movement

Maintaining security of the MSRs for swift and safe movement of units and resupplies is critical to combat mission success. To avoid locking too many MPs into this mission, use the brigade's maintenance vehicles (with caliber .50 weapons) and combat vehicles that are returning forward with supplies as security. If that is not possible, a good practice is to use no more than 50 percent of MP assets on BCC unless there is a major movement of forces.

Area Security

Area reconnaissance and security will always be a primary mission for MPs. Use of the S2's IPB will be important in identifying critical terrain that needs to be kept under frequent or constant surveillance, such as LZs, DZs, and axes of advance. The MP's ability to find, fix, and destroy Level I and Level II threats will greatly decrease the commander's requirement to employ combat forces in the rear. The early detection of heavy Level II and Level III threats by MPs will allow them to at least delay, if not defeat, the enemy before he reaches the brigade's logistics assets. Ensure the MPs are sufficiently equipped with antitank capability. Use them aggressively as rear area scouts in counterreconnaissance missions to keep enemy reconnaissance out of the BSA. If the enemy force is more than the MP platoon can handle, the following contingencies should be planned for.

- Reprioritize artillery support to the rear area mission to slow the enemy until friendly combat forces make contact.
- Redirect attack helicopters or CAS to slow down or stop the enemy.
- Designate the battalions' scout platoons and/or other ground combat forces with a secondary mission of the rear operations battle.
- Coordinate assets from division or corps to assist in backup for the rear operations battle.

Defense of the Brigade Support Area (Base Cluster)

Defense of the bases within the BSA and defense of the base cluster known as the BSA is an difficult ongoing task. The requirements to have the BSA located so two or three roads pass through the cluster and so it is near an MSR does not make for easy passive security. Too many reads into a BSA will decrease the commander's ability to secure the sea. When locating the BSA, the commander should take advantage of every factor that will increase his passive security.

Base Defense

Each unit located in the BSA will normally be a few hundred meters from the next unit. All the units are in the BSA for the purpose of supporting the brigade. For defensive purposes, each unit will set up as individual bases. Each base must have a plan for the defense of its element, and each must integrate its defense plan with the FSB commander (base cluster commander). Each base should plan on assisting with access control duty on the main avenues entering and exiting the BSA. Those bases/units located along the BSA perimeter should plan on securing a sector of it.

It is understood that most units in the BSA have a heavy support mission and therefore have few personnel to give toward security. It is imperative that each unit have a thorough defense plan that is well rehearsed and uses everyone as an ongoing check of personnel in the area. Considerations for defense of a base include the following:

- Locate and prepare a fighting position for each individual or section in the unit.

- Everyone should immediately challenge anyone who is unfamiliar or out of place.
- Have a plan of action if the enemy has infiltrated your assembly area or base.
- Have a specific signal/alarm to order people to fighting positions.
- Have a different alarm/signal to warn that enemy forces are in the internal area. This type of alarm can cause everyone to drop to the ground and fire on anyone left standing.
- Rehearse your plan for defense-many times.
- Your plan must allow for some personnel, weapons, and equipment to be out on mission.
- Ensure you have coordinated with the bases near you.
- Soldiers with fighting positions oriented near or toward other bases must use caution when tiring weapons.
- Ensure it is understood and confirmed from which direction the BSA's reactionary force will come.
- Plan and use mobile (foot patrol) and static security. Static security is hard to detect and, therefore, effective. Mobile patrolling is an immediate deterrent for many small elements.

Brigade Support Area/Base Cluster Defense Considerations

Developing and executing a defense plan for the BSA must include all those factors considered for a base, plus the following:

- In addition to the MP platoon, have a reactionary team identified and rehearsed to combat an enemy attack.
- Check each base's defensive plans-on the ground.
- Use any available engineer assets to dig in equipment and prepare fighting positions.
- Take advantage of the knowledge of the MP platoon leader/sergeant in base/base cluster defense.
- Take advantage of *all assets* in the BSA, including temporary assets such as—
 - Operable weapon systems on inoperable tracks.
 - Combat soldiers awaiting repair of vehicles.
 - Lightly wounded soldiers awaiting return to units (at the medical company).
 - Reserve combat forces.
 - Scout platoons that are not performing missions for their battalion.

Appendix E

ARMY AVIATION

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SECTION I. COMBAT AVIATION BRIGADE

Organization

CABs are assigned from echelons above corps through division level. Although their missions are basically the same, their organizations differ based on their higher headquarters, locations, and specific missions. In the heavy division, the CAB consists of one HHC, one cavalry squadron, two attack helicopter battalions, one assault helicopter company, and one command aviation company. Forward deployed heavy divisions are assigned two attack helicopter battalions, while CONUS-based units are assigned one. Figure E-1 depicts the organization of the aviation brigade for the heavy division.

Aircraft Requirements

The aircraft requirements of the heavy division CAB are 36 AH-64s, 8 AH-1Ss, 44 OH-58 A/Cs, 6 OH-58D "armed" helicopters, 24 UH-60s, 6 UH-1s, and 3 EH-60s. The distribution of these helicopters within the brigade is depicted in Figure E-1.

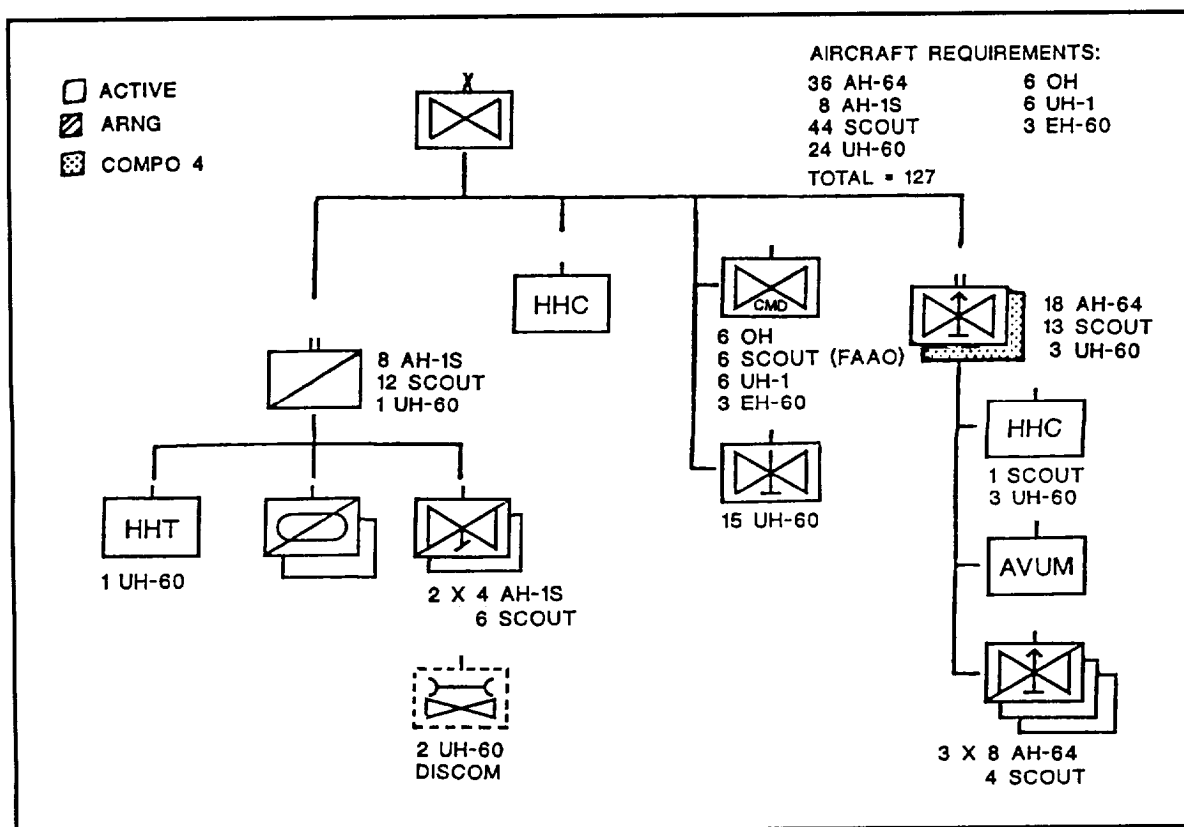


Figure E-1. Combat aviation brigade organization (heavy division).

Weapon Systems

The capabilities of the various weapon systems carried by the aircraft within the CAB give the brigade a high degree of flexibility and firepower. The aircraft carry the following specific weapon systems.

AH-84 (Attack)

One turret-mounted 30mm chain gun with a 1,200-round capacity and a maximum effective range of 3,000 meters.

Sixteen Hellfire antitank missiles with a maximum effective range of 6,000 meters and up, or 76 2.75-inch rockets (freed from four 19-round pods) with a maximum effective range of 5,500 meters, or a mixture of the two weapons.

AH-1S (Attack)

One turret-mounted, three-barreled 20mm gun with a 750-round capacity and a maximum effective range of 1,500 meters.

Eight TOW antitank missiles with a maximum effective range of 3,750 meters,

Thirty-eight 2.75-inch rockets (fired from two 19-round pods) with a maximum effective range of 5,500 meters. Thirty-eight additional 2.75 inch rockets can be installed if the TOW antitank missiles mounted on the outboard weapon mounts are not used.

OH-58 A/C (Scout)

Unarmed.

OH-58D "Armed" (Scout)

Two air-to-air Stinger missiles on each side of the fuselage, or two Hellfire missiles on each side of the fuselage, or one caliber .50 machine gun, or a rocket pod of seven 2.75-inch rockets on each side of the fuselage, or a combination of each.

UH-60 (Assault/MEDEVAC)

Two pintle-mounted 7.62-mm machine guns (one on each side of the aircraft).

UH-1 (Utility)

Two pintle-mounted 7.62-mm machine guns (one on each side of the aircraft).

EH-60 (Electronic Countermeasure)

Unarmed.

Mission

The heavy division CAB has the mission to find, fix, and destroy enemy forces using fire and maneuver to concentrate and sustain combat power at the critical time and place. The brigade can also provide timely reconnaissance and intelligence throughout the division area and can conduct air assault and air movement operations. With all of these capabilities, the CAB provides the division commander with a fourth maneuver brigade which is capable of planning and conducting maneuver operations. Finally, the brigade can conduct missions either as an aviation-pure force or as a task-organized force.

SECTION II. LOWER ECHELON HELICOPTER UNITS**Attack Helicopter Battalion**

AHBs are assigned to divisional aviation brigades, corps attack helicopter regiments, and divisional aviation brigades. They give the commander a highly mobile, 24-hour-a-day antiarmor capability. It is important to remember that AHBs are maneuver units and not CAS or FS units. Therefore, they must be integrated into the commander's tactical plan along with his other maneuver units.

