

Below are the changes that have been made to the TacOps4 program since v403\_FE.

Best regards, Major H.

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#### **v406AH**

Bug fix. The Unit Information window displayed incorrect values for the amount of ammunition remaining in a unit.

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#### **v406AG**

User Request. The double click shortcut has been restored to the unit type selection list on the left side of the Add One Unit Window. Retained the "Add Unit" button for those who do not read instructions.

User request. Added the following WW2 unit types: US Inf RL M1/M9 Team (Bazooka), UK Inf RL PIAT Team, and GM Inf Panzerschreck Tm.

User request. Added the following generic WW2 unit types: AAA Portable Light, AAA SP Track Light, AAA SP Track Medium, AAA SP Track Heavy, AAA SP Wheel Light, AAA SP Wheel Medium, AAA SP Wheel Heavy, AAA Static Light, AAA Static Medium, AAA Static Heavy, AAA Towed Light, AAA Towed Medium, AAA Towed Heavy.

User Request. Reworked the Unit Data Base Report Window, the Weapon Data Base Report Window, and the Add One Unit Window to more smoothly refresh its contents when a user scrolls through multiple unit/weapon types.

Developer Initiative. A weapon's minimum range limitation, if any, is now included in the "Useful Range" column of the weapon list in the Unit Data Base Report Window and in the Add One Unit Window. Previously, only a weapon's maximum useful range was shown in these windows.

User Request. When using the Unit Data Base Report Window or the Add One Unit Window, if there is no factory provided photo for a particular unit type the program now displays the text data base id number for that unit type. However, if a user adds a personally provided photo to the zPhotos folder whose filename starts with that id number and ends with ".bmp" then the program will now display that personal photo.

User request. The unit data base record id number for a unit type is now included in the information list block in the Unit Data Base report window, the Unit Information window, and in the Add One Unit window next to the caption "DB ID:". This information has no practical game play use but is of interest to a few expert or professional users.

User request. The attrition points value (AKA unit lethality value) for a unit type is now included in the information list block in the Unit Data Base Report window and in the Add One Unit window next to the caption "Attrition Points:". This information has no practical game play use but has been of interest to PBEM and CPX scenario builders who sometimes use this value as a "cost value" for balancing scenario OOBs.

Developer Initiative. Added three arty fire mission plot symbols for WWII indirect fire units - light, medium, and heavy. Added three mortar fire mission plot symbols - light, medium, and heavy.

User request. Increased the "cost" value of the US Inf LRASS Team P3 and US RECV HMMWV LRASS from 12 to 50 .

User request. Deleted the .50 cal machine gun from the US RECV HMMWV LRASS vehicle and reduced its troop cargo capacity from 8 to 4.

User request. Deleted the .50 cal (12.7mm) machine gun from the AU/NZ APC ASLAV-A Ambulance.

Crash Bug fix. The program would occasionally hang, exit, or crash if the mouse was clicked in an empty, user selection choices list box in the following windows: Unit Database Report, Weapons Database Report, and Add One Unit Window.

Bug Fix. AAA capable ground units without thermal or radar sights would sometimes fail to engage fixed wing airstrikes despite having achieved target acquisition. The bug did not effect ground units equipped with thermal or radar sights.

Bug fix. The program failed to display a photo (#1212) for the Canadian Forces Taurus Armoured Recovery Vehicle.

Bug fix. Changed the window title of the photo data base window from "Photo" to "Photo Database".

Bug fix. When the user pressed the instant unload button in the Unit Orders Window, the program failed to instantly update the pending orders count box in the Unit Orders Window.

Bug fix. When the user pressed the instant tow release button in the Unit Orders Window, the program failed to instantly update the pending orders count box in the Unit Orders Window.

Bug fix. Changed name of weapon data base item #1227 to UK Gun 40mm Tk (2 Pdr). Changed name of weapon data base item #1262 to UK Gun 40mm AT (2 Pdr). Changed name of weapon data base item #1228 to UK Gun 57mm Tk (6 Pdr). Changed name of weapon data base item #1261 to UK Gun 57mm AT (6 Pdr).

Bug fix. Weapon UK GL 40mm AG36 was displayed out of order in the Weapons Database Report window.

Bug fix. When in NATO/wire box unit icon display mode, the program failed to draw a HQ icon on the US LAV C&C unit marker, and failed to draw a logistics/transport icon on the US LAV Logistics unit marker.

Bug fix. The program failed to limit the display size of unit photos to not wider than 400 pixels and not taller than 350 pixels in the Unit Data Base Report Window and the Add One Unit Window.

Bug fix. Mac Only. The program failed to draw a white background frame behind the black text accuracy number that is shown on the map to the right of an artillery target reference point marker.

Bug fix. Mac Only. The program wrongly drew a white background frame behind certain text items on an artillery target marker, when unit marker text names were displayed on the map.

Bug fix. The fire support target markers for some WWII on map artillery units displayed the wrong caliber for the owning unit. Such markers now display an L, M, or H (for light, medium, or heavy) instead of a numeric size.

Bug fix. The US M1IP tank was wrongly defined as carrying 40 105mm rounds instead of 55 rounds.

Bug fix. The program failed to correctly update the screen after a window drag operation when the "Setup On-Map Units" window and the "Change Units and Weapons" window were open at the same time.

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### **v406AF**

User request. Added the following unit types:

JP Gun AT 47mm Type 1

JP Gun 37mm Model 94

JP Howitzer SP 150mm (Type 4 Ho Ro)

JP Inf Team GL 50mm P3 (Grenade Launcher/Discharger/"Knee Mortar")

JP Inf Squad w GL.

JP Tank Amphibious T2 KaMi

JP Tank Amphibious T3 KaChi.

Bug fix. JP Howitzer 70mm Type92 was displayed out of order in the Unit Data Base Report and in other windows.

Bug fix. Mac only. Found and corrected a minor memory leak. The program failed to dispose of bogus scroll bar pointers when closing certain support windows, alert windows, and dialog windows.

Bug fix. The program was drawing UTM Northing lines one pixel too high.

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#### **v406AE**

User request. Added the following unit types:

AU ATGM Javelin Team (Contemporary)  
GM Gun AT 88mm F36 (WWII)  
GM Gun AT SP 88mm Elephant (WWII)  
GM Gun AT SP 88mm Elephant+ (WWII)  
GM Howitzer SP 105mm StuH42 (WWII)  
JP Howitzer 70mm Type 92 (WWII)  
RU Gun AT 45mm M37 (WWII)  
RU Gun AT 45mm M42 (WWII)  
RU Gun AT 57mm M41 (WWII)  
RU Gun AT 76mm M42 (WWII)  
RU Gun Howitzer 76mm M42 (WWII)  
RU Howitzer 122mm M1938 (WWII)

Note. RU Gun AT 76mm M42 and RU Gun Howitzer 76mm M42 are the same weapon, the difference in TacOps is that the first type is limited to direct fire while the second can also do indirect fire.

User request. Added two more personnel to the AU SAM RBS70 Team.

User request. Changed the armor penetration of the WW2 Generic Heavy Mortar from 40 to 45.

Developer. Changed ammo load for all non SP mortars, arty, and gun howitzers to 50 rounds.

Bug fix. The program failed to immediately update the time displayed in the game clock window after the "Options/More Options/Change Game Clock Time" feature was used.

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#### **v406AD**

User request. Added the following WWII unit types:

GM Gun AT SP 47mm PzJg  
GM Gun AT SP 75mm Marder II

GM Gun AT SP 88mm Nashorn.  
GM Howitzer SP 105mm Wespe  
GM Howitzer SP 150mm Hummel  
GM Howitzer SP 150mm SIG33  
RU RECV BA32/10M (Armored Car),  
RU RECV BA64 (Armored Car).  
RU Gun AT SP SU85  
RU Gun AT SP SU100  
RU Howitzer SP SU122  
RU Howitzer SP SU152  
RU Howitzer SP ISU152.  
UK Gun AT SP 40mm 2pdr Portee.  
US APC LVT1  
US APC LVT2  
US APC LVT4  
US APC LVT(A)2,  
US DUKW 353.  
US Gun AT SP 75mm M3.  
US Gun SP 37mm LVTA1  
US Gun SP 75mm LVTA4.  
US Howitzer 75mm Pack  
US Howitzer SP 75mm Pack.  
US Howitzer SP 105mm M3  
US Howitzer SP 105mm M7

User request. Revised all WW2 direct fire weapons data base entries so that useful range ends at 10% ph vice 5% ph.

