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WARGAME DEPARTMENT

BASIC FIELD MANUAL

SOLDIER'S HANDBOOK

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BASIC FIELD MANUAL



SOLDIER'S HANDBOOK



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■ INSTALLATION & LICENSING

■ INSTALLATION FROM DISC

In order to install the game, insert the game disc into the DVD drive.

(PC) The Installation Menu should appear if you have CD Autostart enabled on your computer. Click on the "Install Game" option to begin the installation process. If you have CD Autostart disabled, or if the Installation Menu does not appear, please browse the contents of the disc and simply double-click on the file called "Setup.exe". That will manually launch the game installer.

(Mac) For the Mac version, simply open the disc icon and copy the game application into a place on your harddrive (e.g. the Applications folder).

■ INSTALLATION FOR DOWNLOAD VERSION

After you have successfully downloaded the Combat Mission: Battle for Normandy setup file, double-click on it to launch the installer.

Note: you should keep the downloaded installer file!

Battlefront.com does not offer infinite digital storage, and your download will expire. So it is a good idea to keep the installer file you downloaded and copy it somewhere safe (e.g. burn to disc, USB stick or external harddrive) so you can reinstall the game later on.

■ LICENSE OVERVIEW

Combat Mission: Battle for Normandy is protected by an online activation system that helps us restrict the illegal distribution of the software without being annoying or intrusive to the legitimate customer.

■ HOW TO FIND YOUR LICENSE KEY

For *download versions*, it is the same code that you used to download your game. You will find your license key saved in your online account at www.battlefront.com/store. After logging in, click on the "My Account" link from the top menu. If you forgot your login, go to www.battlefront.com/lostpw to retrieve a new random password as well as your username in the same email. The username is called "user account" in the email.

For *mail delivery only versions*, the license key is printed on the product itself, usually on the back of the case or the game manual, sometimes inside the case or manual cover, depending on the product. Do not lose this label because we may not be able to retrieve your license key for you if you do!

■ LICENSING

When you first run CM:BN, after the initial install, you will be prompted to activate your copy. In most cases all you need to do is:

a) make sure the computer on which you have installed the game has an active online connection to the internet

- b) choose "Online Activation" from the dialog window
- b) enter your license key into the correct field.
- c) hit the "Activate" button and wait a few seconds while your license authorizes.

If you wish to install the game on a computer which has no internet connection, you must perform what is called a "Manual License Request". After launching the game:

- a) click on the "Manual Activation" button
- b) write down or memorize the Authorization Request Code presented to you
- c) on a computer that is connected to the internet, go to <http://www.battlefront.com/activate>
- d) enter your License Key and the Authorization Request Code in the appropriate place
- e) write down or memorize the Authorization Code
- f) go back to the computer where the game is installed. Launch the game again and click on "Manual Activation". Ignore the Request code and click on the Next button. Enter the Authorization Code from step e above

Off-line licensing is also a good workaround for online computers which experience problems with a firewall, router or proxy settings and cannot establish an internet connection to the activation servers.

■ ADDITIONAL ACTIVATIONS

Our End User License Agreement (see page 4 of this manual) allows you to have the game activated on one PC and one backup PC. Our online activation system enforces this limit, but will allow you two additional activations without asking questions (so called "overflow activations"). These Overflow Activations are meant to be used when you switch to a new PC and would like to continue playing the game there.

Note: there is no way to "unlicense" a previously activated copy on a computer. Which has the advantage that you can't ever forget to do so : ^)

In addition to the above 4 activations, you can add *one extra activation* to your key every 365 days. In order to do this, please point your browser to <http://www.battlefront.com/activate>. You will be asked to login and enter your license key.

Note: If you forgot your login, go to "www.battlefront.com/lostpw" to retrieve a new random password as well as your username in the same email. The username is called "user account" in the email.

If your key is eligible for an additional activation (e.g. if it was not already requested less than 365 days ago), then you'll be notified of it and the activation is automatically added to your key, so you can use it immediately again.

