6 July 1995 Update

**Appendix D: TacOps Tutorial**

About the Tutorial

"Learning TacOps" is a hands-on tutorial on how to play TacOps . The tutorial offers the fastest path to enjoyable play. The mouse and dialog procedures used to give orders to your units are simple and quick once you understand them, but they may be hard to grasp if you skip the tutorial. The tutorial assumes that you are familiar with the Macintosh and know how to open, close, save, and quit programs and how to use a mouse with windows and dialogs. If you are not familiar with these operations or the terms open, close, select, drag, click, menu, window, and dialog, please refer to your Macintosh owner's guide.

Starting the Program

‡ Load and run the program by double-clicking on the TacOps icon.

While the program loads, the cursor will change from an arrow to a watch. Wait for the cursor to change back into an arrow.

A dialog will appear asking you to choose between playing a solitaire game, a two player game using one computer, a two player game using two computers linked by AppleTalk, or a two player game using mail or Email.
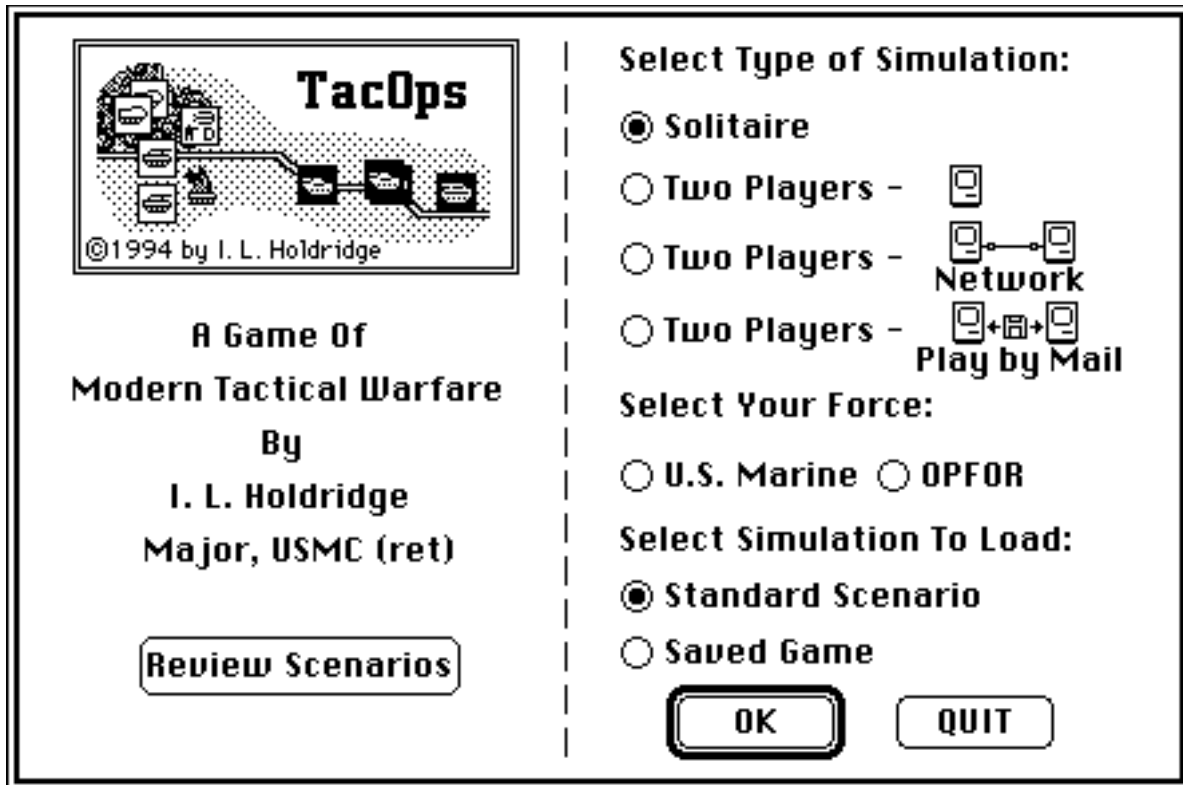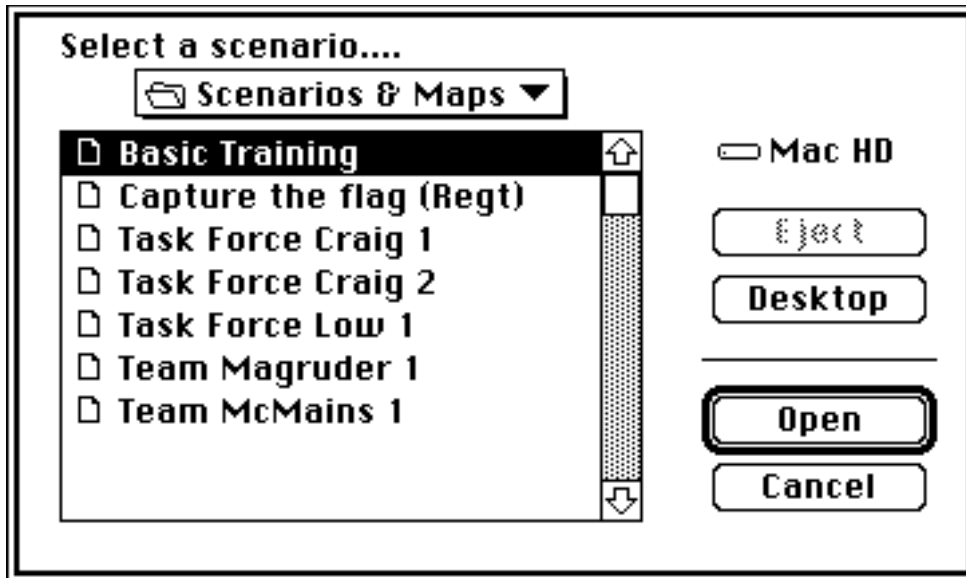
‡ Select ◉ **Solitaire**

‡ Select ◉ **Standard Scenario**

‡ Select **OK**

The standard dialog for opening files will appear.

‡ Open the folder containing the scenarios. Double-click on the file titled "Basic Training".

After a brief pause, the screen will display the battle map.

Battle Map Terrain Features
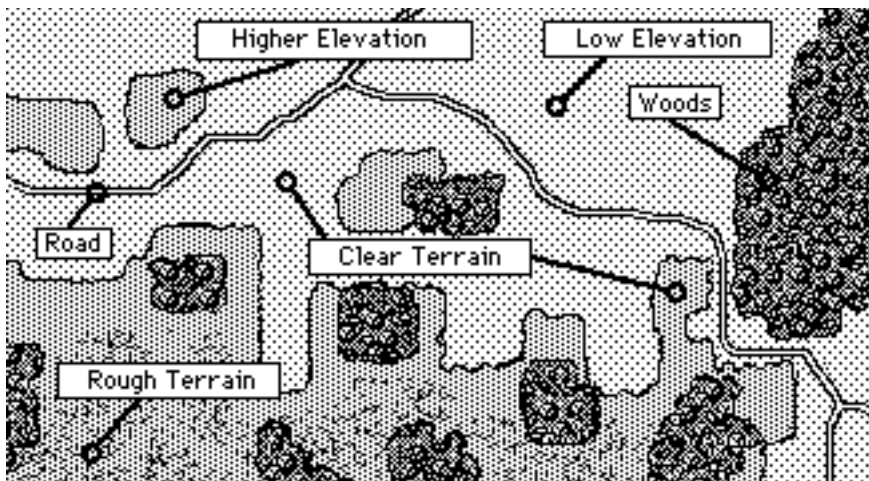
Areas with regular dot patterns are clear, even terrain. Areas with a jumbled dot pattern are rough, uneven terrain. There are two terrain elevations in TacOps - low and higher. Light color marks low ground. Dark color areas represent higher ground. The very dark

and irregular areas are woods. Roads are black bordered, white lines. Movement is fastest on a road, less in clear terrain, much less in rough terrain, and slowest in woods. A unit is most visible to the enemy (i.e. likely to be seen and fired on) in clear terrain, less in rough terrain, and least visible (sometimes invisible) in woods. In all terrain, a firing or moving unit is more visible than a non firing or stationary unit. Range or distance also effects visibility. The greater the distance, the less chance there is of being seen.