User request. Unit types with organic dozer blades now display the words "Dozer blade" in the unit info window and in the unit data base window.

User request. Changed the name of unit type "JP Tank Type 94 Tankette" to "JP RECV Type 94 Tankette" and changed its wire box map symbol to armored reconnaissance.

User request. When the program reports that units have exited the map, the game no longer pauses until the player manually closes an alert window. That information is now shown transiently in the info line at the bottom of the map window. The info window will blink for about three seconds to highlight this report. Also, the unit map exit alert is now not shown to opposing players. In multiplayer games, the unit map exit alert will be shown to the owning player, to the umpire, and to spectators.

Added a date for a unit type's year of initial operational capability (IOC) to the Unit Information window, the Unit Data Base window, and the Add One Unit window. At present the unit data base contains IOC dates for only a minority of unit types (mainly WWII items).

Bug fix. When firing indirect fire, on map arty units were wrongly much less likely to be spotted by opposing units (with a legal line of sight) than when they or similar unit types were firing direct fire.

Bug fix. The RU SU57 was wrongly equipped with a 76mm gun instead of a 57mm gun.

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#### **v406AC**

User request. Added a “right click” unit information feature to the "Options/Change Units & Wpns" window. Right clicking on a unit line in this window will now display the data base record for that unit type.

User request. Deleted a comma from the unit name of US Aircraft UAV.

User request. Added the following WWII unit types:

GM RECV SdKfz 221/223  
GM RECV SdKfz 222  
GM RECV SdKfz 231/232  
GM RECV SdKfz 263  
GM RECV SdKfz 233.  
IT Gun SP L40 DA 47/32  
IT RECV AB41  
UK RECV Daimler  
UK RECV Daimler Scout  
UK RECV Rolls-Royce  
UK RECV Humber Light  
UK RECV Humber Mk I  
UK RECV Humber Mk IV  
US RECV M8 Greyhound.

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#### **v406AB**

Developer Initiative. Revised the Game Replay feature to reduce the delay between clicking on the skip forward and skip backward buttons and the actual display of the next or previous game turn. Also, if the skip forward or skip backward button is clicked during playback, the program will now pause the playback after completing the skip so that the user may choose to do additional skips before resuming playback.

User request. Added World War Two air strikes to the "Options/Change Air Support" window. Added a sound effect for World War Two air strikes.

Developer Initiative. Deleted use of F16/18, AV8, and Mig air strike names. Program now just displays "Aircraft" or "Aircraft WW2".

User request. Added GM APC SdKfz251/10 (with 37mm gun), .GM LUV Motorcycle Sidecar, and GM LUV Motorcycle Sidecar LMG.

User request. Added three generic World War Two artillery unit types to the unit database: Howitzer WW2 Light (approximately 75mm), Howitzer WW2 Medium (approximately 105mm), and Howitzer WW2 Heavy (approximately 155mm).

User request. Added three generic World War Two artillery types to the "Options/Change Arty Support" window: Howitzer WW2 Light (approximately 75mm), Howitzer WW2 Medium (approximately 105mm), and Howitzer WW2 Heavy (approximately 155mm).

Bug fix. While using the game replay feature, the program failed to remove smoke from the map if the user skipped one or more turns forward or backward, thus causing the replay to sometimes vary from what happened in the original game session.

Bug fix. The following items were sometimes wrongly excluded from the Unit Data Base window and the Add One Unit window: + Attachment Blade, + Attachment Mine Plow, + Attachment Mine Roller, and + Logistics Package.

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### **v406AA**

User request. Deleted use of Type1 maps. Provided Type2 versions of Maps 1 through 16.

User request. Added the "Civil Car Armored VIP" unit type.

User request. Adding the following WWII unit types.

Note. The new WWII unit types have not been researched or defined with the same rigor as the contemporary unit types in TacOps. Users who may be dissatisfied with a particular unit characteristic are invited to forward specific change suggestions to MajorH@satx.rr.com.

Australia/New Zealand:

Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Section P10	1939
Inf Subunit HQ [-] P4	1939
Inf Team P4	1939

France:

Inf HQ Command [-] P4	1939
Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Squad P10	1939
Inf Team P4	1939
Tank AMC35	1936
Tank AMR33 VM	1934
Tank AMR35 ZT	1936
Tank AMR35 ZT w 25mm	1936
Tank AMR35 ZT w HMG	1936
Tank B1 bis	1939
Tank D2	1934
Tank FCM36	1937
Tank FT17 Canon	1918
Tank FT17 Mitrailleur	1918
Tank H35	1936
Tank H39	1939
Tank R35	1936
Tank S35	1936

#### Germany:

APC SdKfz 251	1939
Gun SP StuG III A/E	1940
Gun SP StuG III F	1942
Gun SP StuG III G	1942
Inf AT Gun 50mm Pak 38	1940
Inf AT Gun 75mm Pak 40	1942
Inf AT Rifle Tm P2	1938
Inf HQ Command [-] P4	1939
Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Pak 35/36 Team P6	1936
Inf Squad P10	1939
Inf Team P4	1939
Tank Pz Kw I B	1935
Tank PzKw 35t	1939
Tank PzKw 38t	1939
Tank PzKw II C	1939
Tank PzKw III D	1939
Tank PzKw III F/G	1940
Tank PzKw III J/L	1941
Tank PzKw IIIN	1942
Tank PzKw IV B/C	1937
Tank PzKw IV D	1939
Tank PzKw IV E	1939



Tank PzKw IV F1	1941
Tank PzKw IV F2/G	1942
Tank PzKw IV H/J	1944

#### Italy:

Inf AT Rifle Tm P4	1939
Inf HQ Command [-] P4	1939
Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Squad P10	1939
Inf Team P4	1939
Tank L3/35	1935
Tank L6/40	1942
Tank M11/39	1939
Tank M13/40	1940
Tank M41 75/18	1941

#### Japan:

Inf AT Rifle Tm P4	1937
Inf HQ Command [-] P4	1939
Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Squad P10	1939
Inf Team P4	1939
Tank Type 89B	1934
Tank Type 94 Tankette	1934
Tank Type 95 HA-GO	1936
Tank Type 97 CHI-HA	1938
Tank Type 97 Special	1941
Tank Type 97 TE-KE	1938

#### Russia/USSR:

Gun SP SU45	1941
Gun SP SU57	1941
Gun SP SU76	1943
Inf AT Rifle Tm P2	1941
Inf HQ Command [-] P4	1939
Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Squad P10	1939
Inf Team P4	1939
Tank BT7	1938
Tank KV1	1940

Tank KV1A	1940
Tank KV1B	1941
Tank KV1C	1942
Tank KVII	1940
Tank T26S	1938
Tank T28B	1938
Tank T28C	1939
Tank T34/76A	1940
Tank T34/76B	1941
Tank T70	1942

#### United Kingdom:

APC Universal Carrier	1938
Inf AT Gun 40mm 2 Pounder	1939
Inf AT Gun 57mm 6 Pounder	1942
Inf AT Rifle Tm P2	1937
Inf HQ Command [-] P4	1939
Inf MG Team P2	1939
Inf MG Team P4	1939
Inf Section P10	1939
Inf Team P4	1939
Tank Churchill II	1941
Tank Churchill III	1942
Tank Cruiser MkI	1937
Tank Cruiser MkII	1939
Tank Cruiser MkIII	1939
Tank Cruiser MkIV	1940
Tank Light MkVI	1936
Tank Matilda I	1938
Tank Matilda II	1940
Tank Valentine I	1941

#### United States:

APC M3 Halftrack + HMG	1941
APC M3 Halftrack + LMG	1941
Inf AT Gun 37mm M3A1	1939
Inf AT Gun 57mm M1	1942
Inf Cmd P4	1941
Inf MG Team P2	1941
Inf MG Team P4	1941
Inf Team P4	1939
Inf Squad P10	1941
Tank M3 Lee/Grant	1942
Tank M3 Stuart	1941

Inf HQ Command [-] P4 1941

Generic:

Mortar Generic Light	1939
Mortar Generic Medium	1939
Mortar Generic Heavy	1939
Truck Medium Generic	1939
Truck Medium HMG Generic	1939
Truck Medium MG Generic	1939
Truck Small Generic	1939
Truck Small HMG Generic	1939
Truck Small MG Generic	1939
Utility Vehicle Generic	1939
Utility Vehicle HMG Generic	1939
Utility Vehicle MG Generic	1939

Bug fix. The weapon photo for the US .50 sniper rifle was incorrect.