The heavy division AHB consists of an HSC and three AHCs. The organization of the heavy division AHB is depicted in Figure E-2. The AHCs provide the AHB commander with antiarmor capability. Each AHC consists of an aeroscout platoon with four scout helicopters (OH-58s or OH-58Ds “armed”) and an attack platoon with seven attack helicopters (AH-1Ss). An AH-64-equipped AHC has six AH-64s per attack platoon.

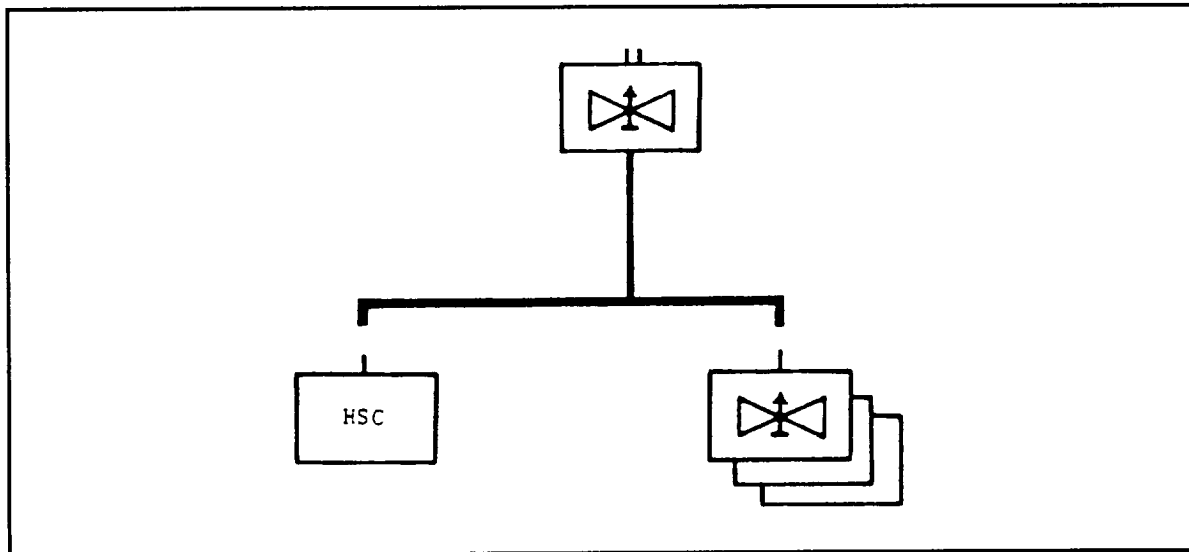


Figure E-2. Attack helicopter battalion organization.

The AHB has the mission to destroy or disrupt massed enemy armor and mechanized forces using aerial firepower, mobility, and shock. It can also destroy enemy helicopters that pose an immediate threat and conduct JAAT operations with CAS and FA assets. It is important to remember that the AHB cannot conduct missions that require the occupation of terrain. It can, however, deny the enemy use of that same terrain for a limited time by employing organic and supporting fire.

Divisional Cavalry Squadron Air Cavalry Troop

Divisional cavalry squadron ACTs are assigned to the heavy division's cavalry squadron. The squadron consists of an HHT, two ground cavalry troops, and two ACTs. Each ACT consists of an aeroscout platoon with six scout helicopters (OH-58 A/Cs) and an attack helicopter platoon with four attack helicopters (AH-64s or AH-1Ss).

The two ACTS, deployed with the ground troops, act as “eyes and ears” for the division commander. They have the capability to cover wide frontages and add depth to the battle area. Attack helicopters in the troop primarily provide suppressive and protective fires for the aeroscouts. As the situation develops, however, the ACT's attack helicopters can be used in an antiarmor role. The ACT is flexible; it can be task organized with other aviation assets to conduct various missions.

SECTION III. PLANNING OPERATIONS WITH ARMY AVIATION ASSETS

Planning Considerations

Planning considerations for operations that include aviation assets are similar to those of any tactical operation. The two primary factors are the higher commander's intent and the factors of METT-T, but others, such as CSS and risk analysis, must be integrated from the start. Three specific areas in

the planning process are of critical importance to aviation units: task organization, the integration of aviation and ground forces, and command and support relationships.

The appropriate task organization is essential to establish effective combined arms teams. Often the CAB will have some of its organic elements task organized with other maneuver brigades or will be provided additional ground forces and CS elements to accomplish a given mission. The ability of aviation units to task-organize with other maneuver elements gives aviation the combat staying power necessary for combined arms operations. It is important to remember, however, that the use of aviation-pure forces can give the higher commander the agility and flexibility to make a decisive strike at the enemy.

Integration of the combat power of aviation and ground maneuver forces is extremely important because air and ground forces do not always attack along the same axis or have identical objectives. The planning for such operations must capitalize on the strengths of each combat system. In whichever role the aviation assets are used, the plan must be all-encompassing and ensure a coordination of effort.

CABS and subordinate units may operate with other maneuver, CS, or CSS elements during an operation. These assets may be employed in either a command or support relationship. Command relationships include assigned attached, and operational control. The only support relationships that apply to aviation CS and CSS operations are DS and GS. This may include assault helicopter and medium helicopter units performing air movement operations when tasked.

Principles of Aviation Employment

The principles and guidelines for employment of aviation assets differ from those for typical ground maneuver forces. In general, aviation forces—

- Fight as an integral part of the combined arms team.
- Exploit the capabilities of other branches and services.
- Capitalize on intelligence-gathering capabilities.
- Suppress enemy weapons and acquisition means.
- Exploit firepower.
- Exploit mobility.
- Exploit surprise.
- Mass forces.
- Use terrain for survivability.
- Displace forward elements frequently.
- Maintain flexibility.
- Exercise staying power.

SECTION IV. COMMUNICATIONS

Successful employment of aviation assets is possible only if they are able to communicate with the other members of the combined arms team. The primary means of communications with helicopters is FM secure. To help reduce the load on the FM radios, all helicopters have UHF and VHF radios, and scout (OH-58D or OH 58D “armed”) and C2 aircraft have HF radios. Other available communications means include wire, messenger, multichannel, and RATT, Figure E-3 depicts an example of an AHB’s external communications net.

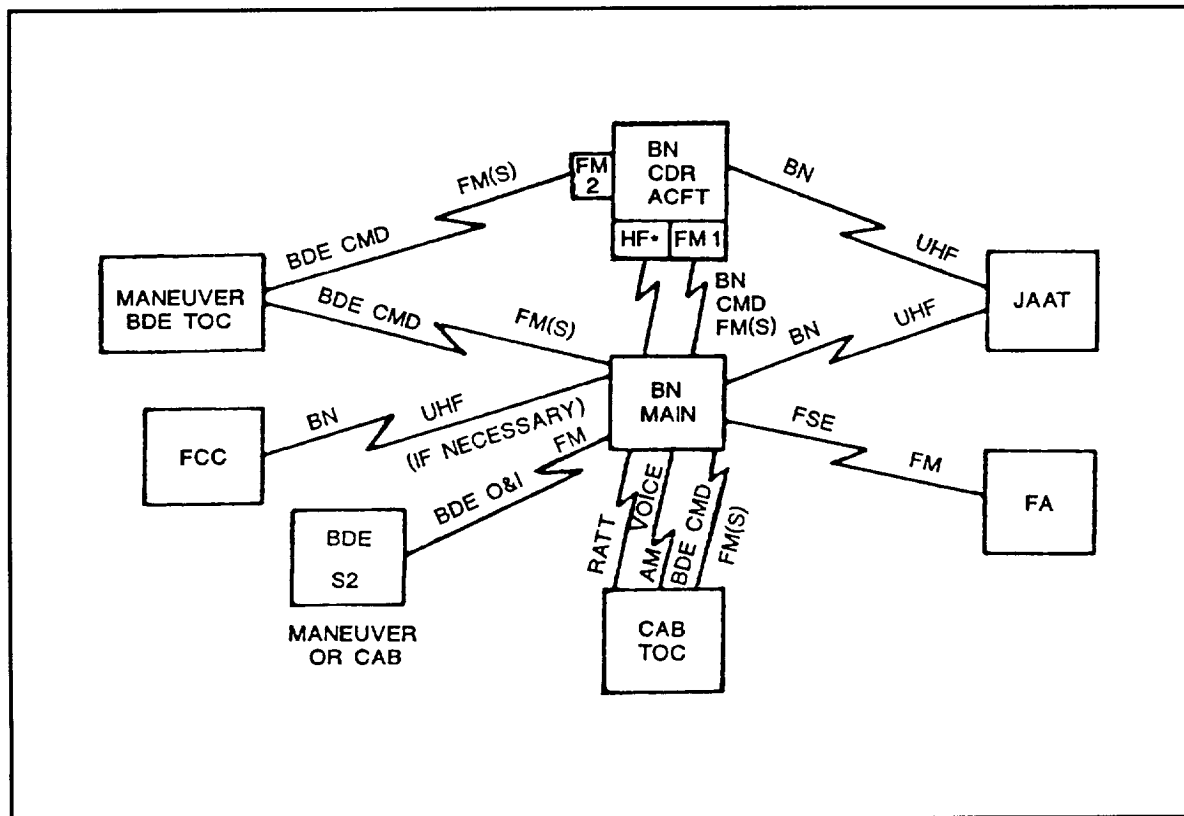


Figure E-3. Attack helicopter battalion communications net.

SECTION V. OFFENSIVE OPERATIONS

Tactical Positions

To organize and control the movement of aviation assets, the commander establishes a series of tactical positions and routes. The control measures that follow allow the commander to control the battle and fight his units with minimum voice communication.

Assembly Areas

AAs for aviation units are normally located in the corps, division, or brigade support area. They must have ingress and egress routes that offer cover and concealment for the aircraft.

Brigade Rear Area

These are used by attack helicopters to shut down for extended periods while awaiting orders for battle. They should be located at or near the ground maneuver unit's TOC.

Holding Areas

These should be located between the forward AA and the battle positions. Attack helicopters may occupy these positions for a short time and may hover or land, but they will not shut down. Holding areas should be terrain-masked and free of rotorwash signature sources.

Attack Routes

Attack helicopters move from holding areas to BPs over designated attack routes. Aeroscouts select the attack routes that take advantage of cover and concealment and have prominent terrain features to aid in navigation.

Battle Positions

Attack helicopters engage targets from conceded BPs designated by the commander. The ABC designates section BPs and sectors of fire. Aeroscouts maintain contact with the targets and call up the attack helicopters as enemy forces come into range.

Firing Positions

These should provide maximum standoff ranges with good fields of fire and should provide terrain clearance to allow firing of antitank missiles. Firing positions must also allow freedom of movement for the attack helicopter.