Scrolling the Map

The map window shows only a portion of the available battle area. To view other portions of the map you scroll the screen with a hand-cursor (as in many 'paint' programs), or by using the scroll bars on the right and bottom of the screen, or by using the arrow keys on an extended keyboard. Follow the instructions below for scrolling practice. For now, avoid clicking in the dialog that you see in the upper left corner of the screen.

‡ To practice screen-hand-scrolling, press the space bar once.

A hand-shaped cursor will appear on the screen.

‡ Press and hold down the mouse button. Move the mouse to the left a couple of inches and release the button.

The map should slide to the left revealing new terrain on the right side of the screen. If you inadvertently double-click the mouse or press the space bar again, the hand will disappear. Just bring it back with another press of the space bar.

‡ Repeat in other directions until you are comfortable. When finished, hand-scroll the map window to the upper left corner.

‡ If the hand is still visible on the screen, either click the mouse button or press the space bar until the hand disappears.

‡ To practice arrow-key-scrolling on an extended keyboard, press the left, right, up, and down arrows.

The map should slide left, right, up, or down with new terrain appearing with each key press.

‡ Repeat in various directions until you are comfortable. When finished, arrow-scroll the map window back to the upper left corner.
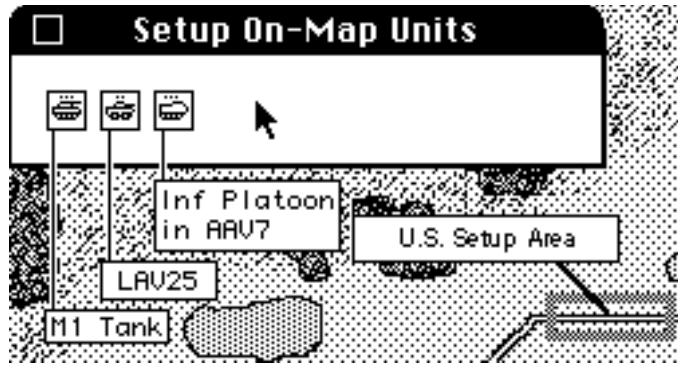
Initial Unit Setup

You should now see on your screen a window similar to the one above. This is the Setup Window. The Setup Window contains the units available to you for this scenario. Each small square with a vehicle or personnel silhouette in it is a unit. The small gray rectangle on the right is a US. setup area. Opposing Force (OPFOR) setup areas are black. Whenever you see such a rectangle at the beginning of a scenario you must start your units within its limits. Usually your setup up area will be much larger and may consist of several rectangles or polygons in different areas of the map. Sometimes there will be a deployment limit line that runs the length of the map. If so, you may setup anywhere on a specified side of that line. If there is more than one start-up area, you are free to place your units in any or all of them.   The first time you play a scenario, you should scroll the map around a bit to make sure you are aware of all the possible setup areas. Notice that the Setup Window can be dragged if you want to view or put a unit in the terrain that it covers.

‡ Drag the Setup Window around a bit. Return it to the upper left corner when satisfied.

Notice that the Setup Window contains three units. The left most unit is an M1 tank platoon, the center unit is a platoon of Light Armored Vehicles Model 25 (LAV25), and the rightmost unit is a platoon of Assault Amphibian Vehicles Model 7 (AAV7). You can't see them at this point but the LAV25 and AAV7 units are transporting several infantry units. You will learn later how to unload an infantry unit from a vehicle.

‡ Move the cursor to the LAV25 unit symbol and click the mouse button once only.

The LAV25 symbol should begin to blink to indicate that it has been selected.

‡ Move the cursor to a point just inside the right edge of your setup area on the map - inside the gray rectangle - and click once.

If you clicked correctly within the setup area, the LAV25 symbol will move from the Setup Window to the point where you clicked in the map window.

If the unit did not go exactly where you thought it would, you can reposition a unit on the map by clicking once on the unit and once on the map at a new point.

‡ Click once on the LAV25 unit symbol that you just placed in the setup area.

The symbol should begin to blink.

‡ Move the cursor to the left side of the setup area and click the mouse button once.

The unit should move to the new setup point.

‡ Return the LAV25 unit to the right side of the setup area.

‡ As done with the LAV25 unit, place the M1 tank unit at the center of the setup area and place the AAV7 unit on the left side of the setup area in the Map Window. For each unit, click once on the unit symbol and once in the setup area.

When the last unit has been moved from the Setup Window to the Map Window, click in the go-away box of the Setup Window. The window will disappear.   With the Setup Window gone, clicking on a unit will no longer select that unit for repositioning. In order to reposition a unit now, you must hold down the shift key as you click on the unit. If you don't hold down the shift key as you click on a unit, a Unit Orders Window will appear. For now, if you should inadvertently open a Unit Orders Window just click in its go-away box.
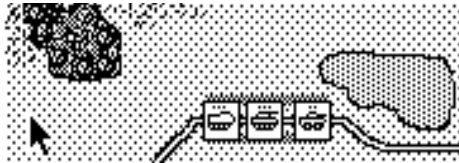
Your deployment should look as shown above. If it does not, you should reposition your units. Remember, to reposition a unit now, you must hold down the Shift Key as you click on the unit symbol .

‡ Hold down the Shift Key while clicking once on the M1 tank unit symbol.

The M1 unit symbol should start to blink. [If instead a Unit Orders Window appears, it means that you did not hold down the Shift Key while clicking or that your Caps Lock key is engaged - click in the go-away box and try again until you get a blinking unit symbol.]

‡ Move the cursor slightly to the left or right and click once again.

The M1 unit symbol should move to the designated point.

‡ Hold down the Shift Key while clicking once on the M1 unit symbol. Move the cursor slightly to the center of the setup area and click once again.

The M1 unit symbol should move to the designated point.

Giving Orders to Units

You are now in the initial Orders Phase of the game. You are going to give orders to the LAV25 unit to conduct a road reconnaissance in an easterly then north-easterly direction. The top of the map is north, the right side is east, left west, bottom south. The LAV25 unit symbol represents three vehicles, each carrying an infantry team. The road is the white line bordered in black that should be passing under the LAV25 symbol. The only orders that you will give will be movement orders.

‡ Click on the LAV25 unit (do not hold down the Shift Key).
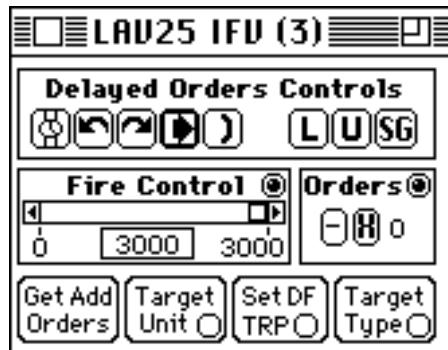
The unit should begin to blink and a Unit Orders Window like the one above will appear. If the blinking unit is covered by the Unit Orders Window, scroll the map a bit and or drag the Unit Orders Window about until you can see the unit.

Once the Unit Order Window is on the screen, any click made on the map while an arrow cursor is visible will give the blinking unit an order to proceed to that point. A unit can store up to 20 orders and will later execute them in the same order as entered.

‡ Click once on the map at each of the numbered points shown below, in order from 1 to 6.
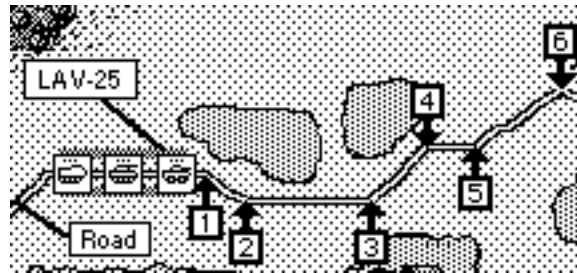

You just gave a series of movement orders to the LAV25 unit to move to point 6 by way of points 1 through 5. These orders will not be executed until the Combat Phase. The box in the Unit Orders Window labeled Orders shows how many unexecuted orders the unit has. It should now have a 6 in it. If it has more or less, you will have a chance to correct this shortly. You will preview the orders list by clicking the button labeled Demo Move.

