

VOL 6 NO 4

April 2000



## The Army Lessons Learned Centre

# DISPATCHES

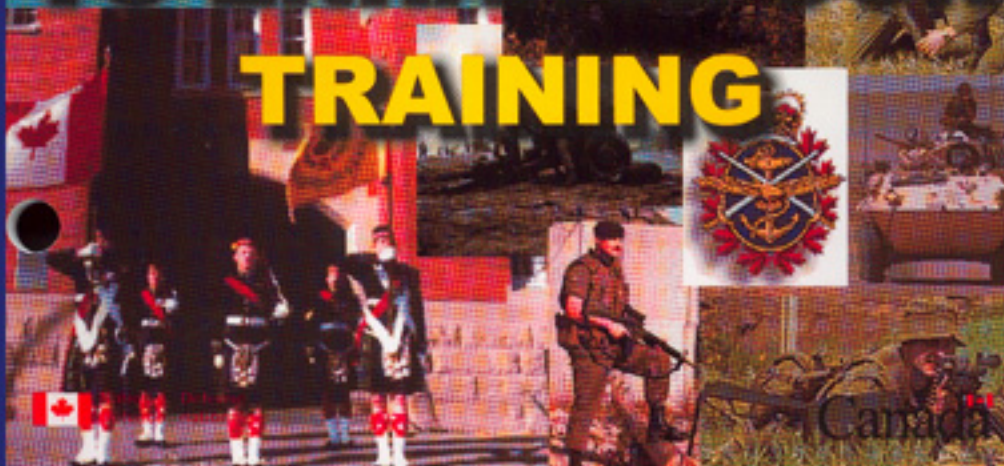
Lessons Learned for Soldiers



## USING TACOPSCF

CF Edition

# TO ENHANCE OUR TRAINING



**Simulation.** *A device that imitates conditions of [situation, equipment, etc.] with a model, for convenience of training; made to resemble the real thing but not genuinely such."*

—Land Force Training Simulation Policy

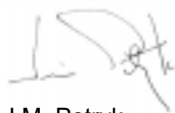
## USING TACOPSCF TO ENHANCE OUR TRAINING

### FOREWORD

With the fielding of JANUS and the Command and Staff Trainer (CST) in 1995, the Army took a giant step towards making better use of simulation to train more effectively. The success of the Joint Command and Staff Training Centre located in CFB Kingston has led the Army to establish JANUS Simulation Centres in each of our major base locations. Use of these simulations is paying significant dividends. Commanders, staffs and soldiers at all levels are demonstrating an increased effectiveness in employing operational planning procedures, coordinating fire and manoeuvre and applying tactics, techniques and procedures. JANUS and CST have permitted the Army to conduct training at the brigade and division levels in simulation, when time and resource constraints, as well as operational commitments, have prevented it from doing so in the field.

In 1999, the Army purchased and distributed a Canadian version of the computer program titled "TacOpsCF," a tactical-level combat simulation that can be run on a personal computer. The intent of this purchase was to provide soldiers at all levels with an easy to use support tool that could be used to teach and practice, in simulation and at the individual level, the application of tactics, techniques and procedures. TacOps is not and cannot provide an alternative to JANUS and CST as it lacks the level of fidelity, particularly in terrain, offered by these simulations. TacOpsCF is, however, a tool that, when used with imagination, will allow soldiers who do not have access to JANUS and CST to conduct challenging, exciting and cost effective decision making and procedural training at the unit and sub-unit level as well as in the classroom.

The tempo of operational commitments, fiscal and resource constraints and the expectations of our increasingly technologically literate soldiers demand that we continue to increase and improve our use of simulation. The intent of this volume of Dispatches will be to provide lessons learned and advice on how to make optimum use of TacOpsCF to achieve this. In developing this volume, we have borrowed experiences from the Army, the CF and our US allies. It contains valuable information, and I encourage you to use this knowledge in your efforts to constantly improve the effectiveness of our training.



J.M. Petryk  
Lieutenant-Colonel  
Director Army Lessons Learned Centre

# USING TACOPSCF TO ENHANCE OUR TRAINING

## Table of Contents

<b>PART 1</b>	INTRODUCTION	<b>3</b>
<b>PART 2</b>	USING TACOPSCF TO SPICE UP YOUR UNIT TRAINING	<b>5</b>
<b>PART 3</b>	TACOPSCF IN THE CLASSROOM	<b>18</b>
<b>PART 4</b>	LESSONS LEARNED IN THE USE OF TACOPSCF	<b>26</b>
<b>PART 5</b>	FUTURE ACTIVITIES IN SUPPORT OF TACOPSCF	<b>30</b>
<b>PART 6</b>	INTERNET SUPPORT AND INFORMATION FOR TACOPSCF	<b>31</b>
<b>PART 7</b>	CONCLUSION	<b>31</b>
<b>ANNEX A</b>	RECOMMENDED RULES	<b>32</b>

*2PPCLI also conducted a one-day wargame, featuring FIBUA defence. This game was based on a CLFCSC-developed model and accurately portrayed many of the problems later encountered in training. This game generated much discussion that was not prompted by lectures and also confirmed lessons brought out in the village tactical exercise without troops (TEWT).*

—Captain John McComber,  
The BONNLAND Experience:  
2PPCLI FIBUA Training in Germany,  
Infantry Journal No 17

## **PART ONE—INTRODUCTION**

### **Imagine that ...**

You're a leader who is trying to get your troops ready to go to the field for collective training. You have a lot of new officers and/or NCOs working for you, but this will be your first real chance to work together. Time to actually practice your skills on the ground with your soldiers and their equipment will be, as usual, at a premium. You need to hit the ground running! You want to give yourself and your leaders a chance to brush up on decision-making skills and to review the Unit Standing Operating Procedures. You would also like to let your officers and NCOs get a feel of how you intend to fight. Finally, you would like to see what level they are at. You spot a couple of half day long openings on the training calendar over the next couple of months in garrison.



You've just been told that you are going to be an instructor on a leadership course that emphasizes tactics, techniques and procedures (TTP). You think back to when you went through this training, and you try to remember the good and the bad points. It seemed like the instructor did a lot of talking, drew some diagrams on the blackboard and spent a few minutes on the cloth model, but after awhile, it was hard to stay awake. Moving rubber tanks in box formation, while the instructor arbitrarily killed them, just didn't seem that challenging. You want to make the training that you provide to your students more interesting and exciting. You really want to challenge them!

How can TacOpsCF assist you in meeting your goals?

### **AIM**

The aim of this volume of Dispatches is to provide lessons learned and advice on the use of TacOpsCF with a view to increasing the effectiveness of our individual training.

## **DISPATCHES 3**



*A young lieutenant whose mistakes in PC games have cost him hundreds of hit points and lost lives will have a more seasoned understanding of the synchronus issues of the battlefield, the interdependence of supporting arms and effective fire ... and God forbid, if he finds himself in real combat, he's ready to apply things he's already learned.. His cognitive processes will have an extra edge, and on the battlefield of the future, that 's going to be the difference.*

—Colonel Handover, United States  
Marine Corps, as quoted in *Looking for a  
Few Good Games*, PC Gamer, April  
1996, p. 86.

## TACOPSCF—WHAT IS IT AND WHAT CAN IT DO FOR US?

In March 1999 the Army purchased a site license for the simulation titled "TacOpsCF," a tactical-level combat simulation that is designed to run on a personal computer. The user has the ability to fight against a computer or human opponent via Local Area Network (LAN), Email or via direct, modem to modem linkage between two computers. Battles can be simulated involving formations up to brigade and, to a certain, degree division level, depending on the capability of the computers being used and the time available. Experience to date indicates that combat team to battle group level is the optimal size for training purposes. TacOpsCF includes scenarios based on 20 CMBG Orders of Battle (ORBATS) and current Canadian equipment. It also includes maps of portions of Canadian training areas such as CFB Gagetown. Version 2.20 of TacOpsCF was distributed to the Army as part of the ALLC LLIW CD Version 10 in September 1999. Version 3.0 of TacOpsCF has been received by the Director of Army Training staff, and distribution will have begun by the time this volume of Dispatches has been published.



TacOpsCF is meant to be an inexpensive training tool that requires little time to set up and minimum support. It can be used to support individual training conducted by units and sub-units that do not have ready access to a JANUS facility or individual training that would not be cost effective if conducted using JANUS. TacOpsCF is also meant to be a training aid to support instructors in the conduct of training involving TTP. It has already been in formal use within the CF at the Canadian Forces School of Military Intelligence and has been used by Canadian military instructors to support the Jamaica Junior Command and Staff Course. TacOps has been acquired and used to varying degrees by the US Marine Corps as well as the US, Australian and New Zealand armies.

**An Important Point To Note!** The Canadian Department of National Defence Duplication and Distribution License 1999 for TacOpsCF makes it freely available to any Regular Force or Reserve member of the Canadian Forces. Click on the “View DND/CF License” button on the TacOpsCF opening window for further details.