Movement To Contact

During a movement to contact, attack helicopters from the AHB will be critical to the success of the advance forces and the main body of the ground maneuver unit. As part of the advance guard, the AHB can destroy forward enemy elements and contain bypassed enemy units. Its mobility and firepower will permit the maneuver commander to overwhelm the enemy and maintain the initiative.

Hasty Attack

During a hasty attack, attack helicopters have the speed and firepower necessary to shock and overwhelm the enemy and seize the initiative. Employed independently, the AHB is least effective when attacking strongly held, fortified defensive positions because of its lack of staying power and inability to hold terrain. It can, however, provide heavy and effective suppressive fires when attacking with ground maneuver forces.

Section VI. DEFENSIVE OPERATIONS

Deep Battle Area

AHBs are ideally suited for deep battle operations because of their speed, mobility, flexibility, and firepower. At division level, they may be the commander's only means of influencing the deep battle. The AHB can participate in several different deep attack missions. The most common are an operation of limited duration, an operation to secure a deep objective, and an operation to continue the attack.

An operation of limited duration resembles a raid. The AHB penetrates enemy territory to delay, disrupt or destroy a known target. Once the mission is finished, the attack force withdraws. An operation to secure a deep objective is a deliberate attack with the goal of occupying specific area in enemy territory. This is a combined arms mission, with the AHB part of the force. An operation to continue the attack is similar to exploitation. The AHB operates as part of a larger force and attacks withdrawing or counterattacking enemy forces before their arrival in the objective area. Despite the defensive nature of the higher headquarters mission, the AHB's missions are offensive in nature.

Covering Force Area

The AHB is the primary force that allows the covering force commander to fight his battle aggressively and maintain the offensive spirit. Due to its speed and agility, the AHB can rapidly respond and concentrate its firepower throughout the covering force area. The AHB is normally employed in hasty attacks from

forward AAs on targets that are well forward in the covering force area. In the division area, the AHB is the primary long-range killer in the aviation brigade. Missions normally assigned to the AHB include attacking follow-on forces, overmatching the movement of ground forces, and acting as a blocking force.

The reason to attack follow-on forces is self-explanatory; the commander decides that he must destroy or disrupt an enemy follow-on force to ensure the success of his own operation. Overwatching the movement of ground forces can involve a variety of different missions. An example is relieving a battalion task force to allow it to maneuver to a subsequent BP by denying the enemy the ability to maneuver over certain terrain. The AHB can also overwatch battle handover from the covering force to the MBA forces. The AHB can also act as a blocking force. This allows the covering force commander to protect an enemy penetration point while he maneuvers his ground units to blunt the penetration.

Main Battle Area

In the MBA, the AHB can be used to destroy enemy lead elements entering the main AO. It can also attack and destroy follow-on forces that are capable of influencing the enemy's main effort. The AHB should be employed as soon as this main effort has been identified. The AHB also can be held in reserve by the division or committed as an independent force against enemy forces that have bypassed or penetrated MBA forces. Another option is to assign the AHB OPCON to a ground maneuver brigade to give it additional combat power. Employment techniques are the same as those used in the covering force area.

Rear Battle Area

When used in the rear battle area, the AHB is best employed as a rapid reaction force. With its mobility and short reaction time, it should be assigned on-order missions to support the rear area. It can react rapidly to an enemy air assault in the corps or division rear area and contain or destroy enemy forces once they are in the rear area. It is important to remember that rear area operations require close coordination between artillery, CAS, and attack helicopter units to ensure success.

SECTION VII. OTHER TACTICAL OPERATIONS FOR AVIATION

Raid

The AHB is the ideal unit for conducting a raid. The mission is short in duration and requires speed, flexibility, and audacity. The following are considerations related to planning and conducting a raid with attack helicopters.

- A well-defined objective is required.
- The mission must be of short enough duration to be accomplished on one fuel load.
- Multiple routes must be available for aircraft.
- Air-to-air security must be emphasized.
- Actions at the objective should be fast-paced and provide for massed fires.
- Attack helicopters are best suited for raids against moving targets.

Exploitation

In the exploitation, the AHB is employed as part of a larger force. It allows the exploiting force to strike the enemy's flanks and rear area to disrupt his withdrawal and reorganization. The AHB operates as in a movement to contact moving behind the ground force, ready to strike early in the fight. In addition, the attack helicopters can effectively interdict and harass retreating enemy armored forces.

Pursuit

The AHB's speed mobility, and firepower make it an ideal force for a pursuit. It can maneuver deep to outflank and contain retreating forces and quicken the disintegration of the enemy's will to fight. By "phasing" its three attack helicopter companies (one company in battle, one company en route to battle area, and one company en route to or at the FARP), the AHB can place continuous pressure on the withdrawing enemy force.

SECTION VIII. JOINT AIR ATTACK TEAM OPERATIONS

JAAT Composition

A JAAT is a combination of US Army attack and aeroscout helicopters and FA and US Air Force CAS Aircraft. These elements operate together to attack lucrative, high-priority targets. By employing helicopters and CAS aircraft simultaneously against the enemy, the ground commander can increase the lethality and survivability of both systems. Although the JAAT can operate with both brigade- and battalion-size units, brigade should be the lowest level at which a JAAT is planned. The JAAT is best employed against moving formations since these targets are the easiest to acquire. It is least effective when attacking camouflaged, dug-in targets.

Several key personnel are involved in planning and conducting a JAAT operation. This group includes the ground maneuver commander, the AHB or AHC commander, the TACP/ALO, the CAS aircraft flight leader, the FSCOORD, and the ADA officer.

The ground maneuver commander is responsible for the planning, coordination, and employment of the JAAT. He is also responsible for the ground and airspace where the JAAT will take place. The ALO coordinates with the ground maneuver commander, S3, and FSCOORD to determine the type of target and the location of friendly forces in the target area.

The AHB or AHC commander directs his element's participation in the JAAT. He must know the ground and air tactical plans and maintain constant contact with the other participants. He also coordinates the air attack with the ground maneuver commander and resolves any air corridor problems with the FSCOORD and the ADA officer.

The TACP/ALO is responsible for control of the CAS aircraft in the JAAT. The CAS aircraft flight leader directs the attack for his aircraft, CAS flights will normally consist of two or four A-10s, but could involve the same number of A-7s or some other type of CAS aircraft.

The FSCOORD determines the need for, availability of, and positioning of the artillery assets to support the JAAT. He coordinates with the TACP/ALO to reconcile the CAS IP with the artillery plan and develops ACAs to support the operation. He also determines the need for SEAD and recommends FS to enhance the success of the mission.

The ADA officer is responsible for planning the critical air defense umbrella to protect the JAAT. He coordinates with all participants to ensure he knows the location of any air corridors, attack helicopter BPs, CAS IPs, and ACAs. ADA assets must be fully incorporated into the JAAT plan and be very familiar with friendly air operations.

Forming a JAAT

The actual composition of a JAAT will vary slightly, depending on the mission and the major command that forms it. During the course of a battle, the maneuver forces may need increased firepower against a given target array. When attack helicopters are already OPCON to the brigade, a request is made through either preplanned or immediate channels for CAS aircraft. The request will specifically refer to a "JAAT mission." This will alert the ASOC that the ground maneuver commander prefers A-10 aircraft.

When attack helicopters are not OPCON to the brigade, the commander forwards a request to division. The brigade S3, S3-Air, or ALO should request CAS through regular channels, again requesting a "JAAT mission." The CAS request should state that attack helicopters have also been requested. If both CAS aircraft and attack helicopters are available, the aircraft will be committed by the G3.

Once approval for the JAAT has been received, planning by the brigade is initiated. If the JAAT is to be employed in a task force sector, the task force commander will be informed of the plan that may include the execution of the JAAT by his task force. The JAAT plan should allow for multidirectional attack to deny the enemy's ADA assets and ground forces the ability to focus in one direction. Although the JAAT assets may be requested and planned for, the brigade commander must be prepared to execute his plan without all of the assets requested.

The ground maneuver commander is responsible for conducting the battle in his operational area. His primary means of communicating with the JAAT is by FM radio through the AHB or AHC commander. The AHB or AHC commander has communications through the ground-air net (FM1) and the JAAT air-to-air net (FM2). FM1 stations include the ground maneuver commander, major subordinate maneuver units, the AHB or AHC commander, the TACP/ALO, and the FSCoord. The AHB or AHC commander uses this net to coordinate the scheme of maneuver and to keep the ground commander informed of the situation at the battle area. FM1 operates in the secure mode. The ground unit commander has the option of conducting the JAAT through the AHB or AHC commander over his own command net or through the AHB or AHC command net. FM2 is the primary means the AHB or AHC commander has to coordinate the assets of the JAAT operation. The primary elements on this net will be the attack helicopter platoons, the TACP/ALO (shown as an airborne FAC in Figure E-4), and the CAS aircraft (A-10s) flight leaders. UHF is used primarily for communications within attack helicopter sections. UHF/VHF will normally be used for CAS flight internal communications and may be used as an alternate JAAT air-to-air net. Figure E-4 depicts a typical communications net for a JAAT mission.

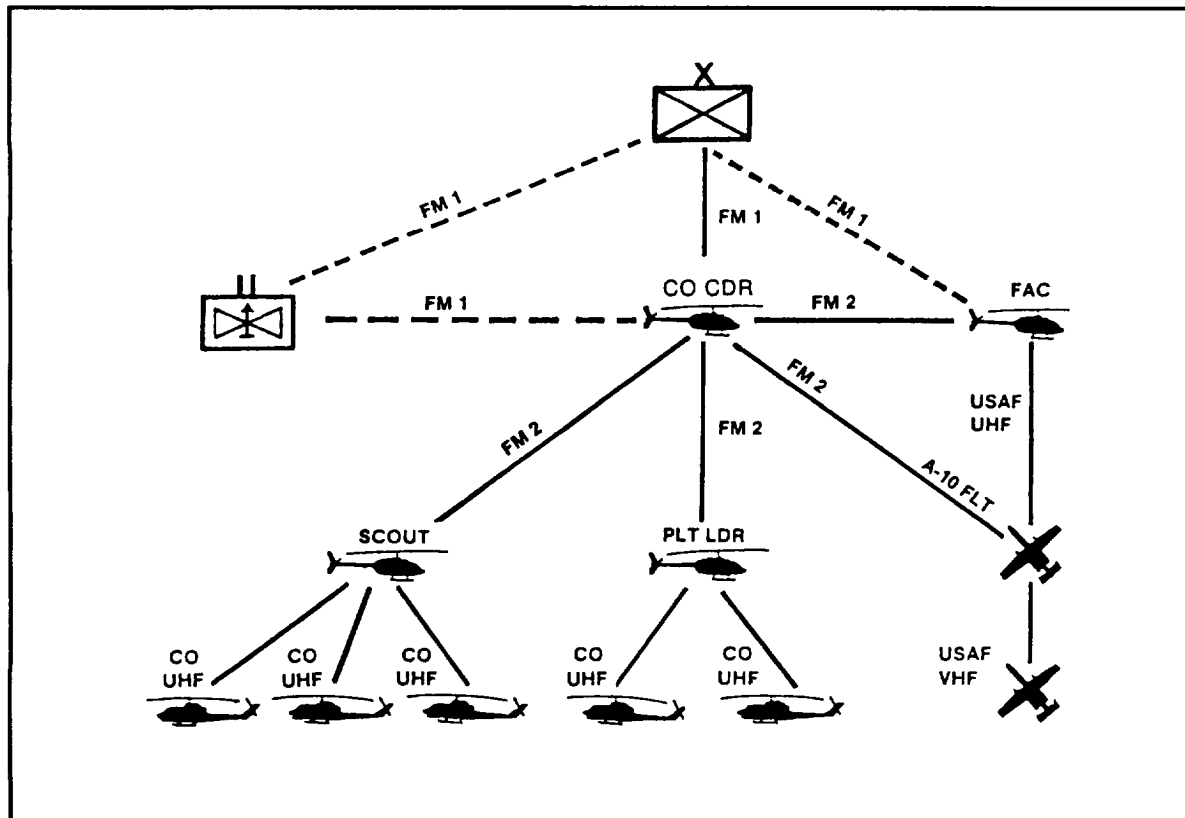


Figure E-4. JAAT communications net.