Should you ever need an additional activation more than once within the 365 days period, then you can always contact our License Activation Support staff (see below).

■ LICENSE ACTIVATION SUPPORT

Battlefront.com prides itself on customer service, and this continues with the implementation of the online licensing system. Please check out our Knowledgebase section which explains how online activation works in detail:

<http://www.battlefront.com/helpdesk>

If you ever need specific assistance, do not hesitate to email us with a description of your problem. We usually respond within 1 working day.

Please note: only the original Battlefront.com version of the game is using our Online Activation System. If you have purchased your game elsewhere (e.g. in a store), then you probably have the retail version of the game, which is NOT using our Online Activation System.

■ KEYBOARD & MOUSE CONTROLS

■ CAMERA NAVIGATION

■ (MOUSE)

| | |
|--|----------------------|
| Cursor at screen edges | Move |
| Cursor in upper corners | Rotate |
| Left-click and drag | Move camera |
| Right-click and drag | Pivot camera |
| Right-click and hold (when unit selected) | Pivot around unit |
| Mouse wheel | Elevate |
| Mouse wheel + SHIFT | Elevate + Pitch |
| Mouse Wheel + CTRL | Pitch |
| CTRL + Left-click | Jump to Map Location |

■ (KEYBOARD - DEFAULTS)

| | |
|------------------------|-------------------------|
| W or Up Arrow | Move Forward |
| A or Left Arrow | Move Left |
| D or Right Arrow | Move Right |
| S or Down Arrow | Move Back |
| Q | Rotate Left |
| E | Rotate Right |
| V | Reverse View |
| R | Raise camera |
| F | Lower camera |
| Z | Zoom out |
| X | Zoom in |
| C | Wide Angle View |
| 1 - 9 | Preset Camera Positions |
| Arrow Keys | Fine Movement |

■ UNIT SELECTION

| | |
|-------------------------------|---|
| Left-click on Unit | Selects Unit |
| Right-click on Map | Deselects Unit |
| Double-click on Unit | Group-select formation |
| SHIFT+Left-click | Adds additional units to group |
| SHIFT+Left-click & Drag | Drag selection rectangle around multiple units |

(Note: + and - keys are restricted to "next" unit within the group when a group is selected)

■ COMMANDS

| | |
|-----------|---------------------|
| ESC | Pause Game |
| TAB | Lock Camera to Unit |

(Note: the camera remains locked in even after you deselect a unit unless you select a new one or hit TAB again)

- Select Previous Unit
- + Select Next Unit

(Note: in the End Game Review and Scenario Author Test modes, the +/- keys also work with enemy units)

- F12 Select Last Unit
- { and } Adjust 3D Model Quality
- ` Talk to Internet Opponent

■ COMMAND KEYS (DEFAULTS)

- U I O Top Row of Commands
- J K L Middle Row
- M , Bottom Row

- B Move Fast Command
- N Move Command
- \ Reverse Command
- H Target Command
- Y Target Light Command
- G Face Command
- / Deploy Command
- P Pause Command
- H Hide Command
- [..... Dismount Command
-] Vehicle Open Up Command
- ; Pop Smoke Command

- F5 Movement Command Panel
- F6 Combat Command Panel
- F7 Special Command Panel
- F8 Admin Command Panel

- DEL Clear Unit Target
- BACKSPACE Delete Last Waypoint

■ NUMBER PAD

- / Previous Command Panel
- * Next Command Panel
- 7 8 9 Top Row of Commands
- 4 5 6 Middle Row
- 1 2 3 Bottom Row
- Select Previous Unit
- + Select Next Unit

■ EDITOR

■ 3D MAP PREVIEW

■ BUILDINGS

| | |
|---------------------------------------|-------------------------------------|
| CTRL+Left-click on wall | change windows/doors layout |
| ALT+CTRL+Left-click wall | change windows/doors layout for |
| ..... | WHOLE side of building (all floors) |
| CTRL+Left-click on roof | change shape/type of roof |
| SHIFT+Left-click building | change "Facade" (texture) of the |
| ..... | whole building |
| CTRL+SHIFT+Left-click | cycle through balcony types for |
| ..... | selected floor |
| CTRL+SHIFT+Left-click on ground floor | |
| ..... | cycle through balcony types for the |
| ..... | WHOLE side of the building (all |
| ..... | floors) |
| ALT+Left-Click | change building details |
| ALT+SHIFT+Left-Click | cycles through stages of major |
| ..... | damage to building including |
| ..... | complete rubble |