*The immense computing power of modern simulators allows continuous recording of events and performance assessment of all trainees. Therefore, the product of any simulated exercise is a true sum of the interactions of all participants. Furthermore, each soldier receives benefit from all training since individual performance can be assessed and errors in procedure or judgement can be corrected. Only through simulation can one objectively evaluate training standards and provide the feedback that is essential to improved operational readiness.*

—Land Force Training Simulation Policy

## **PART TWO—USING TACOPSCF TO SPICE UP YOUR UNIT TRAINING**

In Part Four, we will look at one possible use of TacOpsCF to support professional development training in a company/squadron setting as portrayed in the opening paragraphs of this Dispatches. The intent will be to walk through the steps involved in setting up and conducting a training event using TacOpsCF, including an After Action Review (AAR). In the interest of brevity, we will, where possible, refer to the User Manual that is included with each copy of TacOpsCF.

### **SECTION 1—GETTING STARTED**

**Know the Capabilities of TacOpsCF!** As identified earlier, one of the major obstacles to the use of TacOpsCF in training is the lack of familiarity by leaders in its capabilities. This is often compounded by the contrasting expertise that is rapidly developed by junior soldiers in the use of TacOpsCF and programs like it. This situation can produce a degree of reluctance in some leaders to use these tools. In order to overcome this situation and avoid possible resistance, leaders must learn to use the program. This can be easily achieved by reading the manual and playing several of the scenarios against the computer.

**Who Are My Training Audiences?** The first step should be to identify clearly whom we intend to train and the training that they require. Will the Primary Training Audience (PTA) be the platoon commanders / troop leaders and their 2ICs, or do we want to include others? Who else could benefit from this training and how? By including subordinates in the event as controllers or other roles, they can also benefit from the experience as they will need to study and prepare themselves in order to fulfill their responsibilities. They can become the secondary training audience.

**What Are the Main Teaching Points?** On what points will we focus our training? Two excellent sources of information will be the Unit Training Plan and the Training Standards of any courses that our personnel will need to attend in the near future. The Unit Training Plan, in particular, should identify the battle task standards (BTS) that will be the focus of the unit's training over the course of the training year. The Tactics School in CTC Gagetown indicates that, in order to prepare officers for the Intermediate Tactics Course, unit professional development training should focus on the hasty attack, defence and delay operations.

**How Much Time and Resources Are Available?** By becoming familiar with its capabilities, we will have a better appreciation of the time it will take to conduct training using TacOpsCF. By limiting the number of teaching points and refining our scenarios, we will be able to conduct a training event at the company/squadron/ combat team level in an afternoon. A key point to remember in developing our training schedule is **to allocate time for an AAR!**

- **Computers.** The critical resource will be computers. It is possible to conduct TacOpsCF-assisted training using only one computer. In such a case, the participants (friendly force commander and forward observation officer [FOO] / mortar fire controller [MFC]) and the OPFOR controller (who may also be represented by the mentor) take turns inputting their orders. They then watch the computer monitor together while the computer fights the battle based on their orders. If training is going to be conducted using only one computer, the following points should be kept in mind:



- It will take more time to input orders for both sides, therefore the number of vehicles, platoons, etc. should be limited.
  - In order to maintain momentum, more emphasis should be placed on allowing the simulation to run for several one-minute turns consecutively.
  - Time limits should be imposed on input of orders.
- Training with TacOpsCF can also be conducted on two computers linked via Local Area Network (LAN)<sup>1</sup> or via modem. In these configurations, both the friendly force and OPFOR controllers can input orders simultaneously. This decreases the time required to input orders and to fight the battle.

---

<sup>1</sup> See Section 15 of the User Guide.

*The Russians were also great fans of US wargames. They were particularly interested in World War II games, and senior staff at the Russian UN delegation were quite eager to get their hands on SPI's "War in the East" game. I eventually did find out whom they had play the German side. In 1989 I was invited to dinner by a Russian navy captain who had worked on wargames in the Russian staff academy. ... Oh yes, he noted that the junior officers had to play the bad guys, and the junior officers were expected to show proper respect for their superiors (who played the Russians). Some things never change.*

—James F. Dunnigan, *The Complete Wargames Handbook*

- **Personnel.** In order to get the most from a TacOpsCF training session in which we want to focus the PTA on decision making and the issuing of clear and concise orders, the following personnel will be required for support:
  - **An Exercise Director.** The leader who has overall responsibility for the planning, organization and conduct of the training event. The Exercise Director will normally be responsible to establish the main teaching points, scenario selection or design and the designation of special rules, restraints or constraints to be used during the training. The Exercise Director will keep the training and the OPFOR focussed towards achieving the main teaching points and will lead the AAR.
  - **A Mentor.** A mentor is an experienced soldier who is responsible to provide advice and guidance to the primary and secondary training audiences. He must keep track of the turns in which critical events occur and the orders that were issued by the participants for those turns. Depending on the type of training event, the mentor may also be responsible to lead the AAR. The Exercise Director may also fill the role of mentor.
  - **A Friendly Force Controller.** The person responsible to input orders and to fight the friendly force units. By having a controller rather than the friendly force commander input the orders, the commander is required to think about how he will issue orders in the most clear and concise manner. It also discourages the commander from micromanaging his forces.
  - **An OPFOR Controller.** Depending upon the configuration that is being used, an OPFOR controller may or may not be required. In a single computer configuration, it may prove more convenient for the mentor to act as the OPFOR and input the orders as required. It is recommended that, when possible, an OPFOR controller be employed in order to permit the mentor to focus on the duties of observing critical events and providing feedback and guidance.





- **A Fire Support Coordinator.** Depending on the size of the organization involved and the teaching points, there may be a requirement to designate a separate individual to act as the FOO, MFC or Battery Commander (BC). This person would not only handle the normal indirect fire support coordination but would be responsible to apply any special rules or measures that the Exercise Director may wish to impose. When possible, experienced FOOs and MFCs should be employed to fill this role.

*During the field training exercise, the intelligence picture is usually more reliable and complete than it would be in war. For good training, some intelligence about enemy strengths and dispositions should be withheld so that there will be surprises that those under training will have to deal with.*

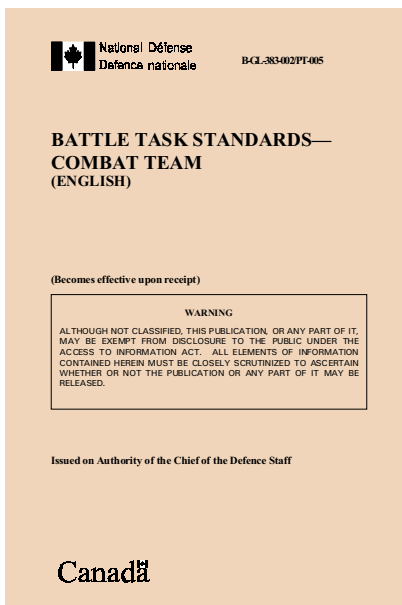
—Major-General M.P. Bogert (Retd)  
CBE, DSO, CD, *The Conduct of Battle*

**Designing a Scenario.** Having determined who needs to be trained and on what subjects, it's time to select or develop a scenario. The following are points to keep in mind:

- First of all, we must remember that TacOpsCF already contains a large number of scenarios that can be altered to meet our needs.<sup>1</sup> A description of each scenario can be found by the following means:
  - From the Windows “Start” menu go to “Program” files, then to “TacOpsCF,” then to “Guide–Scenario.” These files, which can be read with Adobe Acrobat Reader, give a complete description of the scenario, the forces involved and display the map that is used. Adobe Acrobat Reader has been bundled with the TacOpsCF program included on the Applications CD (CD2) of Version 10 of the ALLC Lessons Learned Information Warehouse CD.

From the TacOpsCF opening window, click on the button titled “Review Scenarios.” This description does not include a picture of the map that will be used.

- **Doctrine and Battle Task Standards.** After our teaching points, the next most important points to remember when designing a scenario are doctrine



<sup>1</sup> See Section 18 of the User Guide for instructions on how to amend and create custom scenarios.

and battle task standards (BTS). We are training personnel to perform a task, therefore the standard, conditions and task elements must be in accordance with (IAW) the appropriate BTS and doctrine. The Conditions statement of each battle task includes most of the critical information required to start building a scenario. The friendly force and OPFOR orders of battle (ORBATS) must be IAW the most current ORBATS for 20 CMBG and the GENFORCE. Avoid the temptation to add equipment that normally isn't available or over which we don't normally have control. The OPFOR must, to the best of our ability to do so, be deployed and employed IAW GENFORCE doctrine.

- **Develop the Bigger Picture First.** Don't design the scenario in isolation. Develop the situation two levels up and then fit the scenario within the larger picture. This will provide a realistic framework within which tasks are assigned, resources allocated and restrictions and constraints imposed.

- **How Much is Too Much?** The resources assigned the friendly force and the OPFOR should challenge the participants without completely overwhelming them. For example, in the early stages of training we may wish to employ motorized rather than mechanized OPFOR organizations or earlier types of tanks in the scenarios, or earlier types of tanks. Some of the scenarios included with TacOpsCF provide excellent examples of how to modify the types of organizations and their arrival times onto the map in order to gradually increase the challenge to the participants. Another means of increasing the challenge is to provide the OPFOR with an increased thermal imagery capability.