To do this you need a button that is not currently visible. The Unit Orders Window has a short form and a long form. The short form is displayed first when you click on a unit symbol. The short form shows only the most frequently used buttons. Clicking in the zoom-box in the upper right corner of the Orders Window will reveal additional buttons.

‡ Click in the zoom-box in the upper right corner of the Unit Orders Window.

The Orders Window will open up a bit on the right side to reveal more buttons.
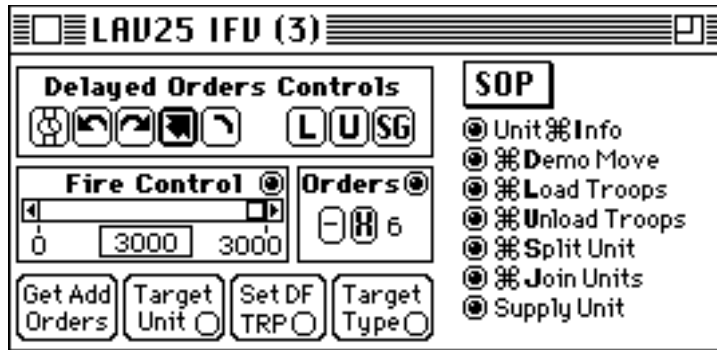
‡ Click once on the button   ◉⌘Demo Move

The Unit Orders Window should have disappeared and the unit should have moved along the road to point 6 by way of points 1 through 5. As the unit ended its demonstration, the Unit Orders Window should have reappeared. You can stop a demonstration in progress by clicking the mouse before the unit executes its last order. Be careful though, if you click just as the demo ends you may inadvertently insert another movement order.

‡ Click once on the button   ◉⌘Demo Move . As soon as the unit starts to move, click again.

The movement demonstration should have stopped immediately and the Unit Orders Window should have reappeared.

Deleting Or Changing Movement Orders
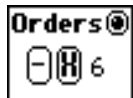
Look at the box labeled Orders in the Unit Orders Window. The number inside shows how many orders the unit has - 6 in this case. The button labeled "-" on the left of this number will delete the last order in the unit's orders list. If you click the button labeled "X" , all orders in the orders list will be deleted.

‡ Click once on the ⊟ button.

The number in the orders counter should have changed from 6 to 5. The unit now has 5 orders.

‡ Click once on the ⊠ button.

The number should have changed from 5 to 0. The unit now has no orders. You will now need to restore the orders that were deleted.

‡ As you did before, click once on the map at each of the numbered points shown above, in order from 1 to 6.

The orders counter should show 6 orders. Check your orders with the Demo Button.

‡ Click in the go-away box of the Unit Orders Window.

The Unit Orders Window should have disappeared. Normally you would be free to give orders to any or all of your units but for tutorial purposes you should stop with the LAV25 unit.

Starting the Combat Phase

You are about to activate the Combat Phase. The Combat Phase is completely automatic. Once you start the Combat Phase, you are not permitted to give or change orders. You can scroll the screen to better view the action, but you can not do anything that will influence the action.   The Combat Phase will last for one scale minute. You will be advised when it is over by a beep and a message at the bottom of the screen.

The computer resolves combat randomly based on the percentage chance of a given event happening under various circumstances. Accordingly, the Combat Phase may not turn out exactly as described below. From this point on, don't worry if the tutorial illustrations don't match your screen perfectly or if you can not follow the instructions exactly because a unit has been eliminated, just do the tutorial activity with another unit. The important thing is to follow the general guidelines while learning the game mechanics.

This is approximately what you will see during the Combat Phase if you have given the correct 6 orders. The LAV25 unit will move East along the road. As it moves past the protection of a small hill it will be fired on by a T80 tank and a BMP2 armored personnel carrier. The LAV25 unit may lose a vehicle or two. You may see surviving infantry bail out of burning vehicles. The LAV25 unit may fire several times at the T80 tank or the BMP2 but will likely not get a kill. Whenever a unit fires you will see a line drawn from the firing unit to its target (see illustration below). You will also see a brief message at the bottom of the screen naming the firing unit, the weapon in use, the angle of possible impact on the target unit (i.e. fire is against the front, side, or rear of the target), and the range. Sometimes the action and messages may be rapid. If you want to pause the action , just press the space bar as if to initiate a hand-scroll. As long as the hand-cursor is on the screen, all game activities stop. To continue, press the space bar until the hand disappears.
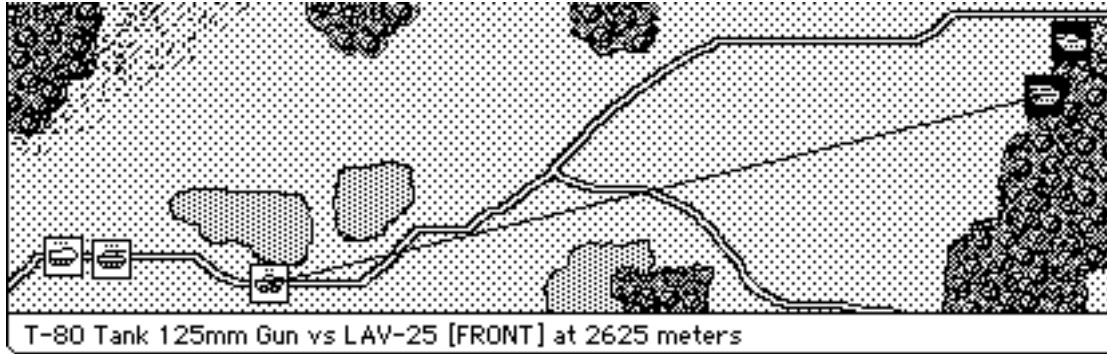
T-80 Tank 125mm Gun vs LAV-25 [FRONT] at 2625 meters

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.

You are now again in an Orders Phase. Your screen should show a scene like the one in the left corner of the next illustration.

‡ Open the Unit Orders Window by clicking on the LAV25 unit. Scroll the map and drag the Unit Orders Window so that your screen matches the next illustration.

Note that the orders counter probably shows 3 orders. During the Combat Phase the LAV25 probably completed 3 of its 6 movement orders. As a unit fulfills an order during the Combat Phase it automatically deletes that order. Unfulfilled orders remain in the list and if not changed will be acted on in the next Combat Phase.
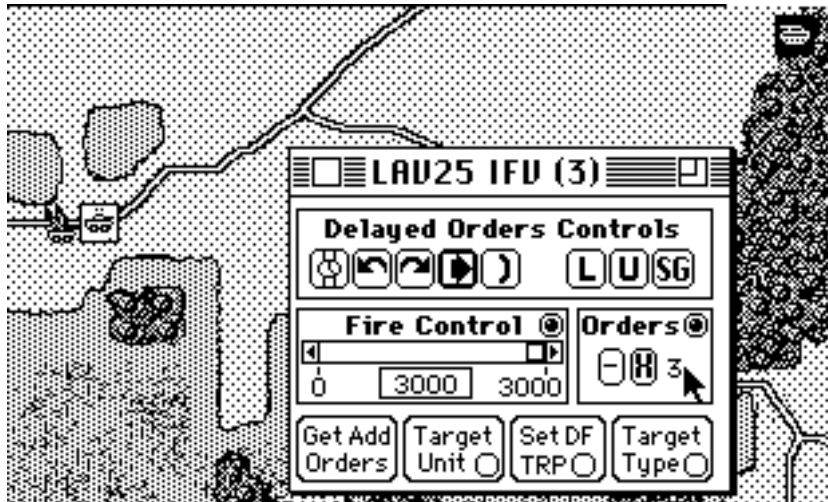
You will now try to get the LAV25 out of trouble with a smoke screen and a fast dodge behind a hill.