Bug fix. US MG 7.62mm coaxial (WID 1009) was wrongly able to fire as an antiaircraft weapon.

Bug fix. US MG 7.62mm pintle (WID 1004) was wrongly unable to fire as an antiaircraft weapon.

Bug fix. Program failed to provide an option to give ICM ammo to OPFOR 122mm off map artillery when using the Options/Change Artillery menu item.

Developer initiative. Revised and enhanced the Unit Data Base Report window, the Weapon Data Base window, and the Add One Unit Window to include basic information about a selected unit or weapon and a photo. Previously the user had to open an additional window to see this information.

Developer initiative. Enhanced the "Change Units & Wpns" window with unit type filter check boxes.

Developer initiative. Added "WWII" and "Post WWII" filter buttons to the Unit Database window and the Add One Unit window

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**v405AU**

User request. Increased the bridge load capacity of the AU VLB Leopard AVLB from 50 metric tons to 60 metric tons.

Bug fix. "GM SAMV Marder Roland" was misspelled as "Rowland" in the photo data base.

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### **v405AT**

Developer initiative changed name of "US OCV, M1 Obstacle Breaching Vehicle" to "US ABV, X-Armored Breacher Grizzly".

Developer initiative. Added a dozer blade to US ABV, XArmored Breaching Vehicle MICLIC.

Developer initiative. Changed name of "US MCV, Armored Breaching Vehicle" to "US ABV, XArmored Breacher MICLIC".

Developer initiative. Added a bulldozer blade to US APC M2A2 Bradley ENG, US APC M2A3 Bradley ENG, and to US APC M2A3 Bradley ENG+.

Developer initiative. Gave engineering bonus to M2A2 Bradley ENG, US APC M2A3 Bradley ENG, and to US APC M2A3 Bradley ENG+.

Developer initiative. Enabled the following unit types to have map markers that can represent more than one strength point.

- US MCV Trailer MICLIC M58A3
- US MCV, US Trailer MICLIC Mk155.
- US MCV M60 AVLM
- US MCV AAVP7 LMC
- US MLV, M548 Mine Dispenser
- US Helo, UH60 Mine Dispenser
- US MLV, Truck Mine Dispenser
- OP Truck, UMZ Mine Dispenser
- OP MLV MTLB UMZ Mine Dispenser
- OP Helo, Mi8/17 HIP Mine Dispenser
- OP MCV MTK2 Mine Clearing Vehicle

User request. The information line for Logistics Packages in the Situation Report and Logistics Report now includes the number of remaining supply points for each.

Developer initiative. Changed the display of unit strength points in each unit information line in the Artillery Support Report, Spot Report, Situation Report, and Logistics Report so that the number of items in a unit marker follows the unit type name instead of preceding it.

Developer initiative. Increased the height of the Add Optional Units window.

User request. Added the AU VLB Leopard AVLB to the unit data base.

Bug Fix. The program would sometimes fail to divide ammunition correctly when splitting a unit that had less than one round per strength point.

Bug Fix. The program would sometimes fail to duplicate ammunition correctly when duplicating a unit that had less than one round per strength point.

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#### **v405AS**

User request. Added a SAW 5.56mm machine gun to THE "US Inf Team P4" unit type. Reduced its 5.56mm rifle ammo from 1200 to 900. Reduced its AT-4 LAAW ammo from 8 to 4.

User request. Added the following unit types. GM FSCV Fennek FO, NL RECV Fennek Rece, NL ATGMV Fennek XMRAT.

Bug fix. The "Select Options/Change Units & Weapons" menu item routine would crash if an attempt was made to change any unit into a XIMV 81mm Mortar Carrier or into a XIMV 120mm Mortar Carrier.

Bug Fix. Linked the thermal sight on GM RECV Fennek Recce to its AGL. Marked its AGL as not an exposed weapon.

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#### **v405AR**

User requests and developer initiative. Added the following unit types to the database:

AU ALV, XM113AS4-ALV Logistics  
AU APC, XM113AS3-AM Ambulance  
AU APC, XM113AS4 ISC  
AU APC, XM113AS4-AF Fitters  
AU APC, XM577AS3-ACV Cmd  
AU APCW, IMV ISC AGL  
AU APCW, IMV ISC MG  
AU APCW, X-IMV Ambulance  
AU APCW, X-IMV Command  
AU APCW, X-IMV DFSW HMG  
AU ARVL, XM806AS3 Recovery  
AU ATGMV, X-ASLAV-AT  
AU Mortar, 120mm XASLAV-M  
AU Mortar, Carrier 120mm X-IMV  
AU Mortar, Carrier 81mm X-IMV  
AU Mortar, Carrier 81mm XM125AS3  
NL APC, Ambulance YPR765

NL APC, Cargo YPR765  
NL APC, Cmd YPR765 PROC-B  
NL APC, ISC YPR765 PRI  
NL APC, ISC YPR765 PRI/I  
NL ATGM, Dragon2 Team  
NL ATGM, Gill-MR Team  
NL ATGMV, YPR765 PRAT  
NL Helo, Cougar Mk2  
NL Inf, HQ Command  
NL Inf, HQ Command [-]  
NL Inf, Section (-)  
NL Inf, Section + Dragon  
NL Inf, Section + Gill  
NL Mortar, 120mm RT61  
OP Inf, Sharpshooter (less capable than units with "sniper" in their name)  
US Inf, Sharpshooter (less capable than units with "sniper" in their name)

Developer initiative. Added an "Other" nationality filter to the Unit Data Base Window, Weapon Data Base Window, Add One Unit Window, and Change Units Window. Check marking the "Other" box will display Royal Netherlands Army unit types.

Bug fix. Units wrongfully fired on infantry casualty markers.

Bug fix. Deleted Javelin ATGM from US AAAPV. Changed the automatic cannon on the Advanced Amphibious Assault Vehicle from 25mm to 30mm.

Bug fix. The Chinese/North Korean Type 83 self-propelled howitzer was wrongly classed as a 122mm howitzer instead of as a 152mm howitzer.

Bug fix. Reduced lethality points value of AAAPV from 70 to 50.

Bug fix. Added M16 rifle and AT4 LAAPV to weapons carried by LAV25 AD (Air Defense).

User request. Changed name of "OP Inf RPG Team" to "OP Inf Team w RPG".

User request. Changed name of "OP Inf MG 5.45mm RPK Team" to "OP Inf Team w RPK MG".

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**v405AQ**

User request. Added the following unit types to the database:

GM APC Boxer Ambulance.  
GM APC Boxer LMG

GM APC Boxer AGL  
OP BMD1 with AT3 SAGGER.  
OP APC BTR60  
OP APC BTR60PB  
OP APC BTR70.  
US Truck 5t AGL (generic )  
US Truck 5t HMG (generic )  
US Truck 5t LMG (generic )

Developer initiative. Revisited and tweaked the characteristics of OP APC BTR80, OP APC BTR80A, and OP APC BTR90 unit types.

User request. Increased troop cargo capacity of GM Boxer APCs from 9 to 10.

User request. Increased troop cargo capacity of GM FSCV Marder FO from 4 to 6.

Bug fix. Reduced the armor on BMP1 from 37/18/17 to 23/15/12.