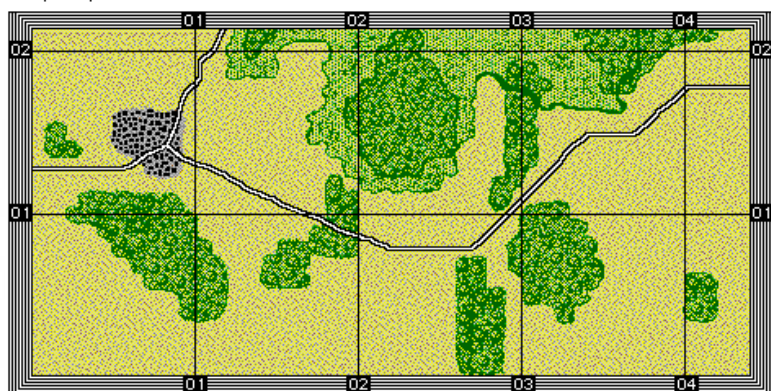
- **Establish Restrictions, Constraints and Special Rules.** As indicated earlier, TacOpsCF will produce the most effective training when it is used within a structured environment. This includes placing some restrictions and restraints on the capabilities that it provides the participants. Some recommended guidelines are included at Annex B.
- **Game Options and Preferences.** Section 14 of the User Guide describes the detailed aspects of the various game options and preferences. Experience has demonstrated that the preference that has the greatest potential impact on the outcome of the battle and the training, will be the "settings for visibility." TacOpsCF essentially treats all units as if they are either equipped with thermal sights or they are not. If a unit is not, it is assigned the same maximum visibility range, regardless of whether it is an anti-tank guided missile (ATGM) system with a powerful sight or a soldier equipped with binoculars. Initial attempts to conduct training using visibility ranges of 2000 and 3000 metres for normal and thermal visibility

respectively, and with all OPFOR vehicles lacking thermal sights, resulted in very one sided battles. While these restrictions might be realistic when weather conditions limit visibility, it is the general opinion that they impose too great and unrealistic a restraint on OPFOR long-range weapons systems during normal daylight conditions. It is recommended that, **unless special weather or light conditions are being represented, the ranges assigned for both normal and thermal visibility be the same.** With such a preference, thermal equipped units will continue to enjoy the advantage of being able to see through smoke, unless the preferences are set to preclude this advantage.

- **Test the Scenarios First.** When in doubt, try out the scenario through a couple of test runs to ensure that the force balance is correct, the tasks can be achieved in the time allocated and it will actually address the teaching points within the training time available.
- **Take Small Steps.** Start off with small, less complicated scenarios and training events and work your way up. Don't try to simulate D-Day on the first attempt, or it may turn into Dieppe.

**Ensure All the Participants Are Familiar With TacOpsCF.** There normally isn't sufficient time available to start off each training session with a familiarization of TacOpsCF. Distribute it amongst the troops, and ensure that they become familiar with its use before training commences.

TacOps Map 02



**Selecting and Printing TacOpsCF Maps.** TacOpsCF includes a number of maps, some of which are generic and others that are based on actual locations around the world. The scenario descriptions found in the Scenario-Guide of TacOpsCF include the map number of the map that is used. Those maps can be located in the "TacOps Extras\Print Maps" folder of TacOpsCF 3.0. Printing out these maps for use during training is a simple procedure using the Microsoft Paint program that is included with Windows 95. Simply open the "Print Maps" folder, double click on the map that is required, and MS Paint should open automatically. Set up the page for printing as required, and print out your map.

TacOpsCF also includes additional maps, which are contained in the folder "TacOps Extras\More Maps." The maps contained therein are of various locations around the world, including the well known and loved training areas of CFB Petawawa and the Lawfield Corridor. If considering using these maps to design a custom scenario, the following points should be taken into account. Not all the maps are available in a format that can be printed using MS Paint. Confirm between the "Print Maps" and "More Maps" folders to establish which maps fall into this category. For those maps that cannot be printed using MS Paint, it is possible to do so if "screen capture" software is available.

*As in all relatively new simulation systems, there are inherent limitations. From our perspective, the limitations should not be training stoppers, since training should start in the most ideal conditions and then work to the more difficult. An example of this process is the training of new crews, sub-units, units in ideal terrain, weather and tactical conditions, and then progress to the more difficult situations, such as bad weather, at night and in TOPP High.*

*—Major J.H.J. Russell LdSH(RC), The Combined Arms Tactical Training Center (CATTC) and Simulation Training for the Canadian Army, The Armour Bulletin 1992.*

## **SECTION 2—PREPARE FOR BATTLE!**

Here are some tips to set-up a TacOpsCF training event at the company level:

- To make the most effective use of the time available, orders should be issued to the participants in advance of the training event. The participants should prepare their orders and deploy their troops, saving their deployment on a diskette that can be loaded at the beginning of the event. In order to do so, select the "Saved Game" option from the TacOpsCF opening window and then navigate to the drive where the diskette and saved file are located. Have your OPFOR controller plan his deployment (although he will not be able to input this info until the friendly force controller has loaded his deployment from his diskette). When possible, and keeping in mind that the OPFOR is a controlled enemy who is there to ensure that the necessary teaching points are emphasized, issue orders to the OPFOR and make him develop a plan. This will ensure that the OPFOR controller gains a more detailed insight into GENFORCE doctrine and tactics and will force him to practice his battle procedure for added training value.
- Ideally you'll conduct this training in one classroom or a couple of offices. The Exercise Director /mentor will need to be able to observe what the friendly force commander is doing and have easy access to the OPFOR controller in order to provide advice or direction. The friendly force commander, friendly force controller and FOO/MFC should be seated in close proximity to each other.
- There was initially some question regarding the location of the friendly force commander in relation to the computer monitor. One approach suggested



that he or she should have to fight the battle off of a map based on SITREPs provided by the friendly force controller and FOO/MFC. The effect was that the combat team commander was forced to fight the battle as if he was in a submerged submarine. This is considered to be unrealistic, as the Combat Team Commander would

occupy a position from which he could best observe the actions of the combat team and survive. In addition, the SITREP requirement completely overwhelms the friendly force controller. It is therefore recommended that, for training at the company/combat team level, the friendly force commander be allowed to observe directly the action taking place during the movement/combat phase.

- The friendly force commander should be required to issue verbal orders to his or her controller prior to the start of the simulation. As the friendly force controller is representing all of the elements of the company/combat team, those orders must contain the direction required to allow the controller to carry out the plan within the commander's intent. **Care should be taken to ensure that the controller enacts the plan as directed, thereby revealing any weaknesses in the orders or the plan.** Permitting the controller to correct the deficiencies themselves will not allow the commander or the other participants to learn the most from the event.

### SECTION 3—FROM THE LD TO THE OBJECTIVE!

TacOpsCF forces the participants to coordinate the fire and manoeuvre of their company/ combat team and react to enemy action. The manner in which the simulation exercise is conducted should force the leaders to make decisions and issue orders as they would on the battlefield. To the greatest degree possible, measures should be put in place that force the leader to plan ahead and discourage micro-management. Here are some tips on how to achieve this:

- Allow the simulation to run for approximately three one-minute turns between periods when the commanders are permitted to issue orders. This can be modified according to the pace of the battle and to allow indirect fire requests and adjustment to be processed during that period. The intent of this measure is to force the commander to plan ahead and live with the decisions rather than being "on the radio" every minute.
- The commander should only issue radio orders to the troops (the friendly force controller) **in note form**. Discourage any conversation between the commander and the controller that normally couldn't occur due to dispersal on the battlefield. Above all, **do not permit instructions to be relayed by pointing to the computer monitor**. These measures force the commander to think about how they will phrase their radio orders so that



they will be clear and concise. Additionally, they encourage the use of control measures. By providing the radio orders in note form, the controller is not overloaded with information and a record of the orders issued is maintained that can be used subsequently during the conduct of the AAR.

- As the exercise progresses and the skill level of the participants increases, limit the amount of time that may be used to issue and input orders. This will encourage both brevity and the issuing of orders that are in the spirit of mission command.
- If you have imposed any of the restrictions, constraints or special rules at Annex A, ensure that they are followed consistently.

#### **SECTION 4—THE AFTER ACTION REVIEW (AAR).**

For a thorough overview of the AAR process, see Volume 6, Number 3 of Dispatches, dated November 1999. TacOpsCF can be used to enhance your AAR as follows:

- Ensure that the “Autosave All Turns” function is turned on at all times. If the simulation is stopped and the program is exited for any reason, ensure that this function is turned back on before starting again.



- Mentors should note the turn number of any turn during which critical events occurred and make a brief description of the event.
- If possible, during the AAR, use a large screen or other means to display the action that occurred. This can be achieved by connecting your desktop or laptop computer to a data video projector (Lite Pro is one example) or a large TV. This will permit all of the participants to clearly see what occurred without crowding around a relatively small computer monitor.
- One by one, load the turns in which critical events occurred and run them again. Provided that no new orders are inputted, the combat/movement phase will be replayed exactly as it originally happened. The orders that were issued and any indirect fire requests and adjustments for that turn can be reviewed at this point. If desired, the same turn can be run again and again, changing the orders as necessary to demonstrate the possible effects of different tactics or procedures and to draw out the necessary points. At this time, TacOpsCF does not permit a number of consecutive turns to be linked to each other and run as one steady stream of action. This is a capability that the Army will attempt to acquire if there are future upgrades.