You want to order the LAV25 to fire some of its smoke grenades and retreat, but first you need to get rid of the three orders still in its orders list. Your units execute their orders in first-in-first-out sequence. If you don't cancel the leftover orders from the last Orders Phase the LAV25 will continue on toward the enemy.

‡ Click the button ⌷ in the Orders Box so that the number in the box shows zero.

‡ Click the smoke button ⌷SG⌷ in the Delayed Orders Controls box.

You just ordered the unit to fire smoke grenades or smoke dischargers.

‡ Click on the map at points 1 and 2 (in that order) as shown on the right. Be careful not to click in the gray area that marks the high ground or you may stray back into sight of the enemy.

You just gave two movement orders.

The Unit Orders Window has two kinds of buttons - delayed action and instant. Only the buttons inside the box labeled Delayed Orders Controls give orders that will be executed during the Combat Phase. All other buttons produce an instant, observable action during the Orders Phase.

The orders counter should now show 3 orders.

‡ Double check your orders by clicking the Demo Move button.

Once again you will only give orders to the LAV25 unit. For now, leave the M1 tank unit and AAV7 unit alone.

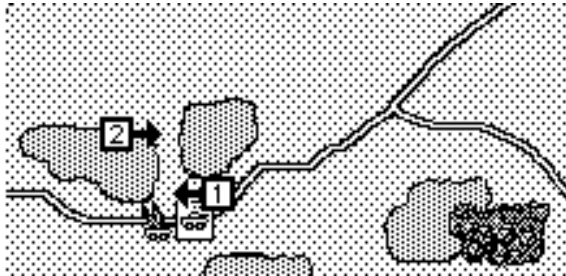‡ Click in the go-away box of the Unit Orders Window.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.

The LAV25 unit may or may not have made it to safety. You may have seen the enemy T80 tank and BMP fire on and even hit the LAV25 right through the smoke. If so, you have now learned that these units have thermal imaging sights that can see through smoke - a rough lesson. At the time of publication these units were not known to actually have thermal sights although it was known that OPFOR had the capability to add them. Many US units have thermal sights and in order to provide a more even game, a preference option was added to TacOps that gives them to OPFOR also. You have the freedom to take them away if you are more interested in a simulation than in an even game. Consult the User's Guide for instructions on changing the preference settings.

You are again in an Orders Phase. You are going to order the M1 tank and AAV7 to move north until they are screened by woods and then move east through the woods to a firing point closer to the enemy. You are impatient, so you will charge across the enemy's open front, with no screening smoke and no supporting artillery fires.
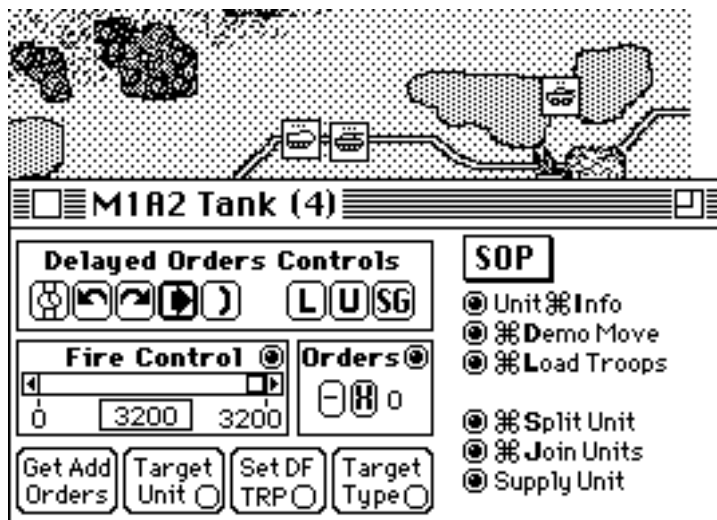
‡ Click on the M1 tank unit to open its Unit Orders Window. Scroll the map and drag the Unit Orders Window so that your screen is similar to the scene above.

‡ Click the button 🔘 Unit ⌘ Info .

A window will appear with information about the M1 tank unit.

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┌──────────────────────────────────────────────────────────────┐
│              M1A2 Tank - UTM 038052                          │
├─────────────────────────┬────────────────────────────────────┤
│ Vehicles: 4          ⇧  │ Armor Protection vs Kinetic Energy Weapons: │
│ Unit ID: 1              │   Front: 600  Side: 410  Rear: 115 │
│ Terrain: Road/Clear     │ Armor Protection vs Chemical Energy Weapons: │
│ Visible at 3000         │   Front: 1300 Side: 890  Rear: 115 │
│ meters.                 │                                    │
│ LOS Elevation: 0        │  *Weapons*   *Useful Range* *Rounds*│
│ No Damage               │  Smoke Capability:            3    │
│ Thermal sight.          │  120mm Gun       3200        160   < Info │
│ Not amphibious.         │  12.7mm Machine Gun  2500   4000   < Info │
│ Crew: 16                │  M60 Machine Gun   2000    24800   < Info │
│ Troop Capacity: 48      │  7.62mm Machine Gun 1500   24800   < Info │
│ Troops Onboard: 0       │                                    │
│                         │              Photo      OK        │
│                      ⇩  │                                    │
└─────────────────────────┴────────────────────────────────────┘
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Information shown in the window's title includes:

- The type name of the unit
- The center of the unit is located at UTM grid coordinates 038052

Information shown on the left side of the window includes:

- M1 tank unit is made up of 4 vehicles.
- Unit identification number is 1.
- Unit is on a road in clear terrain.
- Unit is likely to be spotted at 3000 meters.
- Unit is at elevation level 0 (There are two levels - 0 is low ground while 1 is higher ground).
- Unit is undamaged and not suppressed.
- Unit is equipped with thermal imaging sights.
- Unit is amphibious.
- The total number of crew members in the unit is 16 (4 in each tank).

- Unit can transport a total of 48 infantrymen (12 on top of each tank - carrying infantry on tanks is possible but it is often not a very good idea).
- Unit is transporting no infantry.

Information shown at the top center includes:

- Unit's basic level of armor protection on its front, sides, and rear against kinetic energy weapons (solid penetrator) and chemical energy weapons (high explosive, shaped charge). The number expresses the protection level in millimeters of Equivalent Homogeneous Rolled Steel Armor (EHRSA) (standard steel armor) and may not represent the actual armor thickness of the armor material at all. For example, aluminum armor will have a EHRSA number much lower than its actual thickness. The EHRSA number also includes average armor slope, if any. Some units with special, high tech armor have different levels of protection against kinetic and chemical energy weapons.

Information shown at the bottom center includes:

- Unit has 3 smoke grenade fires left.
- A list of the major weapons in the unit, their maximum effective or useful ranges (not necessarily their technical maximum), and the total quantity of ammunition available for each.

‡ Click the button **Photo**.

A window will appear showing a representative photograph of the unit. (On black and white systems the image will be somewhat indistinct). Some units may not have a photograph. If no photograph is available, an error sound will be heard.

‡ Click the button **OK**.

The Photo Window will disappear and the Information Window will return.

‡ Click the button **‹ Info** located on the right side of the information cells describing the 120 mm gun.

A window will appear showing more detailed information about the capabilities of the M1's 120 mm gun.

120mm Gun

120mm Gun	Minimum Range: 0	Useful Range: 3200
	Antiarmor Effect: Kinetic energy.	

Advanced penetrator

Range Reference Points:	0m	1000m	1500m	2000m	2500m	3200m
Basic Hit Probability:	95%	90%	80%	70%	50%	15%
Armor Penetration:	680mm	670mm	660mm	640mm	620mm	580mm

Note: All info is for direct fire only. Multi mode weapons have different range and ph for indirect fire.

[Photo] [OK]

‡ Click the button [**Photo**].