■ FLAVOR OBJECTS

| | |
|------------------------|-------------------------------|
| LEFT CLICK | rotate object |
| SHIFT+LEFT CLICK | nudge object in the direction |
| ..... | the camera is facing |
| CTRL+LEFT CLICK | delete object |

■ 2D MAP EDITOR

| | |
|-------------------------|--------------------------------------|
| CTRL+Right-click | change current tile rotation |
| Left-click | place tile/object |
| Left-click & hold | "paint" tile/object (not all |
| ..... | tiles/obj.) |
| Right-click | delete tile/object (of the same type |
| ..... | as currently selected) |

■ OPTIONS

| | |
|-------------|-------------------------------------|
| Alt-S | Toggle Sound |
| Alt-W | Toggle Shadows |
| Alt-K | Toggle Smoke |
| Alt-T | Toggle Tree Display |
| Alt-C | Toggle Camera Shake |
| Alt-H | Toggle Vehicle Hit Description Text |
| Alt-I | Toggle Floating Icons |
| Alt-J | Toggle Show Objectives |
| Alt-L | Toggle Show Landmarks |
| Alt-P | Toggle Show All Move Paths |
| Alt-Q | Quit |

■ CUSTOMIZING HOTKEYS

CM:BN allows you to customize the hotkeys to your liking. In order to do so, browse into your game directory and open the "Data" folder. You will find a file there called „hotkeys.txt". Open this file in a text editor program.

You will see entries for Camera controls, the base Command keys, and various other controls there. Each language has a different default. A tag indicates the language, e.g. <E> for English, <F> for French, <G> for German, etc.

In order to change the default hotkey, simply edit this file and save it in the same location. You might want to keep a few things in mind however:

- It might be a good idea to save the original defaults first before making any changes. For example, rename the original hotkeys.txt file to hotkeys_original.txt.
- When you change a hotkey, make sure that the same key is not already used or assigned to a different function. The program does not check for double-assignments, and will perform one function, but not both. The game may crash if you assign the various functions to the same key.
- If you're not using other languages, feel free to remove all other entries. This will help in editing the file. If no language specific entry is found, the <E> keys are used by default.

Here are some further useful tips to keep in mind when customizing your key layout: Combat Mission has two distinctly different approaches for using unit Commands via the keyboard; Relative and Direct.

The Relative system involves a set of 9 keys centered around three rows of three consecutive keys each. These 9 keys match the 9 Command Buttons in the user interface's Command Panel. Each hotkey controls the commands RELATIVE to the position on the screen. For example, by default the U key activates the Top Row Left-Most key which would be FAST, TARGET, and SPLIT depending on which Command Group is visible (Movement, Combat, and Special respectively).

The Direct system, on the other hand, assigns a unique hotkey for DIRECT access to each Command. No attention is paid to the graphical representation on the screen. For example, if so assigned, F would issue the FAST command, T would issue the TARGET command, H would control the HIDE command etc... no matter which Command Group is visible on the screen.

There are pros and cons to each system. The Relative system allows the player to keep one hand stationary on the keyboard and does not require any "hunting and pecking" to find the right hotkey. The downside is that when you wish to use two Commands in a row that are in different Command Groups, you have to first switch the proper Command Group (now done using the F5-F8 keys).

The Direct system allows you to string Commands together without concern for which Command Group they are in, but does have the drawback of requiring the hand to move and locate a specific key, which may or may not be easily

memorized. Which is "better" comes down to personal player preference, therefore, both are provided.

Whenever possible, the order buttons under the various Command Panels will display the assigned "direct" key in highlighted green text.