*The use of technological innovations, such as personal computer (PC)-based wargames, provide great potential for Marines to develop decision making skills, particularly when live training time and opportunities are limited. Policy contained herein authorizes Marines to use Government computers for approved PC-based wargames.*

*—Extract from MARINE CORPS ORDER 1500.55*

## **SECTION 5—AN EXAMPLE!**

An example of a company-level training session using TacOpsCF involves three platoon commanders simultaneously undergoing training to command companies/ combat teams. All three have been issued orders for the same scenario but have been tasked to develop their own plan and issue separate sets of orders. Each platoon commander has been allocated one computer (two if playing via the LAN or modem to modem direct connection), a mentor, a friendly force controller and a FOO/MFC. If the training were to be conducted over a LAN or direct connection, an OPFOR controller would also be allocated. The Company Commander, 2IC and CSM will fill the role of mentors for each of the platoon commanders. The controllers and FOO/MFCs will be filled by senior NCOs from each platoon, mortar platoon or the battalion's affiliated battery.

Prior to the beginning of the actual training event, each platoon commander will prepare their plan and deploy their troops, saving the deployment on a diskette. At the beginning of the event, they will issue orders to their friendly force controller just as they would to their company/ combat team. The battle will then begin. Each platoon commander and his or her supporting staff will fight their own plan under the guidance of their mentor. Each mentor will control the flow of the battle, stop the action as necessary and note critical events. It is necessary at this point to emphasize that, in this



scenario, each platoon commander is fighting alone, not in conjunction with the others.

Once all three battles had been resolved or at a point directed by the Exercise Director, a combined AAR will be conducted. Depending on the time available, each mentor may wish to conduct their own AAR, involving the participant and his support staff, prior to the combined AAR. Each mentor would bring to the AAR a diskette containing the saved turns in which critical events occurred and the orders (including those for indirect fire support) issued by the friendly force commander for those turns. These saved turns would then be used to review, analyze and discuss the critical events that occurred during each platoon commander's battle.

In this manner, over the course of a morning or an afternoon, three platoon commanders would receive training as company/ combat team commanders. In addition, three senior NCOs would practice some aspects of indirect fire support coordination, three senior NCOs would practice some aspects of manoeuvring a company or combat team and three senior NCOs or soldiers would practice employing GENFORCE doctrine and tactics. A minimum of three desk or laptop computers would be required (six if using a LAN or direct connection).

**Advice from the User Guide.** Additional advice on the conduct of command post exercises (CPX) can be found in the TacOpsCF User Guide at Appendix I - Command Post Exercise Guide.

*When our Infantry School liaison saw the map and realized that tanks were not going to be able to use their long range guns to full effect, he said something would have to be done. I suggested another game map showing desert terrain. No good, we were told, the emphasis must be on the wooded terrain of central Europe. And because the Army was still diligently studying the Israeli experience in the 1973 war, they wanted the troops to experience the usefulness of long range tank fire. After much talking back and forth, it was agreed that we would strip the underbrush and many of the trees from the game map (which was taken from actual Army maps of training areas in Germany and Georgia) and even flatten a few troublesome hills. Now the troops could get those 2,000 meter shots their commanders were so fond of. In the game, anyway!*

—James F. Dunnigan  
The Complete Wargames Handbook

## SECTION 6—MORE ADVICE ON USING TACOPS AT THE UNIT LEVEL

In the following article, Colonel John F. Antal of the US Army shares his experiences regarding the use of TacOps to conduct training in his tank battalion.

## **TacOps and Battalion Training**

Colonel J.F. Antal

I commanded the 2d Battalion, 72d Armor in Korea from 1994 to 1996. My task organization was three M1A1 tank companies and one M2 Bradley company, a scout platoon, mortar platoon, Bradley Stinger platoon and a M113 APC-equipped combat engineer company. I used six computers with TACOPS for weekly training for my Task Force leadership. Five were used for company-level instruction and one was used for the battalion staff.

I used TACOPS for three major purposes:

1. as a means to teach rapid decision making;
2. as a means to teach how to develop tactical plans and write operations orders; and
3. as a means to emotionally involve my officers in the execution of their plan in a battle competition.



The week before the training took place, all the officers were issued maps that were printouts of the TACOPS screen that depicted the scenario we would use that week. A rough scenario was issued to orient the leaders to the mission. On the day of class the platoon leaders were divided into two groups—Blue and Red forces. A short but detailed battalion operations order was issued to each side without the other side hearing the briefing. Platoon leaders trained as company commanders, and company commanders acted as observer/controllers. Each platoon leader was given one hour to write his company-team order. Half did this as US commanders and half as North Korean commanders.

At this point the only thing we used from TACOPS was the printed map of the screen battle area.

After the orders were complete, one or two of the Red and Blue officers presented their plans only to their respective groups in order not to know each opposing force's plans. The company commanders acted as Observer/Controllers and conducted an After Action Review (AAR) of the officer's plan. Each officer was expected to contribute to this discussion. This briefing and AAR period usually lasted one hour and a half.

The Red forces would then place their forces on the screen. Passwords were used so that Red and Blue forces did not see each other's moves. After Red was complete, the Blue players put their forces on the screen. When both sides were ready, they played their turn and watched the combat phase. With the Observer Controllers watching the entire process, the battle was fought out

and the lessons learned recorded. When this was completed, there was a short break and a final AAR.

The final AAR involved the explanation of a Red Plan by a Red leader and the explanation of the opposing Blue Plan by a Blue leader. The results of the battle when then displayed by the Observer Controller, and the discussion that ensued, generated the lessons learned.

In all cases the enemy used the exact same weapons of the North Korea Army—T-62 tanks, rocket-propelled grenades (RPGs), artillery, etc. We did not allow the North Korean Peoples Army (NKPA) units to see through smoke, as the NKPA had no thermal sight capability. US units with thermal sights could see through smoke, and the TACOPS rules were adjusted accordingly.



The battalion staff used the same general procedure, except two hours were given to prepare the order. The standard order was an overlay order, and the order was issued in one hour. These were tight rules to follow, requiring repetitive, focused staff training to reach these goals. We did not prepare a typed, thirty page OPORD (which I find totally useless in the field anyway).

After the order was issued, the battle was fought against a member of my staff, usually in the S2 Section, who acted as the OPFOR and who had not heard our plan.

I found these exercises educational and fun. They could be tailored completely to meet our needs. We practiced our standing operating procedures and the tactics, techniques and procedures for fighting in restrictive terrain. I sent Major Holridge, the TACOPS developer, maps of our local training area, and we practiced operations on TACOPS Korean terrain that we were later able to act out in actual ground maneuvers.

I found that TACOPS was a very useful tool, which was and is limited only by our imagination.

**About the Author.** Colonel John F. Antal is an armor officer currently serving as a Special Assistant to the Chairman of the Joint Chiefs of Staff in Washington, D.C. Colonel Antal has served predominantly in tank and infantry units for the past twenty-one years. During his 23 year military career, he has spent a considerable amount of time at the National Training Center, the US Army's premier combat training arena, where he served as an instructor and observer/controller, participant and member of the elite OPFOR regiment. From October 1994 to December 1996, he commanded the 2d Battalion, 72d Armor, the "Dragon Force"—an M1A1 tank battalion stationed near the demilitarized zone in the Republic of Korea. Colonel Antal has written four books: *Armor Attacks*, *The Tank Platoon* (1991), *Infantry Combat*, *The Rifle Platoon* (1995), *Combat Team*, *The Captain's War* (1998) and *Proud Legions, A Novel About America's Next War*.



*These devices are no magicians, they will never replace a good instructor with his warm personal touch. He is definitely needed to personalize the training aid. The audio-visual aids are not teachers, they are teaching and learning assistants which allow the instructor to do a better job of teaching. Proper use of audio-visual aids to military training enables the soldier: 1. To learn more. 2. To remember longer. 3. To get uniform training. 4. To increase his interest. 5. To sustain his morale. 6. To learn accurately. 7. To save time.*

—Major R. V. Parrett, RCA  
Look, Listen and Learn  
Canadian Army Journal,  
Volume 6, Number 2, June 1952

### **PART THREE—TACOPSCF IN THE CLASSROOM**

In the second of the scenarios described in the introduction of this volume, an instructor is seeking alternatives to the traditional chalkboard, cloth model and sand table training aids to make the training that he or she will provide more challenging and exciting. In the following two articles, a Canadian officer, Major Maurice Audet and an American officer, Captain Joseph McLamb describe their experiences using TacOpsCF and TacOps in the classroom. These articles represent but two of the many possible means of employing TacOpsCF to enhance individual training in such a setting.

#### **Tacopsf in the Classroom How to Make Tactical Principles and Fundamentals Come Alive...**

Major Maurice Audet

The aim of this short article is to outline just one more way that TacOpsCF may be used in the Army's "classrooms", whether they be in a formal army school or in the unit or sub-unit lines with the commander (at all levels) acting as the instructor / mentor. TacOpsCF's capabilities, strengths, limitations and technical hints are dealt with separately and will not be specifically addressed here. My goal is to stimulate discussion on how TacOpsCF can be employed to assist combat leaders at various levels to further develop their tactical decision-making skills in a challenging, interactive, objective and entertaining manner.

First, I see no substitute to fully learning and understanding the principles and fundamentals contained in our tactical doctrine manuals. These must serve as a solid base from which a student of tactics can then apply his own decision-making process. The specific challenge for the mentor/instructor is how to get their subordinates/students from simple knowledge of facts to having them confidently demonstrate the ability to apply those same facts to complex, fluid tactical problems. For the purpose of this article, I will describe one possible way to employ TacOpsCF in the context of teaching the advance to contact at the combat team level to students at the Intermediate Tactics Course 2 level.