Bug fix. The program failed to represent the small arms on the US Truck 5 ton as exposed weapons.

Bug fix. Introduced in last patch. The program would crash when the "Add One Unit" window was used to add an OPFOR Mortar Carrier 82mm M60 unit type to a scenario.

Bug fix. Introduced in last patch. The OP APC BOVM was wrongly coded as carrying an AT5 ATGM rather than a 7.62mm machine gun.

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### **v405AP**

User request. Added the following unit types to the database: GM FSCV Marder FO, GM APC Boxer ISC, GM SAMV Gepard Stinger, GM AAA SP Gepard, and GM SAMV Marder Roland.

User request. Added a "FSC Bonus" filter check box to the Add One Unit Window and to the Unit Data Base Report Window. When this item is check marked, only unit types that provide an artillery direction bonus will be displayed in the unit selection lists.

Bug Fix. The program would crash when a helicopter was placed on or tried to land on urban terrain.

Bug Fix. The range of the Milan ATGM was changed from 2000 meters to 1950 meters.

Bug Fix. The Photo Database Report displayed an incorrect photo for US Sniper Team Heavy and failed to draw a photo for US Ships Amphibious Task Force.

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### **v405AO**

Developer initiative. US Inf LRASS Team and US RECV HMMWV LRASS now provide an artillery direction bonus

Bug Fix. The program would crash when the Weapon Data Base Report window was opened and closed.

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### **v405AN**

Developer initiative and user requests. Added 130 new unit types to the v4 database. See list below.

User request. Helicopters with a turning rotors footprint of 15 meters or less can now land in town terrain.

Hobby user request. An infantry unit that is capable of providing an artillery direction bonus, such as FSCE FOO Team, FSCE Forward Observer Team, or FSCE COLT Team, can now provide its bonus while inside of a vehicle as well as when dismounted. Previously such units had to be dismounted in order to provide their artillery direction bonus.

Hobby user request. Changed the Front/Side/Rear armor values for the T84 and T90 tanks as follows. Changed T84 from KE 525/180/100 and CE 950/195/100 to KE 846/200/100 and CE 1270/220/100. Changed T90 from KE 810/190/100 and CE 1120/205/100 to KE 810/200/100 and CE 1250/220/100.

Backfitted from TacOpsMC v5. The unit type names in the selection lists in the Add One Unit window can now be optionally filtered so as to show only the following types of units to the user: aircraft only, amphibious only, APCs only, artillery/mortar only, ATGMs only, boats/ships only, engineer items only, infantry only (dismounted personnel), SAMs only, tanks only, tracked vehicles only, or wheeled vehicles only. The Unit Data Base Report Window can also now be optionally filtered in the same way.

Backfitted from TacOpsMC v5. Added the unit type "US Inf, Casualty". The casualty unit type is immobile, unarmed, and can represent 1 to 15 personnel. It can be picked up and transported by any friendly unit that can carry personnel. It can not spot/reveal enemy units. It can not be fired on with direct fire but can be inadvertently harmed by airstrikes and indirect fire. A casualty marker will be automatically removed from play as "captured" if the center point of a qualified hostile unit is located within 50 meters of its center point at the end of any combat/movement phase. The hostile unit must be stationary, have no pending orders, and must be a ground unit or a landed transport helicopter. The program does not currently generate casualty markers as a result of combat - they must be manually placed by the umpire or scenario



designer by use of the "Options/Add One Unit" menu item. The computer opponent (AI) in a solitaire game will normally ignore casualty icons but may coincidentally capture them if one of its units happens to end the turn within 50 meters.

Backfitted from TacOpsMC v5. Added a special bomb marker named "Demolition Charge" for various uses including the destruction of bridges. This item currently functions exactly the same as "Bomb Portable".

Backfitted from TacOpsMC v5. Added an "Aircrew" unit type to represent downed aviators for TRAP training. The aircrew marker is armed with one pistol per person and can contain 1 to 15 personnel. It functions as any other dismounted infantry unit type.

Backfitted from TacOpsMC v5. Added an "Aircraft Wreck" unit type to represent downed but not completely destroyed aircraft for TRAP training. Added a span of five generic unit types to represent wreckage with a weight varying from 2 tons through 20 tons: Aircraft Wreck 2tn, Aircraft Wreck 5tn, Aircraft Wreck 10tn, Aircraft Wreck 15tn, and Aircraft Wreck 20tn. The width and length of each aircraft wreck increases with the weight. Aircraft wrecks do not spot. They can be transported by appropriate vehicles or helicopters. They can be destroyed by friendly indirect fire but not by friendly direct fire. They can be destroyed by enemy direct fire, enemy indirect fire, and by friendly or enemy bomb portable, bomb transportable, or demolition charge.

Developer initiative. Added UK item filter to Unit Data Base Window, Weapon Data Base Window, Add One Unit Window, and Change Units Window.

Developer initiative. Added United Kingdom and German features to the "Change Units & Weapons" window.

Developer initiative. Changed M2A2 Bradley IFV (and variants) armor from KE 45/35/20 and CE KE 45/35/20 to KE 66/55/26 and CE 66/55/26.

Developer initiative. Increased armor from KE 45/35/20 and CE KE 45/35/20 to KE 66/55/26 and CE 66/55/26 for following Bradley variants: M6 Bradley Linebacker, M2 Bradley AMEV Ambulance, and M7 Bradley FIST.

Developer initiative. Decreased armor for M2 Bradley AMTV to 16/16/16.

Developer initiative/user request. Removed amphibious capability from all Bradley APCs and Bradley based variant vehicles in TacOps.

Bug Fix. The program failed to erase a unit's optional text name from the map when the unit was manually loaded onto an APC during the orders phase.

Developer initiative and user requests. Added the following 130 unit types.

Bug Fix. During the setup turn only, the line of sight tool cursor sometimes failed to change to gray when passing the current visibility limit as specified by the current scenario or user preferences setting.

Bug Fix. The following "civilian" unit types are armed with concealed pistols: Civil x1 w Pistol, Civil x5 w Pistol, and Civil x10 w Pistol. The program would wrongly reveal the pistols if a player of a different force color right clicked on one of these unit markers and selected "Info".

Developer initiative and user requests. Added the following 130 unit types to the v4 database.

AU/NZ APC, ASLAV-A Ambulance  
AU/NZ APC, ASLAV-C Command  
AU/NZ APC, ASLAV-CS Combat Support  
AU/NZ APC, ASLAV-F Fitter  
AU/NZ APC, ASLAV-PC  
AU/NZ APC, NZLAVIII ISC  
AU/NZ ATGM, Javelin Team P2  
AU/NZ FSCE, FOO Team P3  
AU/NZ FSCE, JOST P4  
AU/NZ Helo, Tiger ARH  
AU/NZ Helo, UH1H Gunship  
AU/NZ Howitzer, Towed 155mm FH2000  
AU/NZ Inf, AGL MK19 Team P3  
AU/NZ Inf, MG 5.56 Team P2  
AU/NZ Inf, MG 50cal Team P3  
AU/NZ Inf, MG 7.62 Team P2  
AU/NZ Inf, Rifles x 2 P2  
AU/NZ Inf, Rifles x 4 P4  
AU/NZ Inf, Section P6  
AU/NZ Inf, Section P8  
AU/NZ Inf, Section P9  
AU/NZ Inf, Team w LMG + M203 P4  
AU/NZ Inf, Team w LMG P4  
AU/NZ LUV, LOV MV-A Ambulance  
AU/NZ LUV, LOV MV-C Command  
AU/NZ LUV, LOV MV-GS  
AU/NZ LUV, LOV MV-GS + AGL  
AU/NZ LUV, LOV MV-GS + HMG  
AU/NZ LUV, LOV MV-GS(A) + AGL  
AU/NZ LUV, LOV MV-GS(A) + HMG  
AU/NZ LUV, LOV MV-GS(A) + LMG  
AU/NZ LUV, LOV MV-S Shelter  
AU/NZ LUV, LOV MV-SO AGL  
AU/NZ LUV, LOV MV-SO HMG  
AU/NZ RECV, ASLAV-25 Recce  
AU/NZ RECV, ASLAV-S Surveillance