JAAT Employment Techniques

There are two basic JAAT employment options the sector attack and the combined attack. These options may be modified to meet the situation.

Sector Attack

The term sector refers to use of separate avenues of approach to the target area. In sector attack each element of the JAAT operates in its assigned sector. The sector boundary should be well defined to ease recognition and eliminate airspace conflicts. Attack timing may be simultaneous, sequential, or random. It may be executed by a time hack or by visual sighting. During sector-simultaneous attacks, each element maneuvers within its sector to attack simultaneously with other JAAT elements. During sector-sequential attacks, each element maneuvers within its sector to attack in a predetermined sequence. Attack intervals in this sequence may range from several seconds to several minutes. During sector-random attack, each element maneuvers within its sector and attacks at will. Sector-sequential attack minimizes airspace control problems and allows synchronized attack by both air- and surface-delivered fires. Sector-random attack precludes precision synchronization of surface fires and increases the likelihood of fratricide.

Combined Attack

The combined attack allows for heavy firepower to be brought onto a single point in a short space of time. The method works well for the destruction of multiple targets in a small EA. The primary disadvantages of this option are airspace constraints and target overkill. Again, attack timing can be simultaneous, sequential, or random and may be arranged by time hack. Timing, range fan, and fragmentation precautions apply in the same manner as in sector attack. Additionally, great care must be taken in the random attack, especially within a narrow avenue. If the aviation commander selects a combined attack, but wishes to sector the specific target area, he can do so by directing elements to a cardinal direction of the designated target area. This allows for a combined attack while enhancing firepower distribution.

If the situation permits, reattacks should be used to keep continuous pressure on the target. Once cleared into the area by the TACP/ALO or the AHB or AHC commander, units usually will not require clearance for individual attacks within the sector. The TACP/ALO or the AHB or AHC commander can terminate the attack by using prebriefed code words or by direct order. Sustained combat requires continuous pressure on the target area. CAS aircraft departing the area update inbound flights with the most current information. When possible, the ATB or AHC commander or his aeroscouts remain in the target area to effect battle handover of inbound flights and attack helicopter teams. The JAAT operation is then repeated as long as assets are available or until the mission is accomplished.

Execution

Upon arrival in the battle area, CAS aircraft contact the TACP/ALO for attack information. The battlefield environment may permit the TACP/ALO to directly control the CAS aircraft. In the absence of the TACP/ALO, the AHB or AHC commander must be prepared to brief the CAS flight leader. As a minimum, the CAS flight leader will provide the call sign, mission number, ordnance carried, and flight station time. The TACP/ALO will provide the flight leader with an attack briefing. In a high-intensity, high-threat environment, a full attack briefing may not be possible. As a minimum, the CAS flight leader will need a target and a target description. A-10s usually enter the target area in a two-ship flight. Terrain and weather will affect the number of flights that can operate in an area at one time. Attack helicopter fires should be keyed to the "inbound call" from the A-10s after they are cleared for the attack. Enemy anti-aircraft fire will intensify when the A-10s come on station, thus allowing the attack helicopters to identify and destroy those systems.

Indirect fires are critical and must be incorporated into JAAT planning. Artillery fires should be used to slow the enemy, suppress his ADA assets, and canalize his armored and mechanized forces. Once the operation is under way, the AHB or AHC commander and/or the aeroscouts work directly with the FSCOORD to coordinate the indirect FS.

Another important aspect of JAAT operations is A2C2. The primary objective of A2C2 is to provide the safe, orderly, and expeditious use of airspace in the combat zone while contributing to maximum combat effectiveness and survivability. This mission is performed informally by members of the brigade staff by extracting and disseminating critical information from various sources. The key A2C2 players at the brigade are the FSCoord, ALO, and AHB or AHC commander, functioning under the staff supervision of the S3. Normally, the S3-Air serves as the management focal point for A2C2. Airspace and fire control functions are closely interwoven and involve the detailed coordination and integration of CAS, indirect artillery fire, organic and supporting air defense fire, and the tactical fire and maneuver of the ground units. Normal operational planning and execution and adherence to unit TSOPs should prevent most conflicts between airspace users. The ground maneuver commander must establish priorities for use of airspace. These serve as guidelines to resolve conflicts among airspace coordinators and users.

A correctly planned and executed JAAT mission, with the team employed with the ground maneuver commander's organic units or employed as an independent force, can be decisive. Figure E5 depicts the employment of a JAAT in a task force sector, with its firepower combined with the organic fires provided by the ground unit.

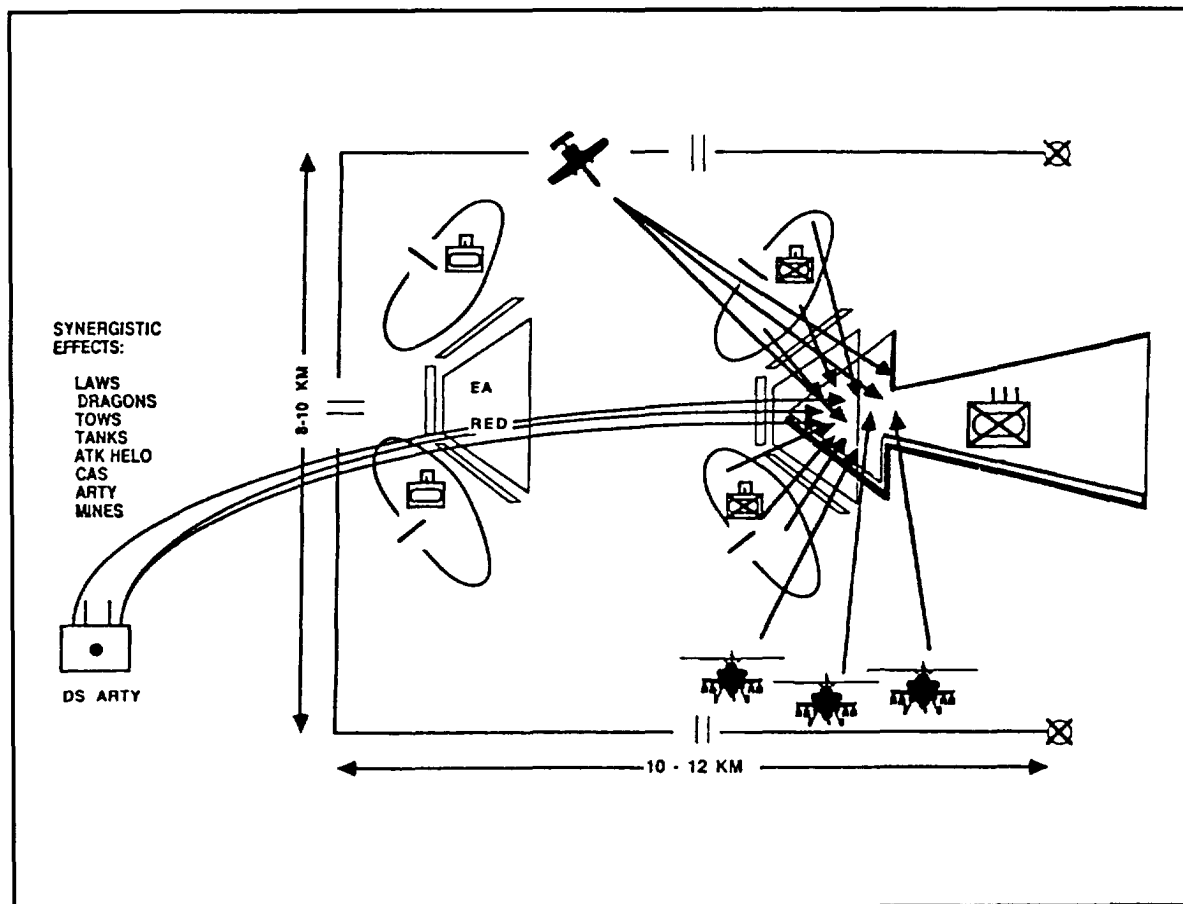


Figure E-5. JAAT employed in task force sector.

Appendix F

DIRECTED ENERGY WARFARE

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DEWs, a new category of weapons, are radically different in operation and effect from any other weapon in use. While no nation has yet fielded high energy weapons, research and development are expected to produce DEWs using laser energy and microwaves. Lasers and other directed energy devices have already been fielded in target acquisition and communications systems. Their application in weapon systems is present on the battlefield today. This appendix introduces DEWs and gives an overview of how to defend against them.

SECTION I. DIRECTED ENERGY WEAPONS

DEWs include lasers, microwave radiation emitters, and particle beam generators. These weapons produce casualties and damage by delivering energy to the target. Conventional weapons rely upon the kinetic and/or chemical energy of a sizable projectile to defeat a target. DEWs depend upon the transfer of energy to the target through subatomic particles or electromagnetic waves. The advantage of DEWs over a rifle is that directed energy “bullets” fly in a straight line and strike the target at nearly the speed of light.

The field commander today needs to view DEWs as direct-fire, line-of-sight weapons. Measures to prevent damage to or destruction of currently fielded equipment from DEW engagement are by no means impossible or particularly complicated. For the foreseeable future, DEWs will be able to damage only soft components. Newly fielded equipment has laser protection built into the direct-view optics. Older direct-view optics are being retrofitted with filters to protect against DEWs. Even if its equipment lacks laser filters, a unit can take the protective measures discussed in this appendix to prevent DEW casualties and damage.