Before starting, the students should already be completely familiar with the types, purposes and fundamentals of offensive operations and the advance

to contact, the planning considerations, the force composition, and the various relevant control measures used for the conduct of the advance. This could be achieved through individual reading. This should then be followed by a syndicate discussion in order to confirm that the material has indeed been learned and understood. The next step would be to issue a prepared scenario based on a fully developed tactical situation in order to allow a clear understanding of the “bigger picture” and the conduct of a proper mission analysis. This scenario could consist of a BG overlay order to a printed copy of a TacOpsCFCF map, supported by various reports such as INTSUMs. The student is then given a sufficient amount of time to conduct his mission analysis and map estimate and to prepare his plan/orders that he will present to his syndicate. It is at this stage that the execution of the plan will be measured against the various simulated realities of enemy, ground, time and space, and of course “Murphy”. This is where the main lessons can be learned through the interventions of an experienced instructor / mentor.



It is essential that the game be conducted as a two-player game (networked if possible). The OPFOR should be played by an experienced TacOpsCF player who is fully briefed by the instructor as to the teaching points and the level of play being sought. Possible use of withdrawal, counter-attack, artillery and possibly even air support will add to the realism and will yield much more training value

than the traditional passive reinforced motor rifle platoon that simply waits to be attacked and destroyed. The benefit of TacOpsCF is that the advancing forces will not see the OPFOR unless they make contact with him. The instructor may provide full, partial, or no “disclosure” of enemy dispositions, and the enemy, through the use of fire control orders and manoeuvre, may mask or change his position in accordance with directions from the instructor.

The students should be seated in a pre-set order depending on their role, and should all be able to see the game play on a large screen and to hear the sound effects. The student commander should communicate with his “subordinates” through the use of simulated radio orders/reports in order to reinforce the need for clarity and brevity in their communications. The subordinates, in turn, would then direct a BLUEFORCE operator to carry out specific line-of-sight (LOS) checks, movement orders, SOP changes, or fire control orders. The instructor may need to intervene in order to maintain speed and to avoid the micromanagement of individual icons.

As the advance begins, the friendly forces may be back in the assembly area, or at the LD. Time permitting, I recommend that the initial move forward by recce be played on the game, the alternative is to “umpire” the initial recce movement. As contact is made, the student will then need to send appropriate radio reports up to the Battle Group commander, and down to his combat team. He will then conduct a quick mission analysis, and if he decides on a hasty attack, quickly “talk through” his mental estimate on the TacOpsCF map/screen using a pointing device such as a laser pointer.

Once the student decides on a course of action, he will need to issue his radio warning order. This should cause the various elements of the attacking force to conduct preliminary moves, the FOO/FC might begin adjusting the target(s), and co-ordinating the fire plan with the combat team commander, etc... This stage of the exercise is extremely valuable in demonstrating all the co-ordination and "time and space" realities involved in mounting such an attack. During all this time, the game clock is "ticking" away...

The student will then issue his radio orders and the next stage will involve movement into the attack position and final preparations for the attack. The student's estimated H-Hour may be compared with the game clock for accuracy and adjustment as necessary. The operator will be very busy at this point, as he must arrange the assault group in their assault formations and give them their final orders in accordance with the student's plan. An experienced operator will have no difficulty in matching the student's orders with game play. All through the assault stage, the student may need to deal with previously undetected obstacles and enemy positions in depth, artillery fire, withdrawal of enemy forces, counter-attack, fire from mutually supporting enemy positions, etc...

The consolidation stage may also be played, as well as a continuation of the advance (if enough forces remain).

Some personal observations on the use of TacOpsCF follow:

- The terrain limitations of TacOpsCFCF are significant but with careful selection of the available maps and the preference options, these can easily be overcome, and will not reduce the training value.
- The instructors, and BLUEFORCE / OPFOR operators must be THOROUGHLY familiar with the game itself. There is no substitute to this requirement.
- The game play will ALWAYS reward the player who effectively applies current tactical principles and fundamentals.
- The experienced instructor should easily be able to identify the fundamental(s) that led to particular successes or failures of a plan.
- Failure to apply the fundamental aspects of the advance to contact and hasty attack will result in greater losses, and may even contribute to failure of the mission.



TacOpsCF offers the imaginative mentor / instructor with tremendous opportunities to reinforce tactical principles and fundamentals, develop students' and subordinate leaders' confidence, knowledge and skill levels. It also offers the opportunity to increase team cohesion by "drilling" as a team around the game situation before conducting FTX. This is much like a hockey team "chalk-talking" in the dressing room, before conducting drills on the ice. The result is that with an absolute minimum of verbal communications are

exchanged, each player on a "line" gets to know how his line-mates will deal with a given situation, and therefore less time and space is wasted in moving the puck into the opponents net. This same friendly force "team situational awareness" will promote:

- Mutual understanding;
- Unity of effort;
- Trust;
- Decentralisation of authority; and
- Timely decision-making.

These are all fundamentals of "Mission Command", which is exactly the style of command that the Canadian army is striving to foster. TacOpsCF is but one more tool in the commander / trainer's "kit bag".

**About the Author.** Major Maurice Audet is a Signals Officer who was employed as an instructor at CTC Tactics School during the period of 1994-97. He helped to introduce TacOps to the Jamaica Junior Command and Staff Course (JJCSC) and has assisted DOR(J&L) to conduct the final exercises for the JJCSC courses conducted in 1997,98, and 99 using TacOps.

## **TacOps in the Classroom** **A Guide for Small Group Instructors on the Fort Knox Armor** **Captain Career Course (ACCC)**

CPT Joseph McLamb

**Note.** The terminology in the following article has been amended to reflect Canadian terminology. This has been done in order to enhance the reader's understanding of the subject material and to facilitate its accurate translation into French.

**Disclaimer.** The views expressed in this article are solely the author and are not necessarily those of the United States Army or the United States Army Armor Center.

Several instructors have shown an interest in using TacOps as a training aid during the course. I made limited use of the program during Course 99-02 and, based on student feedback from that experiment, made a greatly increased use of the program during Course 99-04. I plan to use the program extensively during Course 00-02. This article briefly outlines some of my experiences but certainly falls short of outlining all the possible uses of TacOps in the classroom. My hope is that these ideas will at least get you started.

### **Background**

TacOps 3.0 is a constructive simulation of modern tactical combat that can run on a standard PC. It was designed by a retired Marine officer, MAJ I. L. Holdridge, and has been purchased as a training device by the United States Marine Corps, the Australian Army, the New Zealand Army and, recently, the Canadian Army. It is available commercially from *battlefront.com* for \$20 plus shipping and handling.

## First, the Shortfalls

TacOps has a lot to offer the small group instructor, but it has three major shortfalls that you must understand and accept from the beginning.

The first major shortcoming of the program is that it requires some knowledge of the computer commands to get the results that you want. The bottom line is that, before you can effectively use the program in the classroom, you must be pretty proficient with the program yourself. The program comes with a built-in tutorial as well as a 200 plus page on-line manual, so all the necessary information is easy to get. The only requirement is that you spend some time working with the program in advance so as to shorten the amount of time spent inputting orders to the units. **Start with the tutorial!**

The second major shortcoming of the program is that the friendly order of battle doesn't match exactly with that of the 23rd Armor Division. The reason is very simple: since we (the Army) can't seem to decide what our organization is going to look for, the game designer used a hybrid organization. You will also find that certain pieces of equipment are missing (the Armored Vehicle Launched Mineclearer [AVLM], for example), but that this is fairly easy to work around. In fact, the whole order of battle issue is overcome very simply by designing your own scenarios.



The last and most significant shortfall of TacOps is terrain modelling. The terrain in the program has only two levels—ground level and high terrain. The designer attempts to overcome this oversimplification by applying an abstraction to the problem. All terrain in TacOps is labelled by level of “roughness”—Rough0 through Rough4. These levels

affect the mobility of the terrain, but have a much more important effect on line of sight. The level of roughness indicates the availability of intervisibility lines, small clumps of trees, etc. that would allow a stationary unit to find cover and concealment. A unit moving across Rough4 terrain, for example, might easily drop “out of sight” once it stopped moving. This abstraction isn't always exactly right for a given piece of terrain but proves surprisingly accurate in most situations. My experience so far has been that TacOps comes close enough to getting it right that you can conduct a TEWT in the morning, then fight that piece of terrain on TacOps in the afternoon, with little loss of fidelity. You have to, however, come clean with the students about the inability of the program to accurately reflect that individual intervisibility line that they saw on the TEWT.

## So Why Bother?

Beyond any shadow of a doubt, the best part of TacOps is the ability to fight the plan that the students develop. Currently, TacOps includes maps of the Irvington-Guston area, the National Training Centre (NTC) central corridor, the NTC southern corridor, a piece of Germany, plus several maps from around the world (none of Korea). MAJ Holdridge, at the request of Armor Captain Career Course (ACCC), has also provided us with a map of a portion of the local Fort Knox area (for the battle group defense), and he plans to make it a general release in the near future.