AU/NZ RECV, NZLAVIII Surveillance  
AU/NZ RV, ASLAV-R Recovery Vehicle  
AU/NZ RV, NZLAVIII Recovery  
AU/NZ SAM, Mistral Team P4  
AU/NZ SAM, Rapier Towed  
AU/NZ SAM, RBS70 Team P2  
AU/NZ Truck, Cargo U1700L  
AU/NZ Truck, Cargo U1700L + HMG  
AU/NZ Truck, Cargo U1700L + LMG  
GM APC, Wiesel Ambulance  
GM APC, Wiesel Command  
GM APC, Wiesel ISC  
GM ATGMV, Wiesel TOW  
GM FSV, Wiesel MK20  
GM Mortar, Carrier 120mm Wiesel  
GM SAMV, Ozelot Stinger  
OP AAA, SP 20mm BOV3  
OP AAA, SP 30mm BOV30  
OP AAA, SP 57mm ZSU-57-2  
OP APC, BOVM  
OP APC, BRDM1  
OP APC, BTR152  
OP APC, BTR40  
OP APC, BTR50  
OP APC, M60P  
OP APC, M60PB  
OP APC, M80  
OP ATGMV, BOV1  
OP ATGMV, BRDM1-AT  
OP ATGMV, M80ALT  
OP Mortar, Carrier 82mm M60  
OP Tank, M84  
OP Tank, M84A  
OP Tank, PT76  
OP Tank, T34/85  
OP Tank, T54  
UK APC, CVRT Samaritan Amb  
UK APC, CVRT Spartan  
UK APC, CVRT Sultan Command  
UK APC, FV432  
UK APC, FV432 Ambulance  
UK APC, FV436 Command  
UK APC, Warrior Command++  
UK APC, Warrior IFV  
UK APC, Warrior IFV+  
UK APC, Warrior IFV++

UK APC, Warrior Repair  
UK APCW, SAXON  
UK ATGM, Milan P2  
UK ATGMV, CVRT Striker  
UK FSCV, Warrior OPV++  
UK Howitzer, SP 155mm AS90  
UK Inf, HQ Command [-] P4  
UK Inf, HQ Command P8  
UK Inf, Section P8  
UK Inf, Team P4  
UK Mortar, Carrier 81mm FV432  
UK RECV, CVRT Sabre Recce  
UK RECV, Scimitar Recce  
UK RECV, Scimitar Recce+  
UK RV, Challenger ARRV  
UK RV, CVRT Samson Recovery  
UK RV, Warrior Recovery  
UK SAMV, Stormer Starstreak  
UK Tank, Challenger 1 Mk2  
UK Tank, Challenger 1 Mk3  
UK Tank, Challenger 2  
UK Tank, Chieftain Mk12  
UK Tank, Chieftain Mk5  
US Aircraft Wreck 10tn  
US Aircraft Wreck 15tn  
US Aircraft Wreck 20tn  
US Aircraft Wreck 2tn  
US Aircraft Wreck 5tn  
US Aircrew P1  
US APC, M2A3 Bradley ENG+  
US APC, M2A3 Bradley IFV+  
US APC, M3A3 Bradley CFV+  
US Boat, Rigid Raider  
US Demolition Charge P1  
US Helo, AH6 MG  
US Helo, AH6 MG + ATGM  
US Helo, AH6 MG + Rocket  
US Helo, MH6  
US Helo, MH60  
US Helo, MH60 DAP CS  
US Helo, MH60 DAP GS  
US Helo, MH60 DAP MR  
US Inf, Casualty P1  
US Inf, LRASS Team  
US Inf, Sniper Team Heavy P2  
US MCV, Armored Breaching Vehicle

US RECV, HMMWV LRASS  
US RECV, Prophet SIGINT/EW

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### **v405AM**

Hobby user request. Made the bridge placement step in the Options/Engineering/Build Bridge menu item consistent with all other engineering items. The user can now continue to place bridges on the map until pressing a key or right clicking on the map. Previously the user could only place one bridge on the map before being returned to the Engineering Window.

Hobby user request. Made the LZ placement step in the Options/Engineering/Build LZ menu item consistent with all other engineering items. The user can now continue to place LZs on the map until pressing a key or right clicking on the map. Previously the user could only place one LZ on the map before being returned to the Engineering Window.

Bug fix. Fixed a rare crash bug in the pop up menu that is summoned by right clicking on an on map unit marker.

Bug fix. Due to unintended side effects, deleted the following item which was added to the program on 040122. Hobby user request. The resupply window now remembers and defaults on opening to check mark whichever of the following check boxes was last selected: "Conceptual" or "Logistics Package".

Developer initiative. Multiplayer Teams mode. Changing fog of war settings on host now does not require a situation update before advancing to the combat/movement phase. Done in v5 on 040125.

Developer initiative. Removed the English language check box from the startup screen. The French language user interface is disabled and out of date so there was no need to retain the English box.

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### **v405AL**

Hobby user request. Reordered the target priority groups in the Direct Fire Target Priorities window so that their top to bottom order matched the left to right order of the target priority buttons in the Unit Orders window

Hobby user request. Added the following keyboard short cuts:

- Do Blue Unit Orders Ctrl + 1 (Mac Cmd + 1).
- Do Red Unit Orders Ctrl + 2 (Mac Cmd + 2).
- Do Green Unit Orders Ctrl + 3 (Mac Cmd + 3).
- Do Gray Unit Orders Ctrl + 4 (Mac Cmd + 4).

Do Ivory Unit Orders Ctrl + 5 (Mac Cmd + 5).  
Do Orange Unit Orders Ctrl + 6 (Mac Cmd + 6).  
Do Gold Unit Orders Ctrl + 7 (Mac Cmd + 7).  
Do Yellow Unit Orders Ctrl + 8 (Mac Cmd + 8).

Hobby user request. The resupply window now remembers and defaults on opening to check mark whichever of the following check boxes was last selected: "Conceptual" or "Logistics Package".

Hobby user request. The standard Ctrl + C keystroke for copying text (Mac Cmd + C) now works in the Name Unit window. The standard Ctrl + V keystroke for pasting text (Mac Cmd + V) now works in the Name Unit window.

Hobby user request. When the Name Unit window is opened, the check box labeled "Use Same Name For Mounted Troops" is now check marked by default.

Hobby user request. Changed the "Display way point times" button icon in the Orders frame of the Unit Orders window from a question mark icon to a clock icon. Changed the "Display engagement range rings" button icon in the Fire Control frame of the Unit Orders window from a question mark icon to a circles icon. The use of the question mark icon for these icons was judged to be an unintuitive conflict with the "Help" button icon (a question mark inside of a yellow circle) that is used in other places in the program.

Hobby user Request. Changed unit names containing "XIAV" to use "Stryker" or "XStryker" instead of "XIAV".

NAVAIR request. Changed the unit type name for the unmanned aerial vehicle from "UAV" to "Aircraft, UAV".

Developer initiative. Completed work on changes to network code which produced a 50% decrease in the time required to transmit those portions of the situation update that are related to game status statistics, common random number array, mines, bridges, LZs, obstacles, entrenchments, smoke, and wreck markers. This change produced no significant improvement in the transmission speed for the unit order of battle portion of the situation update/orders exchange.

Developer initiative. The Orders Time Limit window now always remembers and defaults on opening to display the last used settings for minutes and seconds. Previously these settings were zeroed whenever the user turned this feature off. This created extra work for the umpire in a Multiplayer Teams Network game, who often needs to briefly disable this feature in order to do an administrative task and then turn it on again.

Bug Fix. The unit data base record for the US AAV wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. The unit data base record for the US Helo AH64 GS wrongly included an ATGM flag

when no ATGM weapon is in fact present.

Bug Fix. The unit data base record for the OPFOR SNAR10 Surveillance Radar wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. The unit data base record for the OPFOR ARK1M Artillery Locating Radar wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. Corrected a minor cosmetic drawing bug present in most buttons.

Bug Fix. The Network Status window was wrongly named "Network Report".