We recommend that you decide which system you prefer and then assign the keys as you wish by editing the hotkeys.txt file. The default key assignments have all 9 Relative keys assigned (UIOJKLM,.) as well as a selection of the most commonly used commands mapped to new Direct keys (Move Fast, Move Normal, Reverse, Target, Target Light, Face, Deploy, Pause, Hide, Dismount, Vehicle Open Up and Pop Smoke) to give you an idea of how the two systems work. We have found that using one or the other systems exclusively seems to have the best results and do not recommend mixing the two systems together. While it's possible to do, it could mean getting the worst of both systems and not really getting the benefits. Therefore, if you wish to use the Direct system we advise that you edit the hotkeys.txt file to unassign the 9 Relative hotkeys. Also, be aware to not double assign any keys to multiple functions.

■ OPTIONS

The Options menu allows various global game options, mainly with regard to visual and audio quality, to be set prior to playing a game. For the most part these settings require infrequent resetting. Features that need more frequent customization are set within the game using Hotkeys.

The Options are:

- **Sound:** Toggles all in-game sounds on or off.
- **Display Size:** you can select the game to run at the following resolutions: Desktop (the game will run at whatever resolution your desktop is set to), 1024x768, 1152x864, 1280x960

If you want to run the game in a resolution and refresh rate not listed, you can manually configure these settings by editing the "display size.txt" file located in your game directory. Simply change the numbers that you see there with the width (in pixels) and height (in pixels) and refresh rate (in Hertz) you wish to run the game.

Example: For 1440x900 at 75Hz refresh rate, you would delete the numbers in that file and replace with "1440 900 75" (without quotes). If you put in all zeroes - example: 0 0 0 - the game will revert to using your desktop resolution and refresh rate.

Note: Exercise caution and only use a resolution and refresh rate supported by your monitor as damage to your monitor or display adaptor could occur, especially if you use too high a setting.

- **Vertical Synchronization:** this option optimizes image quality based on your monitor refresh rate. This setting may reduce your framerate, however.

- **3D Model Quality:** Offers several settings for balancing model details with speed. The choices range from "Fastest" (lowest quality, highest game speed) to "Best" (best visual quality but possibly lower game speed). "Balanced" offers a good compromise between model quality and frame rate speed.
- **3D Texture Quality:** Same as above, except it balances the quality of the graphics. For computers with video cards with less than 64 MB memory, the Fast and Fastest settings are recommended.
- **Antialias / Multisample:** Allows you to toggle Anti-Alias and Multisample on or off. If switched on, this option improves visual quality but may cost game performance.
- **High Priority Process:** This option instructs Windows to assign "normal" application priority or "high" application priority to the game when it is run. The "normal" setting can fix lagging mouse and/or keyboard input issues for some systems. The "high" setting is recommended if you have not experienced any input lag problems. The "high" priority option allows Combat Mission to use more system resources and may result in better performance.
- **Language:** CM:BN comes in a multi-language configuration. It defaults to English. If you would like to switch to a different language, you can make the choice here. You must exit the game after changing languages, in order to access the correct language scenario folders.

Note: changing the in-game language instructs the game to look into localized "GameFiles" folders for scenarios, save games and QB maps, specific to each language. These folders are empty by default, and you will have to copy the English files from the default GameFiles directory and/or translate them before they are accessible in the selected non-default language.

■ TUTORIAL

This tutorial will guide you through two complete training campaigns, totaling six missions, which will teach you the basics of tactical warfare in the Combat Mission environment.

The first training campaign, titled *Devon – Basic Training*, covers the basics of commanding troops in Combat Mission, as well as an orientation to the User Interface and basic commands. If you are new to the second generation of Combat Mission (referred to as CMx2), you should begin with this campaign.

The second training campaign, titled *Task Force Raff*, will put you in command of several units on D-Day and pit you against the Germans. In this campaign you will learn more advanced combat tactics. Players familiar with Combat Mission: Shock Force may want to start here to become familiarized with the weaponry of World War Two.