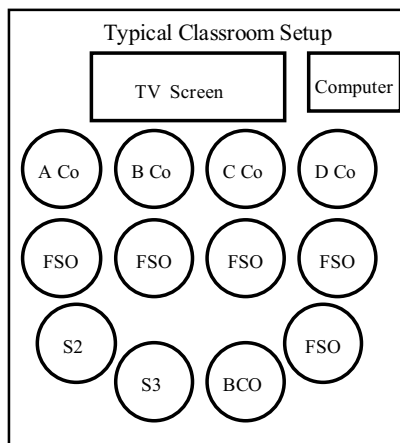
Because you build the scenarios yourself, you can configure the enemy so that he closely mirrors the student Situation Template, deviates from the students' expectations at certain points or follows a completely new and radical course of action. By saving the different enemy courses of action as separate files, you can run the fight several times with the enemy doing something different each time. This forces the student to quickly move beyond the slow motion planning that marks the early portions of the course and transition to assessing the situation and developing a solution with limited time and less than complete information. And thanks to the graphics, which depict artillery, smoke, ATGM launches, vehicle explosions, etc., the students become quite animated by the exercise.

## My Basic Game Plan

The first time I use TacOps in the classroom is in the battle group offense. Once the students have completed the operation order, I configure the enemy to closely follow the Intelligence Officer's Situation Template. I place the battle group just south of Highway 60, broken down to platoon icons (with the exception of Bradley Stinger Fighting Vehicles, etc.) in accordance with the groupings in the order. The map doesn't extend far enough south to replicate the security zone, so I tell the students that the scouts were able to confirm that the enemy is arrayed in accordance with the Situation Template (what a miracle!), but that we have not heard from them since.

I take down the tables in my room and put the chairs in rows around the TV, turning the computer screen so that only I can see it. This allows me to turn off the TV when I need to give instructions to the OPFOR or otherwise perform some "magic" change to the battlefield. In the first row of seats, I place students that I assign as company commanders. Being the closest to the television screen, they have the clearest picture of events as they occur. The second row contains the FOO for each company. (TacOps includes specific FOO vehicles). In the third row, I place students who have been identified as the battle group commander, Operations Officer, Battery Commander and Intelligence Officer.

The basic procedure looks like this. After inputting all the appropriate orders, I allow the program to run through three minutes of game time, during which no one is allowed to talk. At the end of this combat phase, I allow each company commander to report to the battalion commander as though he was speaking on the radio. To reward clarity and brevity, I do not allow the battalion commander to ask for clarification of any report. Once all the commanders have reported, the commander can confer with the staff for one minute. At the end of the one minute, the commander may issue a Fragmentary Order (FRAGO) as though he were speaking on the radio. As before, the company commanders



are not allowed to ask for clarification. Once the FRAGO is complete, I allow the company FOOs to request indirect fire from the battle group Fire Support Co-ordination Center, then I input whatever indirect fire that is approved (you can easily limit the amount of available indirect fire). Finally, I have each commander informally give me instructions for his platoons. If necessary, I then turn off the TV, give orders to the OPFOR, turn on the TV and run three more minutes of game time. I repeat this process until I have met the training objective or the unit is no longer capable of completing the mission.

Once I stop a mission, I conduct an informal After Action Review (AAR). TacOps has a feature that makes this fairly easy and in some ways provides a product that closely resembles what you would get at a Combat Training Center. When you are using TacOps in the classroom, always select the option "Autosave Each Turn." Then, as you go through the battle, note the game time of any event you want to review during the AAR. All you have to do to review the event is open the game file with the appropriate time on it. As long as you don't change any of the commands to the units, TacOps will replay the event exactly as you saw it the last time. The other value of this feature is that it allows you to "go back in time" and have the students solve the problem differently than they did the first time.

I use TacOps extensively during instruction on combat team operations. I use essentially the same procedures, except that I put platoon leaders in the first row, platoon sergeants in the second row and the combat team commander, 2IC, A1 echelon commander and the FOO in the back. I break the company down to section, rather than platoon, icons. The other major difference is that my company scenarios do not usually follow the order we are using for the practical exercise. I describe a scenario to the students, usually providing them with a single page reduced-scale map with overlay, a company grouping, a mission statement and a general enemy situation. I give them 20-30 minutes to prepare a FRAGO, at the end of which I select a company commander, assign the rest of the chain of command and allow the commander ten minutes to issue the order. From that point forward, I follow the same procedures as I did at the battle group level.

## **Some Tactics, Techniques and Procedures**

**CPX Umpire Mode.** The CPX umpire mode is your greatest ally in running a classroom simulation. It allows you, as an experienced instructor, to do all the things that the simulation would not do on its own. For example, vehicles are often lost to mobility kills in TacOps. Without your intervention, these vehicles are essentially lost for the remainder of the game. By going into CPX Umpire Mode, however, you can restore mobility kills whenever you think the appropriate conditions have been met—perhaps the unit must tow it back to a set location with an Armoured Recovery Vehicle (ARV) and then wait for a specified period of time. The CPX Umpire Mode also allows you to "magic move" both friendly and enemy units, change groupings in the middle of a scenario, increase or decrease casualties, etc. Learning the capabilities of the CPX Umpire Mode should be high on your list of things to do with TacOps.

## **DISPATCHES 24**



**OPFOR Equipment.** The factory default for TacOps provides the OPFOR with several features that are not part of the 10th Motorized Infantry Division Modified Table of Organization & Equipment. These include advanced ATGMs (making them equivalent to their U.S. counterparts) and a much more liberal distribution of the most modern thermal equipment. The game designer established this to make for more even game play. For our purposes, I usually do not allow the enemy to have these extras, at least not until after several iterations of a battle. If you choose to leave the enemy with the better equipment, just be aware that the force ratios are much different than the numbers we use in class. Also, the TacOps database includes an OPFOR Future Tank (OFT). The OFT is essentially an M1A2 Abrams Tank painted red, but you can use it to replicate the Black Eagle if you desire. I suspect that this gives more than fair credit to the Russian tank industry, but it does make an interesting variant of any scenario.

**Dismounted Infantry.** Although in many of the simulations that we use dismounted infantry plays a very small role, this isn't true in TacOps. Dismounted infantry in prepared positions pose a serious threat to armor forces that get too close. This is particularly true if the infantry is equipped with ATGMs. Even without ATGMs, OPFOR infantry squads in TacOps are always armed with RPGs, and in the close terrain of Irvington they can be a real problem. When I build a scenario for the classroom, I put the following dismounted forces in each motorized infantry platoon: 3 8-man squads, 2 RPK machinegun teams and 2 AT-7 teams. This teaches a whole bunch of lessons about the use of combined arms that aren't usually addressed at NTC. I strongly recommend making enemy dismounted infantry a part of your scenarios. This inclusion significantly increases the complexity of the problem.

**Night Operations.** Although TacOps doesn't technically have a "night" option, you can achieve reasonable results by changing the normal vision visibility limit to 200-500 meters while leaving the thermal vision visibility limit at 4000 meters. Be aware that doing this can make it possible for a U.S. force to engage an OPFOR force with relative impunity. It's a lot of fun but may not be the lesson you want to drive home on a particular day.

**Advanced OPFOR.** TacOps can be played on the LAN, which means that you may, in some circumstances, want to assign a student as the OPFOR and put him on a different computer. I recommend moving him out of your small group room when you do this. Clearly, the challenge is to develop a student's familiarity with the program to such a degree that he would not require your assistance. So far, I have not been able to make this work.

## Conclusion

TacOps isn't a perfect simulation, but it does offer you the ability to force students to deal with an unfolding, dynamic situation rather than the static operations orders that are in the volume books. It has several important shortfalls, but I believe these are offset by the program's greatest asset—its flexibility. Since the use of TacOps requires no outside support or co-ordination, it allows the instructor the flexibility to use it when and if he sees the need. For today, that is a characteristic that is not shared by any of our more complex but centrally managed simulations.

**About the Author.** CPT Joseph McLamb is an infantry officer assigned as a small group instructor at the U.S. Army Armor Captain Career Course. His past assignments include brigade S1 and infantry company commander in the 101st Airborne Division (Air Assault) as well as observer/controller at the Joint Readiness Training Center, Fort Polk, Louisiana.

**From the User Guide.** For further information and tips on the use of TacOpsCF in the classroom see Appendix H - Classroom Usage.

*Despite the cries of "its only a war game" and the like (most often heard afterwards from those who have made errors), the use of this inexpensive training battle simulation is probably the best method currently used to provide realistic, timely input to elements being exercised in a command post exercise. (CPX)*

—Major B.H.C Bowness, DLOR  
Engineer War Game Lessons, Ubique,  
Volume 15 No 2, 1982

## **PART FOUR—LESSONS LEARNED**

As mentioned earlier, TacOpsCF has already been in use in various training establishments across the CF. The following information has been provided by personnel involved with supporting the Jamaican Junior Command and Staff Course and current and former instructors and staff at the CF School of Military Intelligence.

## **Use of TACOPSCF on the Jamaica Junior Command and Staff Course**

Contributed by Major Jim Furnivall and Major Dave Wilkinson (Retd)

As part of the Military Training Assistance Program (MTAP), Canada conducts the Jamaica Junior Command and Staff Course. The course is designed to teach basic staff skills and to introduce mechanized warfare to military members of the CARICOM nations. TacOpsCF has been used on the course in the classroom and to conduct the final exercise. In the past, this type of exercise would have required extensive support from the Director Operational Research (Joint and Land) (DOR [J&L]) directorate to set up and conduct a board game with computer support. The use of TacOpsCF permitted the training to be conducted with considerably fewer support personnel. In this exercise, students were employed as commanders and staff in battalion HQ and in Lower Control as combat team commanders. There were three combat teams in each battalion, each with its own FOO. Each combat team had its own computer monitor, but all combat team orders were inputted into a single computer by a friendly force controller, who was a student. The combat teams forwarded information to HICON based on the results of the action that occurred during TacOpsCF play. The OPFOR was controlled by a specific controller provided by DOR (J&L). Battle procedure was completed by the students before the exercise started, and one evening was allocated to complete the necessary groupings and to set up on forces on the computer map.