In this case, the previously seen photo of the M1 tank will be shown again. Pressing the photo button for most other weapons will produce a new picture. Some photographs may show the weapon in a different configuration than actually used by the unit. If no photograph is available, an error sound will be heard.
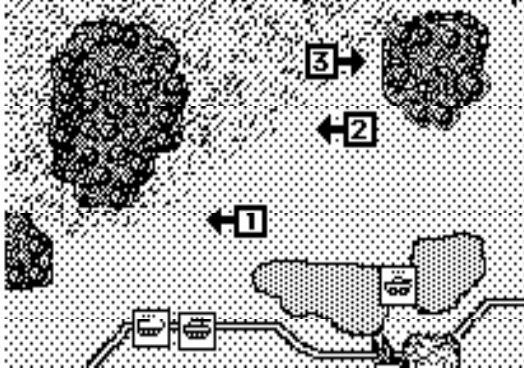
‡ Click the button [**OK**].

The Photo Window will disappear and the Information Window will return.

‡ Click the mouse button once.

The Information Window will disappear. You will now give orders to the M1 unit.

‡ Click on the map at points 1, 2, and 3 (in that order) as shown in the next illustration.
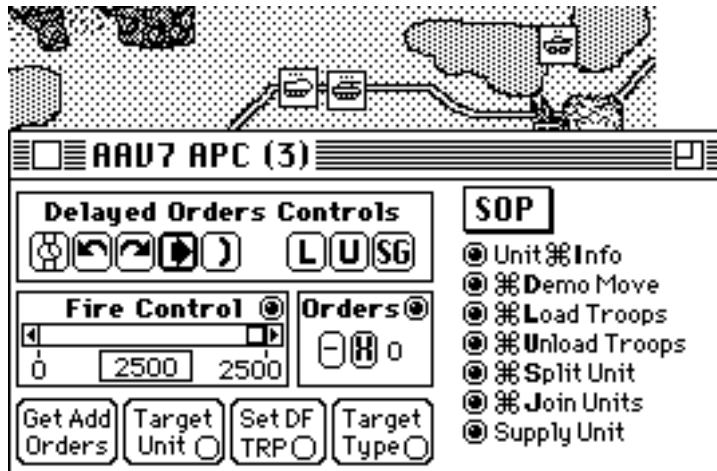
The Orders counter should now show 3 orders.

‡ Click the button [🔘 ⌘ Demo Move]   to check your orders to the M1 unit.

If the unit does not move properly, cancel its orders and repeat order entry.

‡ Click in the go-away box of the Unit Orders Window.
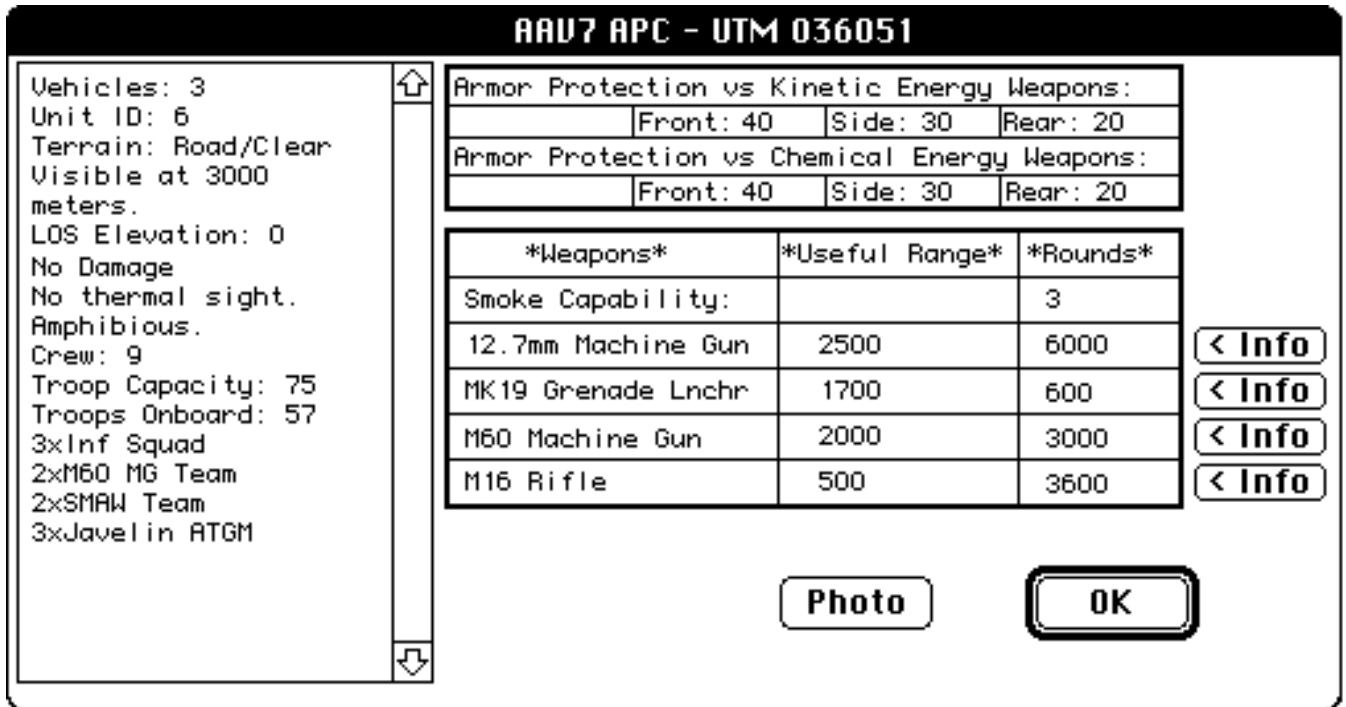
You will now give orders to the AAV7 unit.

‡ Click on the AAV7 unit to open its Unit Orders Window.

Note the line of text at the bottom of your computer screen. It is telling you that the AAV7 unit is transporting an infantry platoon, a machine gun team, a SMAW (Shoulder Launched Multi-purpose Assault Weapon) team, and a Javelin ATGM (Anti Tank Guided Missile) section.

‡ Click the button ⊚Unit⌘Info .

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┌─────────────────────────────────────────────────────────────────────┐
│                    AAV7 APC - UTM 036051                            │
├──────────────────────────┬──────────────────────────────────────────┤
│ Vehicles: 3          ⬆    │ Armor Protection vs Kinetic Energy Weapons:│
│ Unit ID: 6                │   Front: 40    │ Side: 30  │ Rear: 20    │
│ Terrain: Road/Clear       │ Armor Protection vs Chemical Energy Weapons:│
│ Visible at 3000           │   Front: 40    │ Side: 30  │ Rear: 20    │
│ meters.                   │                                          │
│ LOS Elevation: 0          │  *Weapons*   │*Useful Range*│*Rounds*   │
│ No Damage                 │ Smoke Capability:│          │    3       │
│ No thermal sight.         │ 12.7mm Machine Gun│  2500   │   6000     │ ⟨ Info ⟩
│ Amphibious.               │ MK19 Grenade Lnchr│  1700   │   600      │ ⟨ Info ⟩
│ Crew: 9                   │ M60 Machine Gun │   2000   │   3000     │ ⟨ Info ⟩
│ Troop Capacity: 75        │ M16 Rifle       │    500   │   3600     │ ⟨ Info ⟩
│ Troops Onboard: 57        │                                          │
│ 3xInf Squad               │                                          │
│ 2xM60 MG Team             │          ┌─────────┐   ┌─────────┐       │
│ 2xSMAW Team               │          │  Photo  │   │   OK    │       │
│ 3xJavelin ATGM            │          └─────────┘   └─────────┘       │
│                      ⬇    │                                          │
└──────────────────────────┴──────────────────────────────────────────┘
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A window will appear with information about the AAV7 unit. As you look over the window you will find a new information category. Underneath the Troops Onboard line is a summary of the infantry units being transported by the AAV7 unit.

The weapons list shows just the weapons of the AAV7 unit. In order to see the weapons of a transported unit you will have to wait until it is unloaded and you are able to open its Orders Window.

‡ Click the mouse button once.

The Information Window will disappear.