Lasers

Lasers may be used against US forces in the near future. The presence of laser devices in the inventories of all major armies is increasing, and any laser-emitting device, such as a target designator or range finder, can be employed as a weapon if it is aimed at a type of target it can damage. A laser weapon requires only a split second to obtain desired effects.

Targets

The most probable target of laser weapons is the human eye behind an optical or electro-optical system, specifically fire control devices and sights of direct fire systems. A laser beam entering a direct view optical system, such as a telescope, has its power increased by magnification of that system. Anyone looking through the system may suffer retinal burns. Severity of the burns, permanence of the damage, and time needed for healing depend on intensity of laser energy received magnification of the optical device, range to the laser, frequency of the laser, and duration of exposure to the laser. Injuries range from temporary flash blinding to permanent loss of visual acuity. A soldier with this type of injury may be incapacitated and unable to aim a weapon.

A laser beam entering a nondirect-view electro-optical device, such as a night vision sight or thermal imagery device, may deposit its energy in the form of heat to the sensors inside. The heat is intense enough to burn out electrical circuits or cause a sudden surge of electricity within the sight, making it temporally or permanently useless. Any device so affected may require extensive repairs. This consideration is overshadowed by protection from laser effects provided to the soldier's eye by the nondirect-view electro-optical device.

Laser weapons may be directed against individuals, although that is a very inefficient way to employ them. They can cause burns, with the eye being most susceptible to injury. The cornea of the eye is a lens that magnifies the light passing through it 10,000 times. This energy is then refracted onto retinal nerves in the back of the eye. Laser energy passing through the cornea is magnified before striking optic nerves. Because the eye is more sensitive to light at night, laser energy has greater effect on the eye during darkness than during the daylight.

Any uncovered glass surface has the potential to attract or alert an antielectro-optical weapon target acquisition system.

Defensive and Protective Measures

The field commander must remember DEW systems are direct line-of-sight weapons; standard use of masking terrain is effective against them. Antielectro-optical weapons work only if they have a line of sight to their target. They are as effective at night as during the day; however, smoke, snow, fog, and dust degrade their effectiveness. In addition, the Army has recently made great advances in fielding systems to protect personnel and equipment against directed energy. Use filters provided with direct-view optics and have dismounted soldiers wear ballistic laser protective glasses. If these filters are not available in the unit, the commander must remember that all night sights protect the gunner from the effects of laser weapons. Finally, to be engaged by DEW weapons effectively, the soldier must be detected. Apply the following techniques to avoid detection by antielectro-optical weapon systems.

Use artillery, mortars, or direct-fire weapons to suppress known or suspected antielectro-optical weapons locations. Smoke rounds are especially good for temporarily defeating laser devices.

When operating from static positions within line of sight of known or suspected enemy locations, minimize the exposure of glass surfaces in the direction of the enemy by positioning vehicles and weapons in covered and conceded positions.

When the mission requires maneuver and, consequently, the possible exposure of glass surfaces, block the line of sight between friendly forces and known or suspected enemy locations by using smoke or by planning routes to minimize exposure time.

Sound tactics will prevent friendly weapons locations from being pinpointed and subsequently attacked by laser devices.

All devices with external glass surfaces should be covered or shielded until needed. This practice not only protects against DEWS but also minimizes the effects of artillery. Even vision blocks and headlights can alert antielectro-optical weapon target acquisition systems. These must be included when taking protective measures. Tape, canvas, empty sandbags, paper, or other materials can be used as covers.

When using optical or electro-optical devices to search for the enemy, use the minimum number necessary to do the job effectively. Protect the rest until they are needed.

If absolutely necessary, gunners can use passive sights to scan for enemy laser devices. Blooming of the image indicates presence of a laser. Gunners should be instructed to find and avoid laser devices. Indirect fire should be used to neutralize devices once they are located.

Extensions over objective lenses minimize the chance of detection except from almost head-on. These can be fabricated from any material that can be formed around the sight housing or extension.

Another countermeasure technique against some laser devices is to cover part of your optical lens with tape or other type of cover (see Figure F-1). Measures such as taping vision blocks to narrow slits may reduce the chance of a laser beam striking your eye. This is done by taping all of the block except a narrow strip 1/8 inch wide.

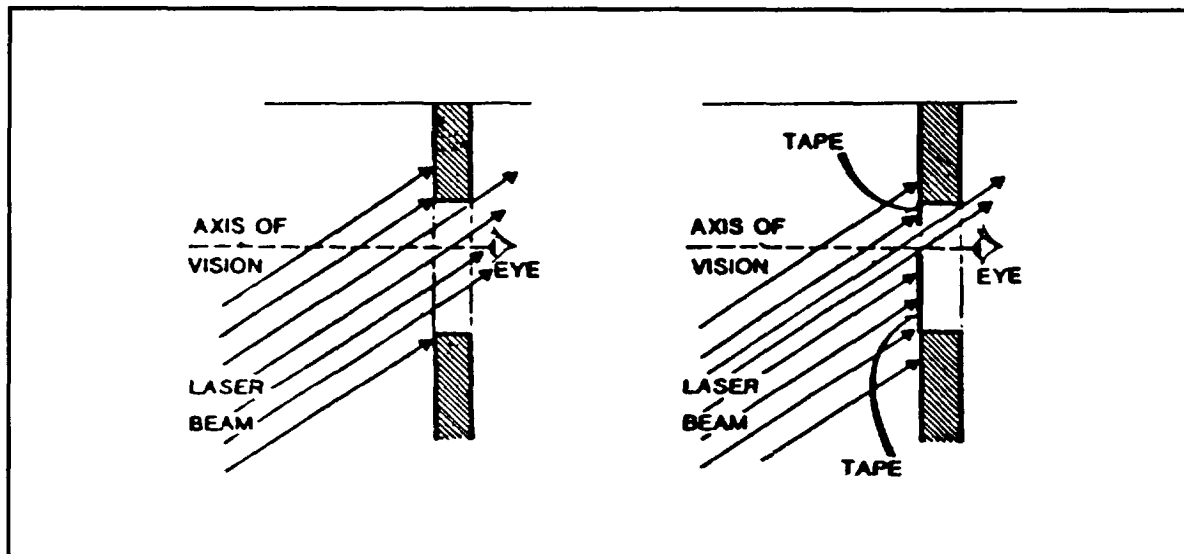


Figure F-1. Tape on vision blocks.

Soldiers should be aware of the potential hazard from laser devices currently in use in the US Army inventory. Just as a commander plans his unit fires to reduce the hazard of fratricide, he must likewise plan his laser fires. Devices most likely to be found in the vicinity of friendly troops are laser range finders. Laser range finders are used on the M60A3 and M1 tanks. They are also used extensively by the artillery. Artillery FISTs all use systems based on laser emitters, either vehicle mounted or lightweight, hand-carried units. This capability is also found in scout platoons with the GVS-5 laser range finder. Air Force and naval aircraft also carry laser target designators for aiming precision-guided munitions. Operators of laser firing devices are given extensive training in their safe employment. The devices themselves cannot be activated without conscious, deliberate action by the operator. While the possibility of an accident is extremely remote, it can happen. A victim might suddenly and unexpectedly move directly into the path of a laser beam and look directly at it, or a laser beam might reflect off a shiny surface and strike a victim in the eyes. To prevent such accidents, operators of laser firing devices must be kept constantly aware of friendly troop locations, and they must positively identify targets before lasing them. They should not fire lasers at reflective surfaces, and whenever possible, they should give the oral warning "LASING" before activating the laser. Conversely, commanders of troops operating in areas near friendly lasing must ensure that the commanders of laser-operating units are constantly aware of friendly troop locations. Troops should be alerted to the presence of friendly lasers in their areas and given the locations of the lasers if possible. They should be warned not to look in the direction of laser emitting devices unless specifically told it is safe to do so. Whenever possible, troops should wear ballistic laser protective glasses available through normal supply channels.

Electromagnetic Pulse

EMP is electromagnetic radiation covering a large range of the frequency spectrum. It may originate from nuclear detonations that are nondirected in nature, from detonation of conventional explosives coupled with focusing electromechanical devices, and from electrically powered EMP generators on or above the ground.

EMP can severely damage or destroy sensitive electronic components such as microchips, coils, and fuzes by overloading them with electrical energy. All equipment containing electronic components is subject to damage or destruction from EMP attack. FM radios are particularly susceptible. Damage to equipment from EMP is inversely proportional to its distance from the source of the pulse.

EMP can be projected into target areas from extremely long ranges. It can enter a targeted device through any opening and attack sensitive components inside even if the device is disconnected. For example, it may enter a radio set through the louvers over the cooling fans and destroy circuitry inside, making the radio useless. It can also enter through unshielded antenna cables, power lines, and other openings.

Protecting equipment from attack by EMP is extremely difficult. EMP attacks last for only a split second but can affect a tremendously large area. The only totally reliable method is to completely encase susceptible equipment in some type of heavy gauge metal shielding or to completely surround it with special metal screening. Burying it or covering it with sandbags or other nonmetallic materials will not provide adequate protection. Terrain masking is ineffective because EMP follows the curvature of the earth.

On combat vehicles, sensitive components should be left in their proper mounts, and their grounding strap should be checked. Sensitive equipment that is permanently mounted in the vehicle should be disconnected when not in use and moved to the center of the vehicle. Smaller pieces of equipment should be placed in empty ammunition cans. Hatch covers should be kept closed unless someone is entering or exiting the vehicle. This leaves only a minimum of equipment susceptible to destruction, while the remainder is available for use after the attack.

Known or suspected locations of enemy ground-based EMP-generating weapons should be attacked by direct and indirect fire. The type of munitions used in this fire should be nonsmart rounds that do not require command guidance or triggering at the target location. EMP will neutralize more advanced munitions by affecting their internal electrical components.

Microwave Radiation Emitters

Long-term exposure to high-intensity microwaves may produce physical and psychological effects on humans, such as warmth, pain, headaches, fatigue, weakness, and dizziness. Used against equipment, high-intensity microwaves can cause onboard electrical systems to fail; they can severely damage or destroy miniaturized electronic components, such as microchips, by overloading them with electrical energy. Microwave energy also may cause electrically fuzed munitions to become duds or to detonate. This effect is dependent on the power output of the weapon and the distance to the target.

Microwaves enter targeted devices in the same manner as EMP; therefore, defensive measures employed against EMP are also effective against microwaves. Terrain masking will provide some, but not complete, protection.

Ground-based microwave radiation emitters can be suppressed by direct and indirect fire in the same manner described for EMP weapons.