Based on their experiences in using TacOpsCF to conduct the final exercise for the course, Major Furnival and Major (ret'd) Wilkinson offer the following advice:

- In order to ensure that everybody is familiar with TacOpsCF and its capabilities prior to the start of the exercise, integrate it as a teaching tool throughout the course. Encourage everyone to take it home and use it. This is particularly important for the Directing Staff (DS), who often are not as familiar with the simulation as the students. If necessary, build in time to train those DS who don't know how to use the simulation. Exposure lessens resistance.
- Make sure that your computer systems can handle the scale of scenario that you are using. Very large scenarios may run very slowly on older computers with limited memory or may encounter difficulties if run on a busy LAN.
- Before starting the exercise, ensure that the ORBATs that you are going to use are accurate.
- Use the "Autosave Each Turn" function to capture critical events.
- The Game Controller must have an in-depth knowledge of both friendly force and OPFOR doctrine and tactics. The Game Controller should be located in friendly force LOCON in order to ensure that things are going the way that they are supposed to.
- An experienced combat arms officer is required to fill the role of the OPFOR Controller. Let the OPFOR Controller see all of the friendly force units. This will permit the OPFOR controller to react in accordance with the training objectives. Remember that in this type of exercise the OPFOR is a training aid not a force on force opponent.



- Better training value is gained if the simulation is allowed to run for several one-minute turns before allowing the students to issue new orders.
- Allowing one student to input the orders of all of the student combat team commanders has the advantage of speeding up the pace of the exercise. The disadvantage is that the students will generally select one of their brightest peers to perform this function. It then becomes difficult to determine if the orders that are being inputted are those of the student combat team commander or those of the student at the computer.
- Try to discourage the students from micromanaging down to the single vehicle level.
- Use the TACOPSCF SITREP function to track the quality of the information being passed from LOCON to the battalion HQ.
- Control air and artillery to realistic levels in order to ensure that it doesn't unrealistically influence the game. Process indirect fire and air requests through the Fire Support Coordination Centre (FSCC) and tactical air control party (TACP).

*War gaming can be considered a form of cloth model exercise. Its main advantage over the traditional methods lie in the increased interest generated in the participants. Players learn lessons generated by their actions versus the old sit and learn debrief. As such, it represents a "hands on" means of teaching and should be regarded as an effective and integral part of tactics training.*


—Captain D.J. Johnstone, Wargaming—  
A Training Aid, Armour Bulletin No 11, Mar 80

## **Using TacOpsCF at the Canadian Forces School of Military Intelligence**

Contributed by Capt J.I.M. Beauvais, MCpl J.R. Blair, MCpl J.Y.B. Themens  
and LS W.G. Merrick

TacOpsCF has been used on the Basic Intelligence Officer Course, the Basic Classification Training (for Reserve Intelligence Officers), the Advance Combat Intelligence Course and the Intelligence Operator QL-6B (Reserve) Course. Feedback from all courses has been extremely positive. Students with little or no operational experience have demonstrated an increased understanding of battlefield dynamics and tactical intelligence as a result. The following are some observations regarding TacOpsCF use during this training.

- Used as a tactical simulator during Intelligence training, TacOpsCF is very effective in demonstrating the importance of properly identifying the intelligence problem and intelligence requirements. Students are required to recognize combat indicators and analyze the developing situation. Emphasis is placed on the use of intelligence collection assets such as Unmanned Aerial Vehicles (UAV) and reconnaissance elements in each scenario. TacOpsCF greatest advantage is that it requires significantly less time to set up than its micro-armour predecessors.

- TacOpsCF is currently used to reinforce selected teaching points of GENFORCE doctrine and tactics. The OPFOR used in TacOpsCF is very similar to GENFORCE, which is currently the approved threat model for LFC. The level of OPFOR organizations that can be simulated is generally limited to approximately regimental strength, as the maps that are provided generally do not provide the space to properly layout a GENFORCE division.
- 
- Some shortfalls in the OPFOR ORBATs have been identified. These include the absence of the MT-12 100 mm AT Gun and SA-13 Gopher SAM System. To compensate, CFSMI has used the MTLB as the prime mover for the MT-12 and an AT-4 Spigot crew that must dismount to fire up to 4000 meters. The SA-13 can be replaced in some respects with a 2S6.
  - Custom scenarios have been developed to cover three basic operations: the Meeting Engagement, the Offence and the Defence. TacOpsCF is normally played immediately after a tutorial exercise and discussion on each land operation. This ensures that students understand the fundamentals of the operation prior to the simulation and that the instructor is able to expand and confirm the teaching points during play. The custom scenarios include:
    - **Meeting Engagement.** Canadian Mechanized Infantry Battalion versus OPFOR Motor Rifle Battalion. Three to five hours of game play are required. This is a good introductory scenario for students learning TacOpsCF. It is simple and short. It is also effective in demonstrating the unique challenges to Intelligence support for this particular type of operation.
    - **OPFOR Offence.** OPFOR Motor Rifle Regiment is attacking a Canadian Mechanized Infantry Battalion. Six hours of game play are required. Emphasis is placed on correctly identifying the enemy's main axis. Proper use of LayBack Observation Posts and UAVs is critical.
    - **OPFOR Defence.** An OPFOR Motor Rifle Battalion is defending against a Canadian Armoured Battle Group. Six hours of game play are required. Emphasis is placed on early identification of enemy kill zones, depth positions and, more importantly, the counter-attack force. Use of UAV and recce elements is critical.

With Specific Regard to the Conduct of Training.

- Each course receives one instructional period on the main functions of TacOpsCF, including its capabilities and limitations.
- **Pre-Game Preparation.** Before each scenario, two teams are formed. This is because TacOpsCF can only be played on a maximum of two networked computers. Each team receives orders detailing the situation, mission and ORBAT of its forces. This is normally given one day prior in order for the teams to develop a plan of action. A large pre-planning map is of unbelievable value with developing a "game" plan.

- **Game Conduct.** The game requires at least two Controllers and a Master Controller. The optimal situation is to have the Controller positions filled by the instructional staff. They provide the interface between the student teams and the game. Using experienced controllers who concentrate on the administration of moving units permits more of the available time to be devoted to the discussion of tactics. The controllers should be quite familiar with all facets of TacOpsCF including mobility and counter-mobility ops. The Controllers input all commands as directed by the teams and also provide advice on game artificialities as required. As neutral participants, they also monitor the tactics used by the students to ensure they generally follow established doctrine.
- The simulation is best viewed on large monitors. At CFSMI, TacOpsCF runs on two large 'SmartBoard' monitors. It can also be projected onto large screens using a projection device like "LitePro." The map board can be annotated with electronic chalk to assist the controllers with forecasted troop movements. Students can then better visualize the battle and make notes on adjacent printed maps. The Master Controller oversees the overall conduct of the battle. The Master Controller travels between teams to ensure that the teaching points are drawn out of the students as the battle unfolds. Students are continuously challenged on their understanding of events by the Master Controller. A Controller Event Sheet is used to track key turning points during the battle.
- **After Action Review.** One hour is normally required for each scenario. Key points are extracted from the Controller Event Sheet.



*There have been attempts to introduce graduating armour officer candidates to a simulation called "Contact," which uses micro-armour at the combat team and battle group level. Although this simulation was initially well received, its use became intermittent because of training schedule constraints. Regardless, the simulation addressed an audience which was too inexperienced to draw conclusive lessons and there was no follow-up when the new officers arrived at their units.*

—Capt J.I.M Beauvais,  
Wargaming: An Operational Tool,  
Armour Bulletin Volume 21, 1988

## **PART FIVE—FUTURE ACTIVITIES IN SUPPORT OF TACOPSCF**

The Director of Army Training will retain responsibility for the support of TacOpsCF within the Army for the foreseeable future. The development and support of a TacOpsCF portion to the LFDTS website is currently under consideration. The intent of this website would be to provide ongoing support to the implementation of TacOpsCF within the Army and a forum in which questions and suggestions could be raised and provided.

## **PART SIX—INTERNET SUPPORT AND INFORMATION FOR TACOPS**

A number of websites currently exist on the Internet that provide additional scenarios, maps and answers to frequently asked questions regarding TacOps. One such site is [www.battlefront.com](http://www.battlefront.com). This site also includes a number of links to other sites that contain information on



TacOps and other decision-making simulations and games. Other websites can be located using the Internet search engine of your preference.

## **PART SEVEN—CONCLUSION**

Today's Canadian soldiers are more technologically literate than ever before. As an increasing part of their normal education, they are being exposed to and challenged by computers and computer simulations. Computer games and simulations are already an important component of their recreation time. If the Army wishes to recruit and retain technologically adept soldiers, it must incorporate modern simulation equipment into its training. While there is still scope for the use of the blackboard, clothe model and sand table, they cannot remain our principle training aids. Today's and tomorrow's Canadian soldiers will expect more. The Army is in the process of meeting those expectations!