You want the AAV7 unit to accompany the M1 unit and follow the same route. However, the AAV7 needs to wait 30 scale seconds before it starts moving so that the M1 is well in front during the movement.

‡ In the Delayed Orders Controls box, click twice on the button that looks like a watch. This button will put a 15 scale second pause into the orders list for each click.

The Orders counter should now show 2 orders. You just told the unit to wait 30 scale seconds before it executes any more orders. You will now give it movement orders, but you will use a shortcut that will allow you to copy the 3 movement orders already given to the M1 unit.

The button labeled Get Add Orders starts a procedure that allows you to append the entire orders list of one unit onto the end of the orders list of another with one click. This is very useful for shortening the time needed to give orders in scenarios with many units. You will find that you will often be giving virtually identical orders to several units, particularly when you are moving a column of units down a road. Mastering the appending of orders (plus the other ways of copying and pasting orders as explained in the User's Guide) will save you a great deal of time. The unit with the Unit Orders Window on the screen will receive the appended orders. The orders will come from another unit that you will mark with a mouse click.

‡ Click the button Get Add Orders .
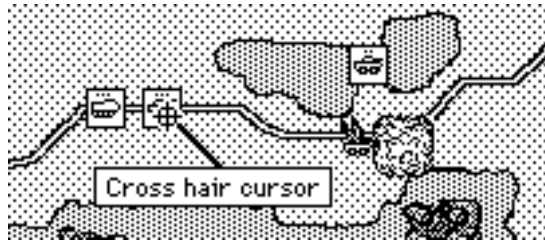
The Unit Orders Window will temporarily disappear and the arrow cursor will change to a cross hair cursor. Whenever you see a cross hair cursor, the computer is waiting for you to click on a point on the map or on a unit symbol.

‡ Move the cross hair cursor to the M1 unit as shown and click once.

The cross hair cursor will change to an arrow cursor and The Unit Orders Window will reappear. You just appended the orders list of the M1 tank unit onto the end of the AAV7 unit's orders list. The Orders counter should now show 5 orders. Remember, you gave the AAV7 2 delayed orders and then added 3 movement orders from the M1 unit. You should consider consulting the User's Guide at a later time to learn other methods of copying, pasting, and appending orders.

‡ Click the button [Demo Move] to check your orders to the AAV7 unit.

If the unit does not move properly, cancel its orders and repeat order entry.

‡ Click in the go-away box of the Unit Orders Window.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.
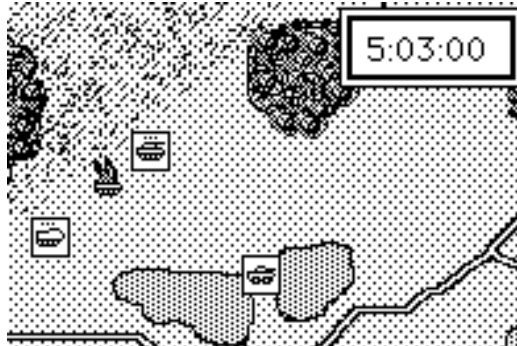

The M1 tank unit moved north followed by the AAV7. The M1 unit probably came under fire as soon as it cleared the small hill and may have taken some losses.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.
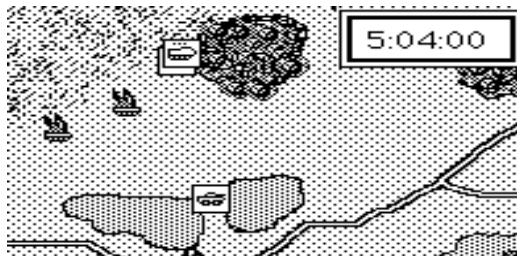
The M1 and AAV7 continued north, ending the Combat Phase in the shelter of the western edge of some woods. The M1 probably came under fire again and may have lost another vehicle.

As both units have just about completed their orders, you will give each additional orders to move east through the woods to a position closer to the enemy.
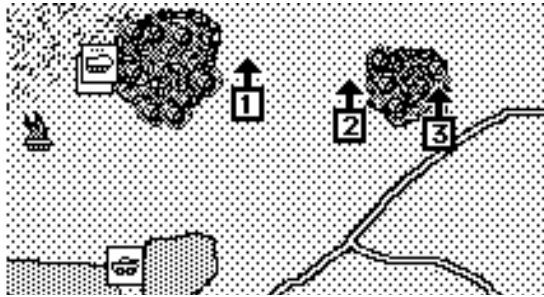
Notice that the M1 and the AAV7 unit symbols partially overlap making it difficult to pick out the M1. When you need to pick a unit out of such a stack just click on the stack. If there is more than one symbol underneath the click point, the stack will automatically spread out so that you can click again on the exact unit desired.

‡ Click in the center of the M1/AAV7 stack. When the stack spreads out, click on the M1 tank unit to open its Unit Orders Window. Cancel any leftover orders with the X button and give it three movement orders by clicking on the map at points 1, 2, and 3. Once the unit gets to point 3, you want it to find a final position that offers the best possible cover.

‡ Click on the defilade button ‖)‖ in the Delayed Orders Controls box.

This button orders a unit to assume a defilade position. A defilade position is one that conceals a portion of the unit from enemy observation or fire. For personnel this represents going prone or seeking the protection of low spots, shell holes, boulders, fallen trees, etc. For vehicles this usually means placing the vehicle in a low spot so that the vehicle's hull is out of sight. In TacOps you can assume that a unit can always find something better than just parking in the open. Going into defilade requires a few seconds to accomplish but is always worth the effort.

‡ Close the M1's Unit Orders Window.

‡ Open the AAV7's Unit Orders Window, cancel any leftover orders, and Get Add the orders given to the M1 unit.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.
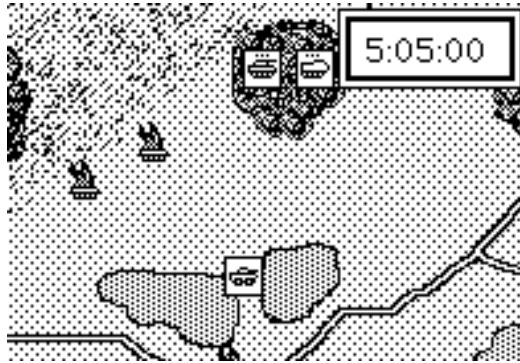
The M1 and AAV7 moved east through the woods. As both were deep inside the woods, neither could be seen by the enemy and should not have been fired on.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.
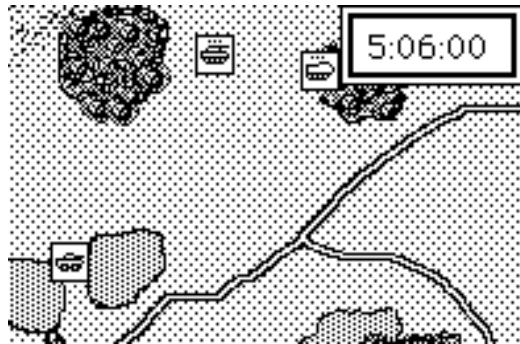
The M1 and AAV7 continued east through the woods. During the movement the M1 may have fallen behind the AAV7 unit. If so, this would be due to the M1 unit being suppressed or distracted by earlier enemy fire. Any recent enemy fire that destroyed vehicles in this unit had the side effect of rattling the surviving crews. This unit will move less efficiently and less aggressively and will have some difficulty in acquiring targets until the suppression wears off. This may take several minutes.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.

By now the M1 and AAV7 units should be together on the east edge of the woods.

Saving a Game in Progress

A game in progress may be manually saved at any time during an Orders Phase.

‡ Select the 'Save Game' item in the File menu. When the standard file window appears, type in a name to save the game under or just click OK for the default name of 'Saved Game'.

Now that you have saved your tutorial efforts, a break might be in order. If you choose the break you may reload and continue the saved tutorial game later by clicking on the button in the opening screen titled 'Saved Game'. You will return to the exact spot in the game that you are at now.