■ DEVON - BASIC TRAINING CAMPAIGN

Before you can defeat the Germans and liberate Europe, you will have to learn how to command your soldiers. The three missions in this campaign will do just that:

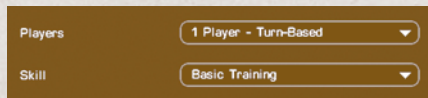
Mission 1: *Out on Patrol*. You will learn movement commands as you take an infantry platoon out on patrol in the English countryside.

Mission 2: *Firing Range*. You will shoot a variety of weapons against stationary enemy targets on a firing range. You will also learn how to call for artillery and mortar fire support.

Mission 3: *Battle Drill*. Use your newly found skills to defeat an opposing force in mock combat.

When you are ready to begin this tutorial, select “Campaign” from the main menu and select *Devon – Basic Training Campaign*, then press “OK” to start the campaign.

You will be asked to select a play mode and skill level. CM:BN has two different play modes available for campaigns: turn-based and real time.



Turn-based play (also known as WEGO) in Combat Mission allows the player to order commands and examine the battlefield at his leisure while the action is paused; once the player begins the turn however, the action will continue for 60 seconds without interruption. The player can replay the turn as often as they like, and, once satisfied, a phase of giving orders begins, and so on.

In Real Time, the action will be continuous and you can issue orders at any time; you can also pause the game by pressing the ESC key and continue to issue orders. Replay is not available in Real Time mode.

For this campaign you may select either play mode. You will be prompted at the start of every mission in the campaign to choose a play mode.

The rest of this tutorial assumes that you are playing in turn-based play mode, but it works equally well for real time play. It also assumes Basic Training Skill Level.

The skill level primarily affects Fog Of War (FOW) and artillery support. The higher the skill level, the less you will know about enemy units and the longer it takes for fire support, such as artillery, to arrive. For this campaign, select Basic Training as the skill level, then press "OK".

After selecting the play mode and skill level, you will be given the campaign briefing. This briefing will inform you of the entire campaign's scope and details, aided by an assortment of maps. Press "OK" to move to the first scenario of the campaign. After the loading screen, you will again find yourself at a briefing screen, this time for the first scenario. You should read all briefings carefully for information that may be vital to your mission, but with a glance at your maps you can glean the basic facts.

When you are done reading the briefing, press "OK" to enter the scenario. If you wish to revisit the briefing, you can always find it by clicking on "Menus" in the lower right-hand corner and then "Briefing".

MISSION 1: OUT ON PATROL

You will learn how to:

- Navigate the User Interface.
- Control the camera.
- Move your units across the map.

THE USER INTERFACE

Upon entering the scenario you will be greeted with a view of your platoon riding in trucks. Before you begin the patrol, take a moment to become accustomed to the interface. Most of the screen is occupied by the view of the battlefield, with the user interface located along the bottom. Select one of your squads by left-clicking on the round green icon that floats above them (the squad icon will look like a soldier, the image to the right). The interface below will be populated with specific information on that unit.



On the left (1), you will find basic information about the selected unit, including what type of unit it is, its name, experience, ammunition levels, and so on. The next box to the right (2) shows what special equipment the unit is carrying, such as bazooka rounds, binoculars, and demolition charges.

The next window (3) gives detailed information about each soldier in the squad, such as what weapon he is carrying, whether he possesses a specialty skill, and whether he is wounded. Each column represents a different team within the squad.

The window furthest to the right (4) is the orders panel. Here you will select commands to give to the selected unit. The orders are separated into four tabs by function: Movement, Combat, Special, and Admin. Move between tabs by either using the hotkeys or pressing the buttons above the panel: M for Movement, C for Combat, S for Special, and A for Admin. You can also bring up a pop-up list of commonly used orders by pressing Spacebar. In this mission we will only be concerned with the Movement tab. Don't worry about what all the orders mean just yet; we will get to them later.

At the bottom-right of the interface (5), you will find the Menu button. Clicking this button will bring up various game menus, such as the mission briefing, a list of hotkeys, or to exit the game. The buttons to the right (6) will advance the turn, pause the game, and control the replay feature in turn-based play mode. The white numbers underneath the red button tell you how much time remains in the scenario.