Bug Fix. The program failed to instantly update the ammunition status line at the bottom of the Unit Orders window when a user resupplied an on map artillery or mortar unit.

Bug Fix. Multiplayer Teams Network mode. If the umpire was using the Orders Phase Time Limit feature and if he selected the "Network/Pause Game" menu item, the program failed to cancel the count down timer for the Orders Phase Time Limit. When the timer reached zero the umpire computer would wrongly start the combat/movement phase despite the Pause Game instruction.

Bug Fix. The US D7 Bulldozer was wrongly coded as amphibious.

Bug Fix. When a user opened the "Change Air Support" window or the "Change Artillery" window, the program displayed an incorrect hint in the information line at the bottom of the map window. The program now correctly displays "Select one item from a list". Previously it wrongly displayed "Click on minefield to delete. Touch a key or click on empty map to quit".

Bug Fix. When in "Play by Email" mode, the program failed to disable the "Options/Engineering" menu item during the orders phase. The program does not currently support the use of this umpire function during a Play by Email game.

Bug Fix. Multiplayer teams hosting mode. The program failed to automatically enable and check mark the "Options/Ignore Unit Setup Limits" menu item when a scenario was initially loaded on the host computer.

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## **v405AK**

Bug Fix. The program failed to consider the current eye visibility limit when checking spotting of bridges, obstacles, and landing zones. The program would wrongly reveal these items based only on a line of sight check.

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#### **v405AJ**

Bug Fix. The program would wrongly display information for unspotted obstacles and minefields if the user right clicked on the map at the location of a currently unspotted (invisible) obstacle or minefield.

Bug fix. The constant for number of items in the Network menu was too high by one number. Effect on program unknown but believed to be harmless.

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#### **v405AI**

Bug fix. The up and down arrow keys failed to scroll the map when the Artillery Support Window or the Air Support Window were open.

Bug fix. "Armored" was misspelled in the unit type name for "M9 Armored Combat Earthmover".

Bug fix. "Inflatable" was misspelled in the unit type names for "Boat, Inflatable" and "Boat, Inflatable + Motor".

Bug fix to Map231c dat file. The UTM grid coordinates were displayed incorrectly on Map231c.

Bug fix to Map240c dat file. The UTM grid coordinates were displayed incorrectly on Map240c. Incremented Map version to 301.

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#### **v405AH**

Bug fix. The Windows version wrongly inflated the cargo weight capacity for units with very large capacities such as landing craft.

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#### **v405AG**

Bug fix. In a few scenarios with Red defending, where certain units were coded as mobile security forces, the program always failed to order those units to fall back to alternate positions after contact.



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#### **v405AF**

Bug fix. If OPFOR was allowed to have thermal sights and if an OPFOR unit was added (via an options menu item) to game play after turn one it would intermittently not actually receive thermal sights unless and until the player visited the preferences settings window or unless and until the game engine visited the preferences settings internally (which happens automatically during many scenario editing and network activities)- even though the info window might show that unit to have thermal sights. This bug would only appear if OPFOR units were added to game play after turn on and only then if the preferences settings were never visited thereafter either intentionally by the player or coincidentally by the game engine.

Bug fix. The engineering object design windows used in creating minefields, entrenchments, obstacles, bridges, and landing zones were misleading in that the "location known to" check boxes wrongly appeared to suggest that one of these objects could be created so that its location was not known to the force color that built it. The location of these objects is in fact always known to the force color that built them. The "location known to" check box that matches the building force color is now disabled so that it can not be unchecked.

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#### **v404AC through v404AE**

[AU/NZ request] Changed name of AU Tank Leopard 1A5 to 1A5+ to indicate its possession of thermal sights. Added additional data base entry for AU Tank Leopard 1A5 without thermal sights.

[AU/NZ request] Added the following units to the unit data base: AU/NZ Infantry Section P7, AU/NZ Recon Team P5, AU/NZ Sniper Pair P2, AU/NZ Engineer Section P7, AU/NZ Subunit HQ P5, AU/NZ Subunit HQ P10, AU/NZ Inf SRAWW 84mm CG Team.

[AU/NZ request] Deleted AU/NZ Inf Section P6.

[AU/NZ request] Added the following photos to the zPhotos folder: 1536 AU/NZ Carl Gustav SRAWW, 1531 AU/NZ Recon Team.

[Developer initiative] Australian and New Zealand units are now labeled as AU/NZ in various list selection windows rather than only as AU or only as NZ. Done to eliminate or reduce the number of duplicate data base entries for units that are essentially identical in both armies.

[Developer initiative] Abandoned use of zFanfareA.wav and zFanfareB.wav as sources for game music bits. Program now uses the appropriate wave files from the zSounds folder for each version of TacOps. Done to make the distribution packages for the various versions of TacOps more consistent so as to facilitate single version recompiles installer building, and CD burning.

[USMC request] Multiplayer teams mode. When the joining request window is shown to the umpire, the default setting for the check box labeled "Send situation update" is check marked.

[USMC request] Added the MK154 Mine Clearing Line Charge and the MK155 Mine Clearing Line Charge to the weapon data base.

[USMC request] Changed the type of mine clearing line charge carried by the AAVP7 LMC from "M58A3 MICLIC" to "Mk154 LMC".

[USMC request] Added the following USMC items: Truck Cargo 7t Mk23/25, Truck Cargo 7t Mk23/25 + HMG, Truck Cargo 7t Mk27/28, Truck Cargo 7t Mk27/28 + HMG, Truck Cargo Mk48/14/17 LVS, Truck Cargo Mk48/14/17 LVS + HMG, and Truck Mk48/16/970 LVS HET, OCV D7 Bulldozer.

[USMC request] Added the following USMC items: Small Emplacement Excavator, TRAM Forklift, and TRAM Front End Loader. Note: These items were added as placeholders - they don't have any game relevant special capabilities.

[USMC request] Added the following USMC item: Mk155 MICLIC Trailer. Any vehicle (that is otherwise allowed to tow items) can now tow and launch the Mk155 MICLIC. A "Launch Line Charge" button will now appear in the unit orders window for any vehicle that is towing a Mk155 MICLIC Trailer.

[USMC request] Added the following US unit: Engineer Squad USMC P9.

[Developer Initiative] Added more information to the error alert that is displayed when the program is unable to find a map legend text file for the current map after a user selects the "Map/Map Legend" menu item and.

[Developer Initiative] Added more information to the error alert that is displayed when the program is unable to find a place names text file for the current map after a user selects the "Map/View Place Names" menu item.

[User request] The following vehicles are now allowed to carry infantry on top of the hull: US M60 AVLB, US M1 HAB, US M1 OBV, OPFOR MTU72 AVLB and OPFOR 1MR2 Dozer.

[User request] Multiplayer teams mode. The program will now not allow the umpire to send a pause game command unless all remote computers have finished the combat/movement phase.

[User request] Rubber boats can now be transported by cargo trucks and cargo helicopters. The routine that determines how many rubber boats will fit in a given truck or helicopter is imperfect so use of this feature should be tempered by user judgement for maximum realism.

[Developer Initiative] Shortened the name of the unit "MCV, M60 AVLM Mine Clearing Veh" to "MCV, M60 AVLM".

[User request] Added the following USMC units: Inf Military Police P1, Inf Military Police P2, and Inf Military Police P4.

[Developer Initiative] Revised unit lethality values downward for numerous trucks and wheeled light utility vehicles. Most such vehicles now have a value of 12 if no weapons are carried other than crew rifles and or LAAW or 15 if a light or heavy machine gun is mounted.

[Developer Initiative] The country display filter values for the database report dialogs and the add one unit dialog are now included in the Preferences B file.

[Developer Initiative] Replaced the unit "HMMWV + MICLIC Trailer" with the unit "M58A3 MICLIC Trailer". Since MICLIC trailers can now be towed by any vehicle there was no reason to retain the dedicated combination unit "HMMWV + MICLIC Trailer".