As you were selecting the 'Save Game' item in the File Menu, you may have noticed an item labeled 'Auto Save'. Marking this item will result in the game being automatically saved at the end of every Orders Phase. 'Auto Save' is the default setting and its use is very much recommended. Not only does it prevent the frustration of a long gaming session being lost if you lose power, the process of saving a game efficiently reorganizes the program's use of memory. This side effect can be very helpful to a computer with minimal

memory. The file will be named "√Auto Save" and will replace any earlier automatic save file. You reload an automatically saved game in the same manner as a manually saved game.

Tactical Disposition Symbols

‡ Select the 'Change Unit Symbols' item in the Map menu.
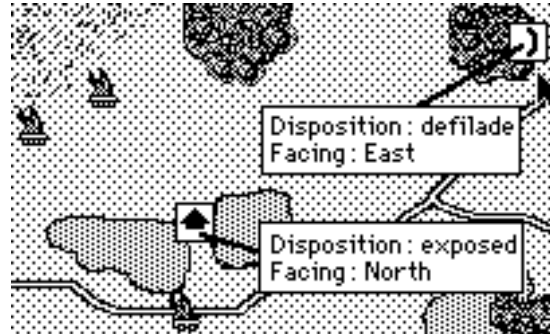
The 'Change Unit Symbols' menu item changes unit symbols from vehicle silhouettes to tactical disposition symbols and back again. The M1 and AAV7 units should by now be in defilade (defilade is a tactical disposition) so they should show defilade symbols. The LAV25 unit was never given a defilade order so it still shows the arrow symbol which represents exposed disposition. The disposition symbols also reveal the direction that a unit is facing in. Facing is important because vulnerability to enemy fire varies according to facing. A unit is generally most resistant to fire to its front, less resistant on its sides or flanks, and most vulnerable from the rear. Use this feature to quickly confirm your units disposition/facing and to discover the disposition/facing of spotted enemy units.

‡ Select the 'Change unit symbols' item in the Map menu again.

‡ Select the 'Change unit symbols' item in the Map menu a third time.

The unit symbols should have changed back to vehicle silhouettes.
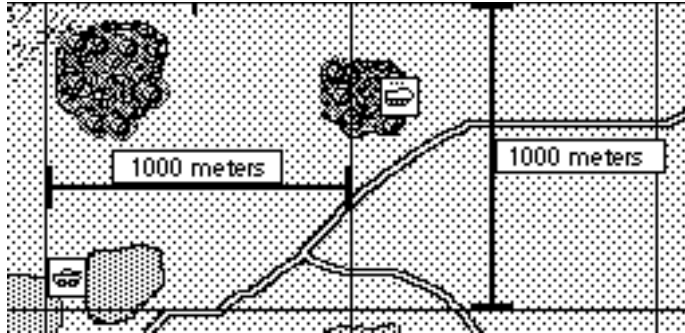
Displaying the Map Grid

‡ Select the 'Show 1000m grid' item in the Map menu.

The 'Show 1000m grid' menu item draws a grid on the map of squares 1,000 meters across. The grid is helpful in estimating ground distance and range between units. Precise distances can be measured with the Line of Sight menu item.

Confirming Line of Sight

Units can only see and fire at each other when there is a clear line of sight between them. Line of sight can be blocked by intervening woods, towns, large structures, and higher ground. The 'Line of Sight Check' menu item allows you to drag a line across the map that reveals the range between the start and end points and indicates if the line of sight along the line is clear or blocked.

‡ Select the 'Line of Sight Check' item in the Map menu.

A cross hair will appear on the map. While holding down the mouse button, click on the map and drag the cross hair around the screen. The range between the start and end of the line is shown at the bottom of the screen as well as the UTM grid coordinates of the end point. [UTM grid coordinates are explained in the User's Guide.] If the cross hair remains clear then the line of sight is clear. If the cross hair turns black then the line of sight is blocked. If the cross hair turns gray then there is a clear line of sight to a target point but the point is beyond the scenario's maximum visibility limit. Release the mouse button to quit.

Clear
Line of Sight

406 meters UTM 0402 0005

Blocked
Line of Sight

777 meters UTM 0408 0008
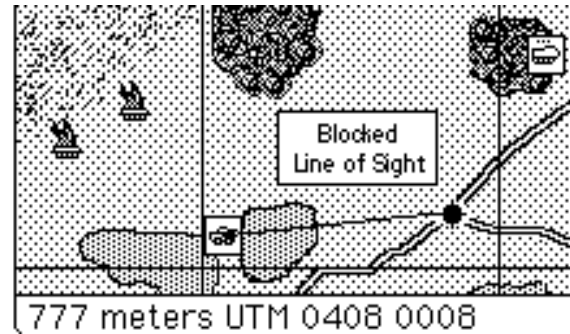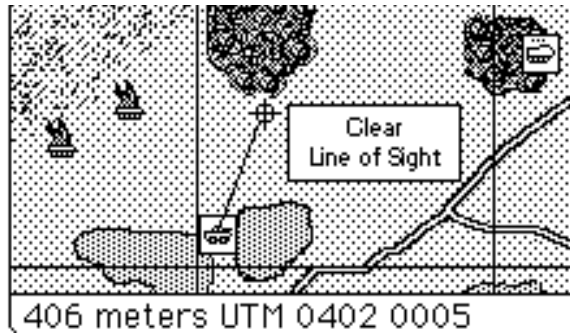
You just checked the line of sight of a unit using normal day vision capability - the naked eye. Smoke will block normal line of sight. Smoke may or may not block the line of sight of a unit equipped with a thermal imaging device. To check thermal line of sight, select the 'Thermal LOS Check' item in the Map menu. The routine works the same from this point on.

Unloading Personnel From Vehicles

‡ Click on the AAV7 unit to open its Unit Orders Window. Remember that when several units overlap, clicking on the stack will spread the units out for further selection.

You are going to instantly unload the troops carried inside the AAV7.

‡ Click the ◉ ⌘ Unload Troops button.
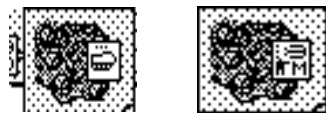
All units carried by the AAV7 unit were instantly unloaded.

‡ Click in the go-away box of the AAV7 Unit Orders window.

‡ Click on the stack of unloaded units to spread it out, select each unit in turn and look over its unit information by using the 'Unit Info' button in its Unit Orders Window.

Setting and Adjusting Artillery Fire

‡ Select the 'Artillery Support' item from the Orders menu.

The Off-map Artillery Support Window should have appeared. This window allows you to set and adjust artillery fire. Each line in the window represents an off-map artillery unit.

Fire Mission	ADJ	FFE	HE	ICM	Smoke
●155mm Howitzer	○	○	○ 10	○ 2	○ 3
●155mm Howitzer	○	○	○ 10	○ 2	○ 3
●	○	○	○ 0	○ 0	○ 0
●	○	○	○ 0	○ 0	○ 0
●	○	○	○ 0	○ 0	○ 0
●	○	○	○ 0	○ 0	○ 0

[Mark Target] [Shift Fire]   ⊠Plot Fire Support   ⊠Plot TRPs
            [Shift To TRP]   [Register As TRP]   [Delete TRP]

‡ Click in the top-left rectangle containing the words "155mm Howitzer".

This selects the first artillery unit.

You will now set an artillery fire mission target.

‡ Click on the **Mark Target** button inside the Artillery Support .

The Artillery Support Window disappeared. The arrow cursor changed to a cross hair. The program is waiting for you to click on the map where you want the artillery fire to impact.

‡ Click on the point shown in the illustration to mark the target.
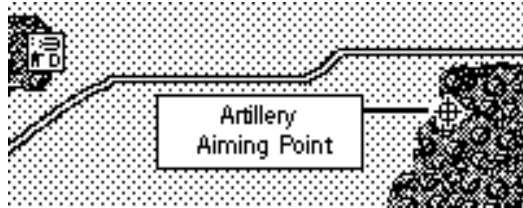
The cross hair cursor changed back to an arrow and the Artillery Support Window reappeared. The artillery aiming point is now marked with a target symbol. Until this mission is canceled or the artillery runs out of ammunition, this symbol will be visible on the map whenever the Artillery Support Window is open. The mission has been targeted but you must now specify how the mission is to be fired and what type of ammunition is to be used.