Take some time to explore the interface. Some of the interface elements will generate informational tool-tips if you place your cursor over them.

You are almost ready to go on patrol, but first you must learn to use the camera. **You should also take a look at the Hotkeys window within the menu options (5).** We will cover important hotkeys as the need arises, but you should know where to go if you forget a command.

■ USING THE CAMERA

CM:BN features a precision camera to view the detailed 3-D battlefield from any angle or position. This camera works differently than many games, so it may take some practice for you to smoothly move around with it.

There are two basic methods that you can use to move the camera in the game: by using the mouse, and by using the keyboard.

■ MOUSE CAMERA CONTROL:

To move the camera forward, backward, left, or right, press and hold the left mouse button and drag the mouse. The camera will pan and follow your motion. To change the direction that the camera is facing while staying in place, press and hold the right mouse button and drag the mouse. This is analogous to swiveling your head. The camera facing will move with the motion of the mouse.

It is important to know where your cursor is on the screen, because the sensitivity of these changes decreases as the cursor approaches the edge of the screen. To move quickly, click your cursor in the center of the screen; to make small adjustments to the camera, click the camera click the cursor nearer to the edge of the screen.

You can adjust the altitude (how far off the ground) of your camera by scrolling with the mouse wheel.

You can also move the camera by touching the edge of the screen with the cursor. The camera will quickly pan in that direction.

■ KEYBOARD CAMERA CONTROL:

The W, A, S, and D keys will pan the camera around the map. Use keys Q and E to rotate the camera to the left and right. Keys 1-9 will move the camera to preset altitudes. The diagram to the right illustrates the actions of these keys.



Some useful tips with controlling the camera:

- CTRL-left clicking on the ground will instantly move the camera to that point. This is useful on large maps.
- Pressing V will flip the camera view around 180 degrees.
- The camera can be zoomed up to 20.0x. Press X to zoom in, and Z to zoom out.
- It is best to make slow dragging motions with your mouse when moving the camera.

Being able to move the camera around the battlefield quickly and precisely will be important in the future. Be sure to practice the controls described above throughout the entire mission.

■ SELECTING UNITS

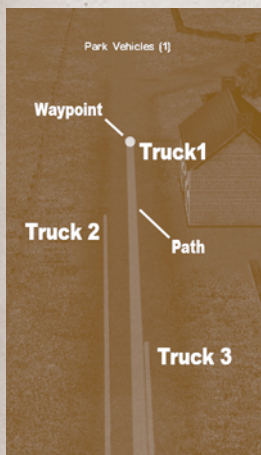
A *unit* in Combat Mission is a vehicle or a group of soldiers that act together. Soldier units are typically either teams of 2-5 men or squads of 2-3 teams. When you give an order to a squad unit or team unit, all of the soldiers in that unit will carry out the order. Individual vehicles are always a single unit. Units are marked with an icon that floats above them on the battlefield. To select a unit, left-click on its icon, or on any of the soldiers in the unit. The icon will highlight and green circles will appear under the members of the unit.

To select a group of units, press and hold the Shift key, then, while holding down the left mouse button, draw a box around the units you wish to select. In this manner, you can give multiple units the same general movement or targeting order.

■ MOVE OUT!

Now that you are familiar with the interface and the camera, it is time to go on patrol! Your first objective is to move your trucks to the road adjacent to the Nelson Farmstead, where they will unload their passengers. Your objective is named **Park Vehicles (1)**, and is signified by white text floating above neon green colored ground. To fulfill this objective you must move a unit onto this green ground.

Select the first truck in the convoy by left-clicking on it or its icon and ensure that the Movement orders tab is open. If it is not, press F5 to open the tab. Left-click on Move and then left-click on the ground inside the objective. A white ball will appear at this point with a colored line connecting the truck to the point. This is a waypoint, and when the turn starts the Artificial Intel-



ligence (AI) that controls the truck will move the truck to this point. Right-click to end the order.