Through the acquisition of a new suite of high-tech small arms, gunnery, surveillance operator and command and staff simulators and simulations, the Army intends to provide the type of challenging and realistic training that soldiers expect! TacOpsCF is simply another one of the tools that the Army intends to use to provide challenging and stimulating training. It will take time, effort, experience and, above all, the sharing of ideas before we can expect to get the most from TacOpsCF or any other simulation that is acquired.

## **FOUND A BETTER WAY TO USE TACOPSCF? LET US KNOW**

The information contained in this volume represents the ideas and experiences of but a few people. As more people use TacOpsCF, we fully expect that they will develop new and innovative ways to deliver training using this program. Don't keep those innovative ideas to yourself! Let the rest of the Army and the CF hear about them! Send your ideas by mail, Banyan Vines email or the Internet to the Director of Army Training, Attention: Major Dalton Cote, DAT 6, and to the Army Lessons Learned Centre, Attention: Major Ralph Kennedy, SO Trg, [allc@allc.com](mailto:allc@allc.com).

*"Infantry platoon leaders and forward observers are reluctant to use indirect fires during small unit contacts."*

—CTC Trends - 4QFY96 1QFY97

## ANNEX A

### RECOMMENDED RULES TO HELP IMPROVE THE TRAINING VALUE OF TACOPSCF

Due to the manner in which TacOpsCF models some aspects of indirect fire, obstacles and some CSS functions, it is recommended that special rules be put in place to more accurately represent the processes involved. They are as follows:

#### INDIRECT FIRE

The intent of the following guidance is to emphasize the requirement to concentrate multiple indirect fire units on targets of company size or greater that have been fixed or are moving very slowly.

- **Availability.** Using its default settings, TacOpsCF provides the user with relatively large quantities of indirect fire assets and ammunition. There are no restrictions on the use of indirect fire and, once allocated, it is always available. At the risk of provoking a debate regarding the quantity of indirect fire support that would be available to a battle group or a combat team, Exercise Directors may wish to impose some restrictions on the availability of indirect fire, particularly Multiple Launch Rocket System (MLRS). Some recommended means of doing so are as follows:
  - Restrict the number of available off board batteries to two or a maximum of three, based on the concept that the participant's organization is not the main effort in the brigade or battle group's advance or is defending on an OPFOR secondary approach. MLRS assets should be closely controlled as they have the potential to heavily influence a scenario. Given its value to influence the deep battle, MLRS's allocation in support of friendly force combat team or battle group operations, unless on a main effort, is problematic.
  - Impose restrictions on the type and size of targets that indirect fire assets beyond mortars will be permitted to engage (reflecting either an ammo shortage or the presence of OPFOR counter-weapon radars).
  - Based on the average duration of a TacOps scenario (1-1.5 hours) the following is a recommended allocation of missions per firing unit:
    - DPICM – 10;
    - HE – 3; and
    - smoke – 2.
- **Counter-Battery.** TacOpsCF does not currently model counter-battery fire. If one of the Exercise Director's main teaching points is

## DISPATCHES 32

the potential impact of enemy counter-battery operations, it may be handled as follows:

- for off board indirect fire, allow a maximum number of consecutive missions (3-5 for example) before imposing a delay on the use of that asset in order to reflect the requirement to move to a new location;

or

- place on the map all of the indirect fire assets that are to be allocated. Either arbitrarily force on-board indirect fire assets to move after a designated number of missions or provide information on the asset's location to the OPFOR controller, permitting them to engage it.

#### ➤ **Processing Requests for Indirect Fire.**

TacOpsCF currently permits friendly force and OPFOR requests for indirect fire to be processed and places the first round on the ground in approximately one minute and two minutes respectively. This is considered to be



unrealistically fast. TacOpsCF also permits the nature of artillery and mortar rounds to be changed in flight, thereby allowing, for example, an HE mission to be changed at the last second to a smoke mission. It also permits rounds in flight to be adjusted a considerable distance. In order to more realistically portray the amount of time required to process requests for indirect fire, and to prevent the last second changes to the type of ammo being employed or adjustment, the following rules should be adopted:

- The friendly force Fire Support Controller is responsible to action in a realistic manner any requests for indirect fire support. They will control the application of indirect fire support as follows:
  - Impose the following additional delay (beyond that already programmed in TacOpsCF) for the first round of adjustment:
    - friendly force – two minutes; and
    - OPFOR – three minutes.
  - The timing for subsequent rounds of adjustment will be processed normally by TacOpsCF.
  - Use common sense in controlling changes to ammunition type and the adjustment of fire. The minimum time required to action a request for a change in ammunition type or to adjust rounds should be **one minute**.





## OBSTACLES

- **Types.** TacOpsCF currently only models minefields. There are no barbed wire, anti-tank ditches, or dragon's teeth included with TacOpsCF. Breaching of minefields can only be achieved by degrading the minefield as units move through it. If one of the main teaching points is the siting or the breaching of obstacles other than minefields, it is recommended that another simulation be used. Potential alternatives include Strategic Simulations Incorporated's "Steel Panthers 2" and "Steel Panthers 3," which allow the siting and breaching of obstacles at a very low level.
- **Minefields.** In TacOpsCF, minefields are only visible to the opposing force when a vehicle or personnel strike them. While this is considered to be realistic for protective minefields, it is not considered to be so for the majority of tactical minefields. If one of the teaching points is the reconnaissance of minefields and subsequent reaction, here are some ways to address the point while using TacOpsCF:
  - Provide the confirmed or suspected location(s) of minefields in orders. These minefields can be plotted on the participant's map, and they can adjust their manoeuvre accordingly.
  - The mentor notes the location of any actual and phoney minefields on their paper map. When a vehicle approaches within approximately 200 metres of the forward edge of the minefield and survives until the end of the turn, the mentor informs the participant that they can see a portion of the minefield. As the participant's forces spend more time in the vicinity of the minefield, or move to positions where the extent of the minefield can be observed and survive, the mentor provides more information on the minefield until it is fully defined.

## COMBAT SERVICE SUPPORT

- **Resupply.** TacOpsCF currently permits resupply to occur instantaneously in any location without the presence of supplies or supply vehicles. In order to more realistically represent resupply activities, it is recommended that the following rules be adopted:
  - resupply of dismounted personnel, vehicles, helicopters and weapons systems may only occur when that unit's icon is touching that of a designated supply vehicle or occupies a piece of terrain designated as containing supplies that have been dumped; and
  - the icon of the unit being resupplied must remain in contact with that of the supply vehicle or the designated terrain for a period of time designated by the Exercise Director before resupply is permitted to take place. These timings should be based on average timings for the conduct of the various types of resupply, as experienced by the unit.
- **Vehicle Recovery.** TacOpsCF will occasionally designate vehicles as having suffered manoeuvre or fire damage, indicating that they are either immobilized or unable to use all or some of their weapons systems. It has also provided vehicles with the ability to tow other vehicles, although this has been granted indiscriminately enabling smaller vehicles to tow much larger ones. Recovery vehicles such as the Leopard ARV, M113 ARVL and HUSKY have been provided in the 20 CMBG ORBATs. If one of the main teaching points of the training event is to practice some elements of vehicle recovery, the controller may impose the requirement to recover immobilized vehicles using designated recovery vehicles. Once vehicles have been recovered to a designated area, the controller may, using the CPX Umpire Mode, "repair" the vehicle and allow it to return to the battle.
- **Casualty Evacuation.** TacOpsCF makes no allowances for wounded personnel. If one of the main teaching points is to practice to at least some degree the process of casualty evacuation, that play must be imposed by the controller. Ambulances have been provided in the ORBATs of the 20 CMBG units; however, they are not recognized as ambulances by the OPFOR and will be engaged like any other vehicle. The controller may designate a particular damaged or destroyed vehicle as having wounded and force the participant to move an ambulance to that location and subsequently to a designated casualty evacuation point.



Author: Major R. Kennedy, SO Trg ALLC

Contributors (in alphabetical order):

Col J.F. Antal, US Army  
Maj J.M.A. Audet  
Capt J.I.M. Beauvais  
MCpl J. Blair  
Maj J. Daniels  
Maj J. Furnivall  
Maj B. Gauvin  
Mr. A. Hatt, New Zealand Army  
Maj I. Holdridge, USMC Retired  
Capt R. Kingsbury  
CPT J. McLamb, US Army  
Maj L. Mader  
LS W.G. Merrick  
Maj R Round  
MCpl J.Y.B. Themens  
Maj M. Twohey  
Maj D. Wilkinson (Ret'd)

ARMY LESSONS LEARNED CENTRE  
PO BOX 17000 STN FORCES, KINGSTON, ON K7K 7B4  
LE CENTRE DES LEÇONS RETENUES DE L'ARMÉE  
CP 17000 SUCC FORCES, KINGSTON, ON K7K 7B4  
(613) 541-5010 / CSN(RCCC) 270-5010

LCol JM Petryk – *Director / Directeur*  
(Ext/Poste 4814) – dir@allc.com

Maj JM Twohey – *SO Operations / OEM Opérations*  
(Ext/Poste 4816) – soops@allc.com

Maj R Kennedy – *SO Training / OEM Entraînement*  
(Ext/Poste 5117) – sotrg@allc.com

Capt RE Kingsbury – *SO Production / OEM Production*  
(Ext/Poste 4813) – soprod@allc.com