Look at the row of buttons in the Artillery Support Window to the right of the artillery unit name. The first two buttons (**ADJ** and **FFE**) are used to choose whether to fire adjusting rounds or to immediately fire for effect. Adjusting rounds are used to improve accuracy (assuming you have a unit observing the target) before expending large amounts of your artillery ammunition. In TacOps, adjusting rounds from off map artillery do not lower your ammunition supply when they impact, but they don't cause any casualties either. Fire for effect costs ammunition, but is the only way to inflict casualties. Normally you would allow a fire mission to impact a couple of times using adjusting rounds and then change to fire for effect.

‡ For now, select the **FFE** (Fire For Effect) button.

The next three buttons are used to select the type of ammunition to be fired. These buttons show what types of ammunition are available and the ammunition supply (expressed as number of volleys) remaining for each. HE means ordinary high explosive ammunition (useful against personnel but not very effective against armor), Smoke is self explanatory (usually blocks line of sight), ICM is Improved Conventional Munitions (extremely effective against armor as well as personnel). The best ammunition to use against armor or personnel is ICM but for now choose HE [for tutorial purposes we don't want to eliminate the enemy units in the woods just yet].

‡ Click on the HE button.

Note that the Artillery Support Window now shows additional information about this fire mission - current accuracy level zero, estimated time until impact, and type of ammunition being fired.

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┌──────────────────────────────────────────────────────────────┐
│ ▤□▤▤▤▤▤▤   Off Map Artillery Support   ▤▤▤▤▤▤▤ │
│                                                                │
│ ┌─────────────────────────┬─────┬─────╥──────┬──────┬───────┐ │
│ │      Fire Mission       │ ADJ │ FFE ║  HE  │ ICM  │ Smoke │ │
│ ├─────────────────────────┼─────┼─────╫──────┼──────┼───────┤ │
│ │●155mm Howitzer[0][1 min]│  ○  │  ○  ║ ○ 10 │ ○ 2  │ ○ 3   │ │
│ │●155mm  Howitzer         │  ○  │  ○  ║ ○ 10 │ ○ 2  │ ○ 3   │ │
│ │●                        │  ○  │  ○  ║ ○ 0  │ ○ 0  │ ○ 0   │ │
│ │●                        │  ○  │  ○  ║ ○ 0  │ ○ 0  │ ○ 0   │ │
│ │●                        │  ○  │  ○  ║ ○ 0  │ ○ 0  │ ○ 0   │ │
│ │●                        │  ○  │  ○  ║ ○ 0  │ ○ 0  │ ○ 0   │ │
│ └─────────────────────────┴─────┴─────╨──────┴──────┴───────┘ │
│                                                                │
│ [Mark Target]  [Shift Fire]   ☒Plot Fire Support  ☒Plot TRPs  │
│         [Shift To TRP]  [Register As TRP]  [Delete TRP]        │
└──────────────────────────────────────────────────────────────┘
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The first number inside the brackets (currently [0]) indicates the mission accuracy of an ongoing fire mission. Mission accuracy level is a number between 0 and 5 that represents the number of times that the unit has delivered observed fire on the current target. The higher the number, the more likely the next impact will be on or near the target point. Artillery fire is 'observed' when any friendly unit has a clear line of sight to the impact point. Unobserved fire is usually very inaccurate.

Although the window may indicate one minute to impact, it could actually take longer. You won't be shown the exact time of impact unless it is less than sixty seconds away. A new artillery fire mission will have a preparation delay of one and a half to three minutes before the first rounds impact on the map. Once the first volley has impacted, fire will continue at intervals of about thirty seconds (longer for smoke) until the artillery runs out of ammunition or you cease the fire mission.

If you did everything correctly, your screen should match the previous illustration. A target symbol will be visible on the map for each plotted fire mission as long as the Artillery Support window is shown. Once you dismiss the Artillery Support window, the target symbols will disappear.

‡ Repeat the steps above for the other artillery unit in the Artillery Support window. Experiment with the Cease Fire and Shift Fire buttons and with the Plot Fire Support check box.

The Cease Fire button cancels the selected fire mission. The firing unit becomes immediately available for another mission anywhere on the map. Unit accuracy will be reset to zero and any new mission will suffer a preparation time delay .

The Shift Fire button is used to shift an ongoing artillery fire mission up to 1000 meters to a new target. The advantage in shifting fire over ceasing fire is that mission accuracy is reduced only one level per shift and there is little or no added time delay. Try shifting the same mission several times in a row. Notice that the shift limit is determined from the artillery target point that was in effect at the beginning of the current Orders Phase. This prevents you from exceeding the shift limit of 1000 meters per turn.

The Plot Fire Support check box draws or hides existing artillery target symbols on the map. Sometimes you may want to see what is under a target symbol in order to better place another mission. Uncheck the box to hide all symbols - check the box to redraw them.

The remaining items in the Artillery Support Window are explained in the User's Guide.

Notice that you can select an artillery unit by clicking on its name in the Artillery Support Window, or by clicking on its target symbol on the map.

Although you will not use it in this scenario, air support is targeted in a similar fashion by using the Air Support menu item and the Air Support Window.

‡ Once you are comfortable with the Artillery Support window, cancel all fire missions and reset the first artillery unit to the first mission described above.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.

Nothing happened. The units have finished all their orders and the artillery mission hasn't arrived yet.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.

The artillery mission should have impacted, probably with no visible effect. If none of your units can see an enemy unit at the target point then the program will not show you the effect of the strike unless a vehicle is destroyed.

The Charge

Time to clean out the woods.

‡ Open the Orders Window by clicking on the M1 unit. Order the M1 unit to move toward the woodline by clicking on the map at point 1.

You just gave one movement order. You may have noticed that although you only gave one order, two orders are shown in the Orders counter. The program knows that a unit in defilade mode can't move, so it automatically preceded the movement order with an order to go into exposed mode.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.


The M1 unit moved out of the woods toward the enemy. As soon as it moved out of the woods it became visible and came under fire. It may have taken losses. Once the enemy opened fire, they probably became spotted and should have taken return fire from the M1 and from the Javelin ATGMs that you left in the woods.

‡ Select the 'Begin Combat Phase' item in the Combat menu. Watch the action and wait for a beep and a screen message signaling the end of the phase.
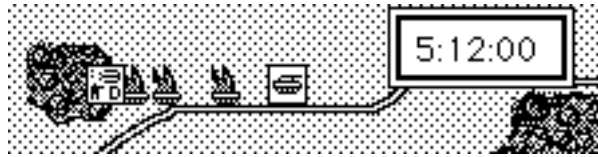
The M1 continued toward the enemy position. The firefight continued with probable losses to both sides. You probably knocked out the enemy tank and APC (Armored Personnel Carrier). Your M1 unit may or may not have survived.
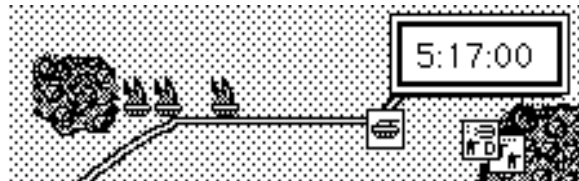
Unless your artillery was unusually effective there should still be an enemy rifle squad near where the tank and APC were. Continue on your own and assault with your infantry. Follow this general outline: load your infantry back onto the AAV7, order the AAV7 into the enemy woods between the tank and APC wrecks. Don't forget to cease your artillery supporting fires before you get too close to the enemy position. When the enemy squad opens up on the AAV7, unload your infantry, cancel all AAV7 orders, and continue the assault on foot. In the future you might consider stopping and unloading APCs before they get in range of enemy light anti armor weapons, but for now just charge in amongst them.