Particle Beam Weapons

A particle beam is a directed flow of atomic or subatomic particles. These high-energy particles, when concentrated into a beam that can interact with a target, can melt or fracture target material and generate X-rays around the point of impact. If effective particle beam weapons are developed for use in ground

combat the same kind of defensive measures taken against any direct-fire weapon will protect against their effects. Terrain masking is the most effective method available to counter particle beam weapons.

Section II. TRAINING

Commanders at all levels will have to condition their subordinates psychologically to face the threat of DEWs. These weapons appear at first look to have devastating effects on troops and equipment. A basic understanding of what they are and how they work, however, reveals that they are not nearly as destructive as first supposed.

For example, while the thought of laser-caused eye injuries may be psychologically repulsive to the soldier, the extent of injury and subsequent recovery time for a laser injury are significantly less than those for a gunshot wound. A thin sheet of paper or cloth will defeat a laser. Also, permanent blindness is not a certainty. Against equipment, laser, microwave, and EMP weapons damage their targets by attacking soft electronic components. Their thermal effects are not as violent or destructive as those of conventional kinetic or chemical energy munitions. Even though they render their targets just as combat-ineffective, the blast, fire, and fragmentation associated with conventional munitions is totally absent. Finally, any advantage of future particle beam weapons will lie in their flat trajectory, long range, and large magazine capacity. Otherwise, they are similar to conventional direct-fire weapons in employment and effects.

Defense against DEWs is enhanced through familiarity with their effects and constant training with the protective equipment available in the field. The goals commanders should strive for in planning the defense are avoiding detection and maintaining unit discipline down to the soldier level. The training they conduct should emphasize that DEWs that can injure people and damage equipment are line-of-sight systems. The key point for soldiers to learn is that standard practices and defensive techniques employed against conventional direct-fire weapons will provide effective protection against DEWs as well.

Appendix G

SMOKE OPERATIONS

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SECTION I. SMOKE TERMINOLOGY AND PLANNING CONSIDERATIONS**Categories of Smoke Operations**

There are two categories of smoke operations hasty and deliberate.

Hasty Smoke Operations

Hasty smoke operations are conducted with minimal planning. They can be used to support a combined arms force to counter an enemy action or anticipated enemy action of immediate concern the commander. Hasty smoke is usually executed by the projected, on-board, or smoke generator units available at the time of the engagement. Hasty smoke can be planned as on-call smoke in smoke plans, and it usually covers a small area for a short duration.

Deliberate Smoke Operations

Deliberate smoke operations are conducted with detailed planning, usually by brigades, divisions, or corps. They are normally synchronized with specific times, events, or locations on the battlefield. Deliberate smoke operations normally include multiple preplanned smoke operations and cover large areas for long periods of time.

Battlefield Applications of Smoke

Smoke has four battlefield applications that support combat operations: obscuring, screening, deceiving and marking.

Obscuring Smoke

Obscuring smoke is delivered directly onto and immediately in front of enemy positions to blind or degrade their vision both within and beyond their location. Projected means, such as artillery, mortars, rockets, and rifle grenades, generally deliver obscuring smoke.

Screening Smoke

Screening smoke is delivered in areas between friendly and enemy forces or in friendly operational areas to degrade enemy ground or aerial observation. Screening smoke delivery sources consists of generators, smoke pots, and air delivery systems. Screening smoke can be used to conceal ground maneuver, breaching operations, and key assembly areas and supply routes. There are three visibility categories for screening smoke: smoke haze, smoke blanket, and smoke curtain.

Smoke Haze

A smoke haze is a light concentration of screening smoke used to restrict accurate enemy observation and fire without disrupting friendly operations within the screen. A smoke haze is defined as a concentration of smoke that would allow an individual to identify a small tactical vehicle between 50 and 150 meters away, but no farther than 150 meters.

Smoke Blanket

A smoke blanket is a dense concentration of screening smoke that provides maximum concealment of friendly areas from enemy ground and aerial observation. A smoke blanket may hamper operations of friendly troops by restricting movement and activity within the screen. A smoke blanket is defined as a concentration of smoke that would allow the identification of a small tactical vehicle up to 50 meters away, but no farther.

Smoke Curtain

A smoke curtain is a dense vertical development of smoke placed between friendly and enemy positions to prevent or degrade enemy ground observation of friendly positions. Smoke curtains should be used when friendly forces have air superiority or air parity. A smoke curtain will not prevent enemy aerial observation, but may force enemy aircraft to fly higher to see behind the curtain, making them more vulnerable to air defense weapons.

Deception Smoke

Deception smoke is used to confuse or mislead the enemy. Generally, it is used in conjunction with other deception measures. Deception smoke, such as from vehicle-mounted smoke grenade launchers and vehicle engine exhaust smoke systems (VEESS), can be used to provide protection to friendly equipment and troops. The smoke screens vehicle movements, defeats enemy guidance systems, and provides concealed firing positions.

Marking Smoke

Marking smoke is used to mark targets, identify friendly positions, and provide for prearranged battlefield communications. Projected smoke and hand smoke grenades are usually used for marking smoke.

Smoke Delivery Systems

Effective smoke delivery is achieved by integrating the three means of producing smoke: projected, self-defense and generated smoke devices. Successful smoke operations are achieved by the integration and synchronization of all these sources with other battlefield systems.

Projected Smoke

Projected smoke is produced by artillery or mortar munitions, naval gunfire rockets, bombs, and generator smoke from fixed-wing aircraft. The advantage of using projected smoke is that you can place smoke directly on a deep, close, or rear target. Most projected smoke devices and munitions are lethal and cannot be used on or near friendly forces. Projected smoke can support both short- and long-duration missions, but most basic loads for munitions are insufficient for sustaining smoke on target. Therefore, advanced logistical planning may be required. The ideal battlefield applications for projected smoke are producing obscuring smoke, initiating screening smoke, and marking targets.

Self-Defense Smoke

Self-defense smoke is produced primarily by smoke grenade launchers and VEESS. These systems provide rapid smoke production, responsiveness and enhanced survivability to the small unit leader. The vehicle grenade launchers are primarily for individual vehicle use. Once fired, they must be reloaded from outside the vehicle. Vehicle grenade launchers may be of danger to dismounted troops. The VEESS may be used not only for self-defense of individual vehicles, but to provide screening smoke for small units. The system is designed with flexibility in mind to meet the needs of a fluent battlefield. It produces smoke to cover vehicle movement and degrades the enemy's ability to acquire and engage targets. The VEESS is most effective when used as a self-protective mechanism to cover the movement of a combat vehicle from one battle position to another. The VEESS used under any other condition would be a secondary method of employment. The risk factor increases substantially when used to screen unit formations. The consideration to use VEESS must be based on the tactical situation and METT-T. The vehicle may be silhouetted against the smoke if the VEESS or the smoke grenade launcher is used incorrectly. If properly used, VEESS is an effective combat multiplier. The VEESS consumes approximately 1 gallon of fuel per minute of operation. It can only be operated when the engine is running. Both vehicle smoke grenade launchers and VEESS can pinpoint vehicle locations and interrupt target acquisition during evasive maneuvers.

Generated Smoke

Generated smoke is produced by smoke pots, smoke grenades, and air or ground smoke generators. Generated smoke is delivered to the target area by steering winds. Generated smoke can be combined with projected smoke to provide depth of coverage throughout the battlefield. Generated smoke can cover small and large areas for an indefinite period of time based on the availability of logistical support, particularly fuel. Smoke pots and smoke grenades can be pre-positioned and ignited manually or electrically. Smoke generator units produce large volumes of smoke to support hasty or deliberate smoke operations.

Smoke Planning Considerations

To be effective, smoke must be used in sufficient quantities. Factors affecting the quantity are atmospheric conditions, type of smoke required, size of the area to be smoked, and length of time smoke is needed.

Electro-optical Systems Defeated by Smoke

Planning for the use of smoke must begin with an understanding of the electro-optical systems that the various types of smoke will defeat. Figure G-1 is a tactical decision aid for selecting the type of smoke to defeat a particular electro-optical system. By combining intelligence estimates of enemy electro-optical capabilities, knowledge of friendly electro-optical systems and available smoke delivery means, tactical planners can make sound decisions regarding use of smoke on the battlefield.

Weather Effects

In planning, local expected weather conditions and weather forecasts are used to plan tactical operations. Actual weather conditions at the time of execution may vary; plans need to allow for this.

Winds

Wind direction determines where the smoke must be released and where it will travel.

Wind speed also influences smoke behavior. Low wind speeds or calm winds will allow smoke to remain in the target area for a longer period of time. Some types of smoke behave differently in different wind conditions. For example, white phosphorus smoke tends to pillar if winds are less than 9 knots (17 kmph). HC smoke rises when the wind speed is less than 4 knots (7 kmph), and is torn apart by winds over 13 knots (24 kmph). Smoke from mechanical generators may be effective in higher wind speeds because of greater volume, but may not disperse adequately in low-wind speeds or calm conditions.

Winds may not always be favorable for smoke employment and smoke plans should contain contingencies for unfavorable wind conditions. Tactical planners should plan smoke according to desired effect and target

Spectral Region	Electro-Optical System	Type of Smoke
Visible 0.40–0.75 mm	Viewers: – Daylight Sights – Naked Eye – Camera Lens – Binoculars/Standard Optics – Battlefield TV – CLOS Missiles (for example AT-3) – Night Sights	All
Near IR 0.75–4.00 mm	Viewers: – SACLOS Missiles (for example, AT-4 and AT-5) – Night Sights	All
	Sensors: – Laser Designators – Laser Range finders	All
Mid-IR 4–14 mm	Viewers: – Passive Thermal Sights	WP, PWP, RP, Type III IR Obscurant, Dust
Far-IR 14–100 mm	Sensors: – Thermal Imagers – Terminal Homing Missiles (AT-6)	WP, PWP, RP, Type III IR Obscurant, Dust
MM Wave and Lower Frequency 1.10 mm	Radar Radio Microwaves	WP and PWP (Instantaneous Interruption Only), Developmental Obscurants
X Ray and Higher Frequency	Directed EMP Nuclear Weapons	Oil Smoke (Attenuation Only), Developmental Obscurants

Figure G-1. Electro-optical systems defeated by smoke.

area. Actual release point for smoke may have to be varied to achieve the desired effect. For example, giving an exact location from which a smoke unit is to produce smoke may not allow the unit to achieve desired coverage of a target. Tactical planners should identify the desired coverage and maintain flexibility within the plan to allow the unit to select a location from which they can produce the smoke, given the wind conditions at the time. In some tactical situations, it may be necessary to cancel a smoke mission due to unfavorable winds.

Temperature Gradients

Temperature alone does not affect smoke, except as it relates to temperature gradients. Temperature gradients are determined by comparing the air temperature at .5 meter above the ground with the air temperature at

4 meters. Three types of temperature gradients influence smoke unstable (lapse), neutral, and stable (inversion). Figure G-2 depicts temperature gradients and smoke behavior.