Repeat this process for the other two trucks. The picture to the right can serve as a guide. Make sure you actually have the truck selected and not one of the passengers; verify that the silhouette of a truck is present in the unit information window. If you mess up an order and want to re-do it, press the Backspace key to delete the last waypoint. Press Alt-P to activate Show All Move Paths: this will allow you to see other units' movement orders.

Your orders for this turn are complete. When you are ready to watch the action, left-click the red button in the lower right-hand corner of the screen. You will now watch for sixty seconds as the game plays. You will notice that, as the first truck moves over the green-colored objective space, the green coloration disappears and a message informs you

that your unit has reached the objective.. This is a "touch" objective, and entering it once will award you victory points; you will not have to occupy it for the entire battle. All of the objectives in this mission are touch objectives. Once you are confident the trucks have arrived at their destination, left-click the red button again to end the replay phase. You are now back in the command phase and can give your units fresh orders.

DISMOUNT

Your next step is to dismount your platoon from its trucks and move it to the Nelson Farmstead. Select one of the squads by left-clicking on its icon and giving the squad a Move order to the **Nelson Farmstead (2)** objective. Repeat this for the other two squads and the Headquarters (HQ) team. Leave the vehicles where they are for the rest of the mission (unless you wish to take them for a joyride, of course).

Advance the turn by left-clicking on the red button. During the replay phase, the troops will automatically dismount and move to their waypoint. Notice that the AI will direct the troops around the buildings in their path; troops not follow your orders precisely if they encounter obstacles in their path. Also notice that your troops will automatically align themselves with the terrain after they arrive at their destination: if they are adjacent to a wall or building, they will usually line themselves up against it to take advantage of its protection.

Spend a turn or two moving your troops around the farmstead with the Move order. The Move command orders soldiers to walk at a relaxed pace, without undue regard for potential enemy activity. This order is useful for moving units long distances.

QUICK MOVE

Your patrol is behind schedule! Issue your platoon Quick orders to the objective **Path (3)**. Your men will now run at a slow jog, much faster than the previ-

ous Move orders. The extra speed will come at a cost, however, the faster your men move, the less aware they are of their surroundings, and the more likely the enemy is to see them. In combat, you should be careful about using Quick in unfamiliar areas.

■ FAST MOVE AND FATIGUE

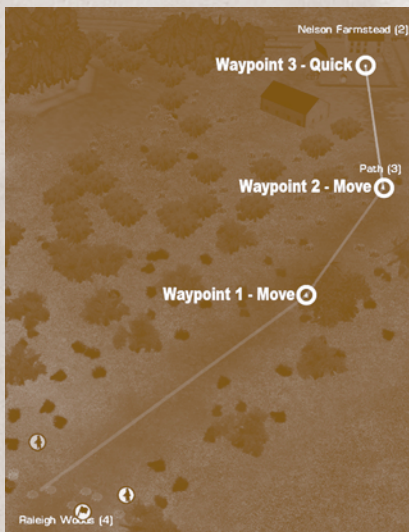
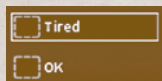
It's time to see how fleet of foot your men are. Issue the platoon Fast orders to the **Raleigh Woods (4)** objective. The soldiers will now move in a flat-out run, covering a lot more ground in one turn. Fast is useful if you need to get somewhere... well... fast. Running across streets that may be covered by enemy fire is a good situation to use a Fast order. However, it comes at a cost: fatigue.

After the turn has ended, you will notice that your squads display "Tired" in the left panel of the interface. They have become fatigued from running and will have to rest before they can use the Fast movement order again. As long as they do not move too quickly, the soldiers' fatigue level will improve over a number of turns as the soldiers catch their breath. Be careful to not run your troops ragged before they enter into combat with the enemy: they may wind up being too tired to fight or move properly!