[Developer Initiative] Added photos for the following units: Truck Cargo 7t Mk23/25, Truck Cargo Mk48/17 LVS, Truck Mk48/16/970 LVS HET, D7 Bulldozer, Small Emplacement Excavator, TRAM Forklift, TRAM Front End Loader, and Mk155 MICLIC Trailer.

[Developer Initiative] Changed photos for the following units: USMC AAVP7 with MICLIC, US Army M58A3 MICLIC trailer.

Bug fix. The AU/NZ list filter variable was being wrongly set to 256 whenever the program exited.

[Bug fix] When displaying the contents of a place names file, the program failed to consider that a user created map might start over in mid map with "00" Easting and or with "00" Northing.

[Bug fix] After the selection of the "Game Replay" game startup feature, the program would sometimes refuse to replay turn one of a solitaire game.

[Bug fix] The Mac version file finder window sometimes failed to display the file names of PBEM saved game files that had been saved by the PC version (extensions ".bmo" and ".rmo").

[Bug fix] In the Mac version, pressing the Tab key failed to display unit names on the map if the complete map was smaller than the users screen.

[Bug fix] Corrected typo in the TacOps acronym window. FIST was listed twice. Changed one of the entries from FIST to FISTV.

[Bug fix] The program failed to draw black lines between the unit information blocks in the arty support window, as shown in the user guide. [Bug fix] A click on a stack of red units on the map would sometimes wrongly display, inside the expanded unit selection window, one or more Blue units that were actually currently in an open deployment window.

[Bug fix] When in game replay mode the program failed to allow the selection of the "Plot Unit Names" and "Plot Mission Objectives" menu items while the game replay was paused/idle.

[Bug fix] The program would sometimes fail to execute the expected SOP reaction (the one with the highest priority) in cases where the user had selected multiple SOP reactions and where those multiple reactions included any "do if spot enemy" reaction and where an ambiguous battle situation was encountered.

[Bug fix] If a user was in Solitaire mode, and if the user had a scenario loaded that was capable of solitaire play against the computer AI, and if the user then started a new game in a non-solitaire mode by selecting the "File/New Game" menu item, then some portions of the computer AI would wrongly continue to operate in the new game session - such as calling for Red force artillery fire support and air support against the Blue force.

[Bug fix] The program failed to show an entry for the M58A3 MICLIC in the Weapons Report.

[Bug fix] Changed the name of the unit "MLV, AAVP7 LMC" to "MCV, AAVP7 LMC".

[Bug fix] The program displayed an incorrect photo for the US 60mm mortar.

[Bug fix] Reduced the width of M9 ACE from 320cm to 280cm - ignoring the 1 foot of width actually added by the dozer wings. Needed to allow program to load M9 ACE on the M870 trailer.

[Bug fix] The program wrongly offered to load saved game files ending in extensions other than ".tac" while in replay mode.

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#### **v404AB**

Bug fix. If a user loaded a custom scenario template while in solitaire mode rather than in two player or multiplayer mode and then selected "Do Red Orders" and then selected "Add Optional Units", the program would sometimes fail to display a setup window for the newly added Red units. Instead it would place the newly added Red units in a single pile in the extreme, upper left corner of the map. Also in this situation Blue units would sometimes continue to be shown on the map after the user had selected "Do Red Orders".

Bug fix. If a user loaded a custom scenario template while in solitaire mode rather than in two player or multiplayer mode and then selected "Do Red Orders", the Blue units would sometimes continue to be shown on the map.

Bug fix. The scenario named "Custom Scenario CA CMBG.sce" failed to offer the following items in the "Add Optional Units" list for the Blue player: artillery registration markers, hand laid mines, arty laid mines, and entrenchments.

Bug fix. The Quit menu item failed to Quit if a game replay was paused rather than stopped.

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#### **v404AA**

User Request. Added the following US vehicles: Truck M977 + HMG, Truck 939 + HMG, Truck M923 + HMG, Truck M35A2, and Truck M35A2 + HMG.

User Request. Increased speed of dismounted infantry in Rough 3 terrain from 1 KPH to 2 KPH. Increased speed of dismounted infantry in Rough4 terrain from .5 KPH to 1 KPH.

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#### **v403FP**

Enhancement. Multiplayer Teams Mode. When an umpire chooses to run combat/movement phases that last longer than one minute, an autosave file is now created for each minute. Previously an autosave file was created only for the first minute of a multiple minute combat/movement phase.

Enhancement. Multiplayer Teams Mode. Joiners in multi mode do not save or recover a temp sit file anymore. If there is a problem during sit update or orders exchange then that player's situation is simply cleared to zero and he is informed that the host knows about the problem. Joiner in two player mode still saves and recovers a temp sit file.

Enhancement. Multiplayer Teams Mode. Improved the dependability of the cancellation process when the host/umpire chooses to cancel an ongoing orders exchange or situation update.

Enhancement. Multiplayer Teams Mode. When a joining player loses connection to the host/umpire computer the program no longer requires him to quit the program before he can attempt to rejoin the network. The program now automatically reinitializes that player's program without quitting, returns him to an empty map display with no units in play, and then restores his ability to log back onto the network.

Enhancement. Multiplayer Teams Mode. Remote players no longer automatically save a ztempSituation.net file at the beginning of each situation update or orders exchange. This change should save one or two seconds per player during situation updates and orders exchanged during Internet games - more if older computers are being used. Previously, joining players did this so as to provide a situation recovery file in case of error during the situation update or orders exchange. Recent dependability improvements in the program and the new hard line attitude toward players who can not complete a situation update or orders exchange made the joiner recovery file largely obsolete. Players who fail now during a situation update or orders exchange will be automatically reinitialized to an empty map display with no units in play. The host/umpire is also now automatically notified that such players will require a situation update before play can proceed to the next combat/movement phase.

Mac only. Enhancement. Deleted use of Mac format resource files for playing splash screen music and end of game music. Mac version now plays zFanfareB.wav and zFanfareC.wav - same as the Windows version.

Bug fix. Multiplayer Teams Mode. Autosave files created on the host/umpire computer during a multiplayer teams game failed to replay accurately when repeated. The autosave was wrongly being done before the host had collected orders from the players.

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### **v403\_FO**

Enhancement. Added Game Replay feature. The game replay feature automatically links and displays a series of saved game files. The feature is controlled with an on-screen control panel containing play, pause, and skip buttons similar to a CD player. This feature is intended mainly for viewing a completed game. It is not intended for replaying turns merely to refresh the player's memory of recent game events. The latter usage is possible but it is intentionally inconvenient.

If any force color is protected by a password, the replay feature will not work unless the viewer knows the password for that force color.

In order for the automatic linking to work correctly, the saved game files must follow the following naming rules.

- (1) Each filename must begin with a twelve character sequence that consists of "AutoSave" followed by four numeric characters (0 through 9) with padding zeros if needed to produce a four digit number. Examples: "AutoSave0000", "AutoSave0001", "AutoSave0100", "AutoSave9999", etc.
- (2) Each filename must end with an extension of ".tac".
- (3) It does not matter what if any characters appear in the filename between the first twelve characters and the ".tac" extension.
- (4) There can not be a numerical gap between consecutive files that is larger than five. If a gap greater than five is encountered then the replay will stop at the gap.

Examples:

OK -> AutoSave0002.tac, AutoSave0007.tac, AutoSave0010.tac, etc.

NOT OK -> AutoSave0002.tac, AutoSave0008.tac

Note that it is possible for a folder to contain several auto save files that begin with the same twelve characters. The replay feature will display the first file that it finds that begins with the twelve characters that the program is looking for.

Example: A folder contains the following files.

```
AutoSave0005 021115_1835.tac  
AutoSave0005 021115_1840.tac  
AutoSave0005 021115_1843.tac
```

The program will display the file named AutoSave0005 021115\_1835.tac and skip the other two.