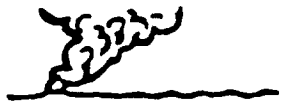
Time of Day and Weather Conditions	Temperature Gradient	Smoke Behavior (Wind Direction—)
Night— until 1 hr after sunrise. Wind speed is less than 9 kmph (5 knots). Cloud cover less than 30%.	Stable (Inversion) (Ideal)	
Day—most often between 1 to 2 hr before and after sunrise. Wind speed is 9 kmph (5 knots) or more. Cloud cover is 30% or more.	Neutral (Favorable)	
Day— beginning 2 hr after sunrise. Wind speed is less than 9 kmph (5 knots). Cloud cover is less than 30%.	Unstable (Lapse) (Marginal)	

Figure G-2. Temperature gradient effects on smoke.

Unstable conditions exist when air temperature decreases with an increase in altitude, causing vertical air currents and turbulence. Smoke tends to rise, breaking up and becoming diffused. Unstable conditions are best for producing smoke curtains.

Neutral conditions exist when there is little or no change with an increase in altitude, or when wind speeds are less than 9 kilometers per hour. Vertical movement of air is limited during neutral conditions. Neutral conditions are favorable for producing smoke blankets and smoke hazes.

Stable conditions exist when there is an increase in air temperature as altitude increases, greatly limiting vertical air movement and allowing smoke clouds to remain low to the ground. This is the most favorable temperature gradient for smoke, providing that there is enough wind to carry the smoke over the target area.

Humidity

Smoke particles absorb moisture for the air, increasing the particle size and making the smoke more effective. Most smoke munitions produce denser smoke in higher humidity.

Precipitation

Smoke will give concealment during light rains. Heavy rains and snow will reduce visibility, so smoke is rarely needed for concealment during those conditions.

Cloud cover

Cloud cover can be used as a predictor of smoke behavior. Generally, when the sky is covered with clouds, conditions are stable and favorable for smoke.

Terrain Effects

Since smoke is carried by the wind, it usually follows the contours of the earth. The type of terrain over which the smoke is employed has a great impact on how the smoke behaves.

Flat, unbroken terrain, and water cause the smoke to take longer to blend into a uniform smoke haze or blanket, requiring a greater distance between the smoke release point and the target area.

Obstructions, such as trees and small buildings, tends to make smoke into a uniform screen much closer to the target area.

Large hill masses and mountains tend to split winds and cause strong cross currents which excessively disperse smoke, creating holes in smoke coverage and unevenness in the smoke screen. Thermally induced slope winds make it difficult to establish and maintain a smoke screen.

Slopes and valleys also create thermally-induced slope winds. Winds tend to blow upslope during the day and downslope at night.

SECTION II. TACTICS

Offense

Smoke and obscurants multiply the commander's ability to project combat power at the critical time and place to defeat the enemy. Smoke and obscurants will support any type of offensive operation at any level because smoke generally favors the attacker. Smoke is used to conceal units and individual weapon systems. This enables the commander to maneuver behind a screen and deceive the enemy about his strength and weakness. Smoke can be used to support maneuver, provide additional firepower and protect the force. When used to support maneuver during a hostile assault or during in-stride breaching operations, the tank commander, upon receiving fire halts his tank and issues fire commands to fire the grenade launchers and activate VEESS. The TC immediately backs up under the cover of his smoke screen. The GPS is oriented on the tank's primary sector of fire using daylight optics. The TC directs his crew to move forward slowly until the optics clear the smoke screen. When the crew acquires a target, the TC issues a fire command using the standard precision gunnery techniques for GPS engagement. Do not leave the tank exposed for more than 8 to 10 seconds if a target is not acquired back into the smoke, then quickly move to an alternate firing position. Repeat this process as necessary to defeat the defender or to move from one hull-down position to another along the axis of advance. The VEESS may be used to supplement the immediate smoke provided by the grenade launcher if the wind conditions favor the attacker. Smoke use requires careful planning and execution to prevent interference with offensive operations. Techniques to minimize interference in the offense include the following:

- Ž Use covered and concealed movement techniques. Assume the enemy can see through the smoke and avoid taking unnecessary risks.
- Time smoke delivery with decision points.
- Use unobscured weapons to overwatch.
- Do not let your own smoke silhouette your own forces.
- Plan to engage through or around smoke.
- Ž Plan for enemy countermeasure. This includes intensifying your counterreconnaissance and air defense efforts, minimizing reliance on visual signals, and increasing planning for counterbattery fires.
- Plan for additional maneuver time under smoke.
- Verify enemy locations. Use increased reconnaissance to counter enemy use of smoke for concealment.
- Know what enemy forces are most susceptible to VEESS use.

- Specify when to turn smoke on and when to shut it off.
- Ž Plan in conjunction with lifting and shifting fires.

Defense

Smoke and obscurant use in the defense multiplies the commander's ability to disrupt enemy attacks, seize the initiative, and project combat power at the critical time and place to defeat the enemy. VEES smoke can be used in the defense of a battle position to screen the vehicle from enemy ATGM gunners. Upon sighting an enemy missile, the commander immediately places smoke between his vehicle and the enemy gunner by firing smoke grenades and issuing the command to the driver to activate smoke. The driver activates VEES and drives using the cover of smoke to an alternate cover and concealed position. Once in the concealed position, the TC issues main gun fire commands to destroy the attacker. Used correctly, smoke will overcome any initial advantage of the attacker. Techniques to minimize interference in the defense include the following:

- Verify enemy locations.
- Ž Plan and use all sensor and viewer capabilities.
- Plan for enemy countermeasures to your smoke.

G L O S S A R Y

A2C2	Army airspace command and control
AA	assembly area
AAA	antiaircraft artillery
AAFAD	all arms for air defense
AAFCE	Allied Air Forces Central Europe
AAG	army artillery group
AAR	after-action review
ABC	air battle captain
AC	analysis console
ACA	airspace coordination area
ACC	air component commander
ACE	armored combat earthmover
ACP	Allied Communication Publication
ACR	armored cavalry regiment
ACT	air cavalry troop
AD	armored division
ADA	air defense artillery
ADCOORD	air defense coordinator
ADW	air defense warning
AF	Air Force
AFAC	airborne forward air controller
AFCENT	Allied Forces Central Europe
AFSO	aerial fire support officer
AFV	armored fighting vehicle
AG	adjutant general
AGOSOP	Air-Ground Operations Standard Operating Procedure
AHB	attack helicopter battalion
AI	air interdiction
A/L	administrative/logistics
ALO	air liaison officer
AM	amplitude modification

anal	analysis (in illustration)
AO	area of operation
AOE	authorized organizational equipment
AP	antipersonnel (mine)
APC	armored personnel carrier
APERS	antipersonnel (ammunition)
APFSDS	armor-piercing fin-stabilized discarding sabot
APFSDS-T	armor-piercing fin-stabilized discarding sabot-tracer
API	armor-piercing incendiary
apprec	appreciation
ARFOR	area force
armd	armored
ARNG	Army National Guard
ARTEP	Army Training and Evaluation Program
ASL	authorized stockage list
aslt	assault (in illustration)
ASOC	air support operations center
ASP	ammunition supply point
AT	antitank
atchd	attached
ATGM	antitank guided missile
ATHS	automatic target handoff system
atk	attack
ATP	ammunition transfer point
attn	attention
AVLB	armored vehicle launched bridge
avn	aviation
AVUM	aviation unit maintenance
AWOL	absent without leave
AXP	ambulance exchange point

BAI	battlefield air interdiction
BAS	battalion aid station
B-bag	battle bag
BCC	battery control central
BDA	battle damage assessment
BDAR	battle damage assessment and repair
bde	brigade
BFV	Bradley Fighting Vehicle
BHL	battle handover line
BII	basic issue items
BMNT	beginning morning nautical twilight
BMO	battalion maintenance officer
BMT	battalion maintenance team
bn	battalion
BP	battle position
brg	bridge (in illustration)
BSA	brigade support area
btry	battery
C2	command and control
C2 node	command and control junction
C3	command, control, and communication
CA	counterair
CAA	combined arms Army
CAB	combat aviation brigade
cal	caliber
CAS	close air support
CBR	chemical, biological, radiological
cbt	combat
CBU	cluster bomb unit
cdr	commander
CE	chemical energy; communications-electronics
CEB	clothing exchange and bath

CESO	communications electronics signal officer
CEV	combat engineer vehicle
CFA	covering force area
CFL	coordinated fire line
CFV	cavalry fighting vehicle
CH	cargo helicopter
chem	chemical
CINC	Commander in Chief
cl	class (in illustration)
CLAMMS	cleared lane mechanical marking system
CLOS	closed line-of-sight
cm	centimeter(s)
cmd	command
cml	chemical
CMT	company maintenance team
co	company
COA	change of assignment; course of action
COLT	combat observation king team
COMMZ	communications zone
COMSEC	communications security
con	conduct
const	construction (in illustration)
CONUS	continental United States
COP	command and observation post
COSCOM	corps support command
co tm	company team
CP	checkpoint; command post
CPX	command post exercise
CRP	combat reconnaissance patrol
CRT	cathode ray tube
CS	combat support
CSM	command sergeant major
CSR	controlled supply rate
CSS	combat service support

CTA	common table of allowances
cu	cubic
DA	Department of the Army
DAG	divisional artillery group
DAO	division ammunition officer
db	decibel(s)
DD	Department of Defense
D-day	deployment day
decon	decontamination
DEW	directed energy weapon
DISCOM	division support command
div	division
DIVARTY	division artillery
DLIC	detachment left in contact
DMD	digital message device
DMMC	division materiel management center
DNVT	digital nonsecure voice terminal
DODAC	Department of Defense Ammunition Code
DP	decision point
DPICM	dual-purpose improved conventional munition
DS	direct support
DSA	division support area
dsmt	dismounted
DST	decision support template
DSVT	digital subscriber voice terminal
DTG	date-time group
DTOC	division tactical operations center
DX	direct exchange
DZ	drop zone
EA	engagement area

EAC	echelons above corps
EC	electronic combat
ECM	electronic countermeasures
EEFI	essential elements of friendly information
EEI	essential elements of information
EM	enlisted member(s)
EMP	electromagnetic pulse
engr	engineer
EPW	enemy prisoner(s) of war
eqt	equivalent
equip	equipment (in illustration)
est	establish
ETAC	enlisted terminal attack controller
EW	electronic warfare
EXTAL	extra time allowance