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### **v403\_FM and v403\_FN**

Enhancement. Multiplayer Teams Mode. Joining players can now optionally enter a requested PIN in the joining log on window. This PIN will be passed to the host with the log on request message and will appear in the PIN assignment box in the window that is presented to the host each time that someone requests to join the game. Previously, this box was always blank on the host computer and the umpire had to manually fill it in - usually after consulting a paper memory aid of call signs and PIN assignments. Background. The decision was made during the early Army testing to leave this task to the umpire so as to reduce log on errors by inexperienced joining players. Later experience in large exercises has shown that this significantly slows down log on cycles and also leads to log on errors. In principle it should be much easier and more efficient for a single player to remember his pregame PIN and call sign assignments than it is for the umpire to have to recall or look up 20 to 30 of them. Use of this feature is completely optional as the joining players can choose to leave this box blank and continue to rely on the umpire to set it after the joining request is received. The umpire is still allowed to overrule the requested PIN and requested call sign.

Enhancement. Multiplayer Teams Mode. The program now remembers the PIN and the force color (or observer status) that it used in the last running of the program by saving these settings in the TacOps preferences file. When a joining player opens a log on window, the program will now automatically fill in his log on request window with the last used settings. The player is free to change these settings if they are inappropriate for the current game session. Previously, the log on request window always opened with the default settings for observer status.

Bug fix. Multiplayer Teams Mode. The program would crash on the host computer if a newly joining player quit or disconnected during the joining process while the host/umpire was reviewing the log-on approval window for that player.

Bug fix. Multiplayer Teams Mode. Discovered several routines that could crash due to a player quitting or disconnecting at inappropriate times.

Bug fix. Multiplayer Teams Mode. The program wrongly allowed players and observers to save the game. Only the host/umpire is allowed to save the game during multiplayer teams network play.

Bug fix. Multiplayer Teams Mode. The program sometimes failed to divert players into the waiting room who were inadvertently trying to join the game network during a situation update, orders exchange, or a combat phase. At those times the program would wrongly display the join approval window to the umpire and then sometimes hang.

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### **v403\_FL**

Enhancement. Multiplayer Teams Mode. Added "Ping Selected Player" button to the Network Status Report. Pressing this button will send a signal to the selected player/computer. A "success" sound will be heard if the target computer automatically responds to this signal within five seconds, otherwise an error sound will be heard. Failure to respond does not always indicate that the player is off the net - the target computer may have simply missed the ping or it may be performing a TacOps task or a background application task that takes longer than five seconds to complete.

Enhancement. Artillery Support Window. The status information line for an on-map mortar or artillery unit now also displays the optional text name for that unit if the player has assigned one.

Enhancement. The time displayed in the game time clock in the lower left corner of the map window can now be changed by use of the "Options/More Options" menu item. This feature is intended mainly for use by a scenario designer who is editing an existing scenario - preferably during the first few minutes/turns of a given scenario. The time displayed by this clock is currently almost completely cosmetic, so changing the time setting will usually have little if any effect on actual game play or the current game situation. The known exceptions are possible undesired side effects if there is an activated bomb in play or if a unit is engaged in breaching operations.

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### **v403\_FK**

Enhancement. Multiplayer teams mode. The situation update and order exchange processes are no longer canceled if a player computer becomes unresponsive during data exchange. Each block of data that is passed during the situation update process and in the orders exchange process now has a progress timer. If a given player computer is or becomes unresponsive during any part of the process, that computer will now be automatically dropped from the network and the situation update or orders exchange will advance to the next player computer. The default progress timer for each step is 15 seconds. The umpire can choose to shorten or lengthen the progress timer from 10 to 120 seconds by using the "Network/More Network Tools" menu item.



It is likely that the progress timer will need to be increased for Internet play or if there are a very large number of unit markers in play.

Enhancement. Multiplayer teams mode. Added much more code to track when actions performed by the umpire should be followed with a situation update to one or more players.

Enhancement. Multiplayer teams mode. The program will no longer allow an umpire to optionally force the start of a combat/movement phase when the program believes that one or more players need a more current situation update. The umpire must now always either update or disconnect such players before advancing to the combat/movement phase. The Network Status Report now highlights deficient players in red plus the statement " - needs situation update" or "requires situation update". Any player with the annotation "requires situation update" must be updated or disconnected before the game will advance to the combat/movement phase. A player with the annotation "needs situation update" is an observer and does not have to be updated or disconnected in order to advance to the combat/movement phase.

Enhancement. Multiplayer teams mode. Program does additional record keeping on whether a given player has units, arty, air, mines, bridges, entrenchments, etc in play. These records are then used during sit update and orders exchange to avoid unnecessary net queries and handshake responses. This change is unlikely to be noticeable on a LAN but should take a few seconds off of each sit update or orders exchange during Internet play.

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#### **v403\_FJ**

Bug fix. Multiplayer teams mode. If an ATGM was fired during the last 15 seconds of a combat turn AND if the range was so great that the flying ATGM could not reach its target within the last 15 seconds of that turn THEN one or more player computers (but not the host computer) would sometimes crash during the next orders exchange or shortly after.

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#### **v403\_FI**

Bug fix. Map541c v1.0.0 had a defect. The file name was 541 but the map wrongly had an internal "check number" of 540. Thus when a Map 541 saved game file was reloaded, the program demanded Map 540.

Bug fix. The program failed to keep the menu bar disabled when a user opened and then closed a unit info window while the Order of Battle Report windows were open.

Bug fix. If an Order of Battle Report window contained more than one column of icons and if the user clicked on an icon in any column other than the leftmost column then the program would fail to open the correct unit information window.

Bug fix. Once all occurrences of a particular type of unit had been eliminated from a game, the program would fail to display the correct unit information window when the user clicked on a unit type icon in an Order of Battle Report window.

Bug fix. The program failed to disable control/command keystroke shortcuts while the Order of Battle Report windows were open.

Bug fix. The program would sometimes crash when the Support Report was displayed if the report included an on-map artillery piece that was being towed by a vehicle.

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### **v403\_FH**

Enhancement. When the Artillery Support Window is open, if an on-map artillery or mortar unit is currently being transported its mission box will be grayed out and the phrase "unavailable - is being transported" will be shown.

Enhancement. When a unit's player PIN differs from its parent PIN, both PINs will now be displayed in some unit status displays and in all PIN change windows. The parent PIN will be listed first, then a dash, and then the player PIN. The "parent PIN" field is only relevant when a unit is embarked aboard a vehicle or helicopter or when a unit is being towed. When a unit is loaded into a vehicle or helicopter or is towed, its player PIN temporarily changes to match the PIN of the unit that is doing the transporting. The parent PIN does not change in these situations and thus can be used to restore command of the transported unit when it is later unloaded or released from towing. The failure to previously display the parent PINs may have misled some users into making inappropriate PIN changes or into believing that some units had disappeared from play.

Enhancement. When opened in a network game the following windows will now check for certain problems in unit PIN assignment and will display any problems found in red text plus the phrase "\*\*\* PIN Assignment Error \*\*" at the end of each unit information line: Situation Report, Support Report, Change PIN Listed Units, Change PIN Selected Units, and Change PIN Off Map Artillery. If problem lines are ever found in these reports, the umpire should immediately stop the game and attempt to manipulate the PIN assignments for the affected units until the error annotation disappears. The umpire should then send a situation update to all players. Saved game files that were produced by any previous version of TacOps should be screened for PIN assignment problems before being used again in an exercise.

Bug fix. When the following menu items in the Network menu were used by an umpire to change unit PINs they would sometimes fail to properly set/reset the parent and player PINs for on-map artillery and mortar units when such units were being transported or towed: Change PIN Listed Units, Change PIN Selected Units, Change PIN Off Map Artillery, and Change PIN All. Bugs produced by this included intermittent damage to the artillery/mortar pointer list which would then crash the program the next time that the Arty Support Window was opened, lost units, duplicated units, and orders exchange hangs/failures.

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#### **v403\_FG**

Bug fix. Program would sometimes crash if the user selected the "Orders/Set Engagement Range" menu item and then cancelled the operation by touching a key or by clicking on an empty point on the map.

Bug fix. Program sometimes drew a zero and a blank space at the beginning of a map place name tag.

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#### **v403\_FF**

Bug fix. Program would sometimes crash when a user attempted to create and place a bridge marker on the map by using the "Build Bridge" button in the Options/Engineering window.