1SG	first sergeant
FA	field artillery
FAAO	field artillery air observer
FAAR	forward area alerting radar
FAC	forward air controller
FARP	forward arming refuel point
FASCAM	family of scatterable mines
FAST	freight automated system for traffic management
FAX	facsimile
FDC	fire direction center
FEBA	forward edge of battle area
FED	forward entry device
FFAR	folding fin aircraft rocket
FIST	fire support team
FIST-V	fire support team vehicle
FKSM	Fort Knox Supplemental Material

FUR	forward looking infrared
FLOT	forward line of own troops
FM	field manual; frequency modulation
fmn	formation
FO	forward observer
FOOGAS	(petroleum-based expedient inflammable material)
FPF	final protective fire
FPL	final protective lines
FRAG-HE	fragmentary high-explosive (ammunition)
FRAGO	fragmentary order
FRG	Federal Republic of Germany
FS	fire support
FSB	forward support battalion
FSCL	fire support coordination line
FSCoord	fire support coordinator
FSE	fire support element
FSO	fire support officer
ft	feet
fwd	forward
G1	assistant chief of staff (personnel)
G2	assistant chief of staff (intelligence)
G3	assistant chief of staff (operations and plans)
G3-Air	air operations and planning officer
G4	assistant chief of staff (logistics)
gal	gallon
GBU	guided bomb unit
GEMSS	ground-emplaced mine scattering system
GLD	ground laser designator
GMRD	guard motorized rifle division
grp	group

GS	general support
GSR	ground surveillance radar
GTD	guard tank division
G/VLLD	ground/vehicle laser locator designator
HD	high drag
HE	high-explosive
HE-APERS	high-explosive antipersonnel (ammunition)
HEAT	high-explosive antitank
HEAT-T	high-explosive antitank-tracer
HEI	high-explosive incendiary
hel	helicopter
HEMTT	heavy expanded mobile tactical truck
HEP-T	high-explosive plastic tracer
HET	heavy equipment transport
HF	high frequency
HHC	headquarters and headquarters company
HHT	headquarters and headquarters troop
HIMAD	high-to-medium-altitude air defense
HMMWV	high mobility multipurpose wheeled vehicle
hq	headquarters
hr	hour(s)
HTO	high technology observer
HUMINT	human intelligence
hv	heavy (in illustration)
I2	image intensification
IDS	infrared discrimination system
IEW	intelligence and electronic warfare
IEWSE	intelligence and electronic warfare support element
IFF	identification, friend or foe

IFFN	identification, friend, foe, or neutral
IFV	infantry fighting vehicle
illum	illumination (in illustration)
immed	immediately
inf	infantry
INT	intelligence
INTSUM	intelligence summary
IP	initial point
IPB	intelligence preparation of the battlefield
IR	infrared
ITB	independent tank battalion
ITV	improved TOW vehicle
JAAT	joint air attack team
JSOTF	joint (special operations) task force
JTF	joint task force
KE	kinetic energy
KIA	killed in action
km	kilometer(s)
kmih	kilometers in the hour
kmph	kilometer(s) per hour (as a unit of measure that indicates motion)
kph	kilometer(s) per hour (as a unit of measure only)
LANTIRN	low-altitude navigation and targeting infrared for night
lb	pound
LBE	load-bearing equipment
LC	line of contact

LCC	land component commander
LD	line of departure; low drag
LD/LC	line of departure is line of contact
ldr	leader
LGB	laser guided bomb
LO	liaison officer
LOA	light observation aircraft; limit of advance
LOC	line(s) of communication
LOG	logistics
LOGPAC	logistics package
LOGSTAT	logistics status
LP	listening post
LP/OP	listening post/observation post
LRP	logistic release point
LSA	logistic support area
LST	laser spot trackers
LTD	laser target designator
LZ	landing zone
m	meters
maint	maintenance (in illustration)
MBA	main battle area
MBT	main battle tank
m/cm	mobility/countermobility (in illustration)
MCO	movement control officer
MCP	maintenance collection point
MCS	mobility, countermobility, and survivability
MCT	movement control team
mech	mechanized
med	medical
medic(s)	medical specialist; medical personnel

MEMO	mission-essential maintenance only
METT-T	mission, enemy, terrain (and weather), troops, and time available
MHE	material-handling equipment
MI	military intelligence
MICLIC	mine clearing line charge
mih	miles in the hour
min	minutes
MLC	main line of communication
MLRS	multiple launched rocket system
mm	millimeter(s)
MMS	multimission ship
MOPP	mission-oriented protection posture
mort	mortar
MOS	military occupational specialty
MOUT	military operations on urbanized terrain
MP	military police
mph	miles per hour
MPP	mobile pre-positioning
MIW	mobile pay team
MR	motorized rifle
MRB	motorized rifle battalion
MRC	motorized rifle company
MRD	motorized rifle division
MRE	meals, ready to eat
MRL	multiple rocket launcher
MRP	motorized rifle platoon
MRR	motorized rifle regiment
MRS	motorized rifle squad
MSB	main support battalion
MSE	mobile subscriber equipment
msg	message
MSR	main supply route
MST	maintenance support team

MTF	medical treatment facility
MTLR	moving target locating radar
MTOE	modification table of organization and equipment
MTP	mission training plan
mtr	mortar (in illustration)
MULE	modular universal laser equipment
NAI	named areas of interest
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, chemical
NBCWRS	NBC warning and reporting system
NCO	noncommissioned officer
NCOIC	noncommissioned officer in charge
NCS	net control station
NGLO	naval gunfire liaison officer
NLT	not later than
NOD	night observation device
NVD	night-vision device
NZO	(standing barrier fire; Soviet terminology)
o	officer(s)
obj	objective
OCOKA	observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach (considerations in evaluating terrain as part of METT-T)
OI	operations and intelligence
OIC	officer in charge
OIR	other intelligence requirements
OMG	operational maneuver group
OP	observation post

OPCON	operational control
OPLAN	operation plan
Opns	operations (in illustration)
OPORD	operation order
OPS	operations
OPSEC	operations security
ORP	objective rally point
P&A	personnel and administration
PA	physicians assistant
PAC	Personnel and Administrative Center
PADS	position and azimuth determining system
PCI	precombat inspection
PDS	personnel daily summary
PEMA	procurement of equipment and munition appropriations
PERINTREP	periodic intelligence report
pers	personnel
PEWS	platoon early warning system
Ph	probability of hit
Pi	probability of incapacitation
PIR	priority intelligence requirements
Pk	probability of kill
PL	phase line
PLL	prescribed load list
plt	platoon
POL	petroleum oils, and lubricants
pos	position (in illustration)
PMCS	preventive maintenance checks and services
POMCUS	propositioning of materiel configured to unit sets
PP	passage point
PRF	pulse repetition frequency

PRI TGT	priority target
PSG	platoon sergeant
PSNCO	personnel services noncommissioned officer
PSO	personnel services officer
PSS	personnel service support
PST	pass time
PSYOP	psychological operations
pty	party
PW	prisoner of war
PWP	plasticized white phosphorus
PWRS	pre-positioned war reserve stock
PX	post exchange
PZ	pickup zone
PZO	(rolling barrier fire)
QSS	quick supply store
qtr	quarter
R&S	reconnaissance and surveillance
RAG	regimental artillery group
RAOC	rear area operations center
RAP	rocket-assisted projectile
RATELO	radiotelephone operator
RATT	radio teletypewriter
recon	reconnaissance
REG	repair and evacuation group
regt	regiment
REMS	remotely employed sensor
RETRANS	relay station; retransmit
RFL	restrictive fire line
rg	
RP	release point

RPG	rocket-propelled grenade
RSR	required supply rate
RT	right; route
rte	route
RTO	radiotelephone operator
rwd	rearward
RX	repairable exchange
2IC	second in command
S&S	supply and service
S1	adjutant
S2	intelligence officer
S3	operations and training officer
S3-Air	assistant battalion S3 (air operations)
S4	supply officer
SACLOS	semiautomatic command line-of-sight
SAFAD	small arms for air defense
SALT	supporting arms liaison team
SALT Air	supporting arms liaison team S3 (air operations)
SAM	surface-to-air missile
SAW	squad automatic weapon
scf	scout
SEAD	suppression of enemy air defense
sec	section
SEE	small emplacement excavators
SGM	sergeant major
SHORAD	short-range air defense
SICPS	standard integrated command post system
SIT	situation
SITREP	situation report
SME	subject matter expert
SO	signal officer

SOCCE	special operations command and control element
SOF	special operation forces
SOI	signal operation instructions
SOP	standing operating procedure
SOSR	suppress, obscure, secure, reduce
SP	start point; self-propelled (in illustration)
SPG	self-propelled grenade
spt	support
sqd	squad
sqdn	squadron
sq km	square kilometer(s)
SR	special reconnaissance
ST	special text
STANAG	Standardization Agreement
Stgr	Stinger
svc	service (in illustration)
svcs	services (in illustration)
TAACOM	Theater Army Air Defense Command
TAC-A	tactical air coordinator-airborne
TACAIR	tactical air
TAC CP	tactical command post
TACCS	Tactical Army Combat Service Support (CSS) Computer System
TACFIRE	tactical fire direction system
TACP	tactical air control party
TAI	target areas of interest
TAMMS	The Army Maintenance Management System
TAR	tactical air reconnaissance
TC	tank commander
TCF	tactical combat force

TCP	tactical computer processor
TCT	tactical computer terminal
TD	tank division
TDIS	time-distance
TEWT	tactical exercise without troops
TF	task force
tgt	target
TIRS	terrain index reference system
tk	tank
tm	team(s)
tns	trains
TOC	tactical operations center
TOE	table(s) of organization and equipment
TOT	time on target
TOW	tube-launched, optically tracked, wire-guided (missile)
TPU	tank and pump unit
TR	tank regiment
trig	trigger (in illustration)
TRP	target reference point
TSC	training support center
TSOP	tactical SOP
TV	television
UAV	unmanned aerial vehicle
UH	utility helicopter
UHF	ultra high frequency
UMCP	unit maintenance collection point
UMT	unit maintenance team: unit ministry team
US	United States (of America)
USAF	United States Air Force
USAREUR	United States Army Europe

VEESS	vehicle engine exhaust smoke system
VMED	variable format message entry device
VHF	very high frequency
VINSON	(type of encryption device)
vis	visual
vpkm	vehicle per kilometer
VTR	vehicle/tank retriever
WCS	weapons control status
WESS	weapons effect signature simulator
WIA	wounded in action
WO	warning order; warrant officer
WP	white phosphorus
wpns	weapons (in illustration)
WP-T	white phosphorous tracer
WSM	weapon system manager
WSRO	weapon systems replacement operations
XO	executive officer

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Commander, USAARMC
ATTN: ATZK-PTN-A
Fort Knox, KY 40121-5000

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Commander, USACGSC
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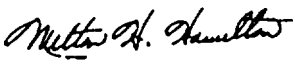
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