■ MULTIPLE WAYPOINT ORDERS

To conclude the patrol, you will send your platoon back to the Nelson Farmstead. However, this time we will use a combination of commands and waypoints to get them there. Select one of the squads and give it a Move order, with a waypoint halfway to the Nelson Farmstead. However, instead of right-clicking to end the order, left-click a bit further ahead. A second waypoint will appear. Right-click to stop giving Move orders. Now select the Quick order, and left-click inside the Nelson Farmstead. Repeat this process for the other units; mix up the order types if you like.

Advance the turn. Your units will move to each of the points in the order they were clicked; basically, they will follow the line drawn for them. At each waypoint (the white pyramids connecting the lines), they will change movement orders as commanded, so you will see your troops move from a walk to a jog as they arrive at the waypoint that separates the Move and Quick orders.



You can combine multiple waypoints and movement orders in as many combinations as you want. Multiple waypoints are especially useful when following terrain features such as curved roads or wood lines.

■ END

You have now completed all objectives for the mission. You can continue to move your soldiers (or trucks) around the map and observe how they interact with the various terrain present. When you are ready to move on to the next battle, select "Cease Fire" from the Menus tab. This will end the scenario. Press "OK" to move past the After Action Report (AAR) screen to the next scenario (we will address the AAR screen in Mission 3).

At this point, you will be prompted to save your campaign progress. You should always make a unique save file at the beginning of every scenario in a campaign; you might want to backtrack or replay a scenario.

■ MISSION 2: FIRING RANGE

You will learn how to:

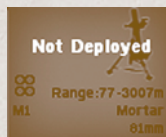
- Deploy crew weapons.
- Use ammo bearer teams.
- Issue various Combat commands to your units.
- Call for fire support.
- Make flank shots against heavy enemy tanks.

■ THE FIRING RANGE

It's a dreary day in Devon; a perfect day to spend on the firing range. You will begin the mission with some units on the firing line as well as a mortar platoon behind them. Before you issue any orders, allow one turn to progress. Don't panic when you see the German tanks appear; they are harmless target dummies. We will begin with mortar gunnery. CM:BN features on-map mortars which are capable of indirect fire; these weapons can shoot at targets that they cannot see, via a spotter who can direct their fire.

■ DEPLOY WEAPON

Before your mortars can be fired, they must be set up. Most crew-served weapons such as mortars, anti-tank guns, and heavy machine guns must be Deployed before they can be fired. Select one of your Medium Mortar teams and open the Special orders tab (hotkey F7). Click Deploy Weapon to order them to deploy their mortar. Repeat this for the other mortar team.



Advance the turn. The mortar teams will be busy deploying the weapons for a period of time. This duration varies with the weapon; for the mortars it will take about 30 seconds. After the weapon has been deployed, it cannot be moved again until it is undeployed, or "packed up". Packing up also takes some length of time.

■ AMMO SHARING AND AMMO BEARER TEAMS

Crew-served weapons are rather heavy. They also tend to consume obscene amounts of ammo. Because of this, many crew-served weapons in CM:BN come with an ammo bearer team; this separate unit's purpose is to carry

extra ammo, and to help defend the weapon from attack. Check the ammo for your mortar teams. Each of them only carries 10-20 81mm mortar rounds. The ammo bearer teams to either side, however, each carry 40 rounds. Move the ammo bearer teams adjacent to each mortar and they will automatically share their ammunition with the mortar crew. This ammo sharing behavior functions for most units.

■ CALL FOR FIRE

Now that your mortars are deployed and supplied with ammunition, it's time to blow things up! To fire indirectly onto a target, your mortars will need a spotter. HQ teams and Forward Observers (FO) can usually act as spotters; most other units cannot. The mortar team must also be able to communicate with the spotter. Communication occurs in one of two ways; either the mortar team is close enough to be within visual or shouting distance of the spotter (about 50 meters), or the mortar team has radio contact with the spotter.

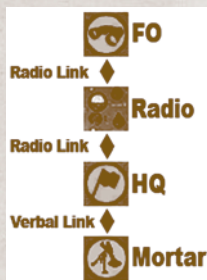
In this case the mortars are in radio contact with the FO team on the firing line: the FO is "linked" to the mortars by the radios that the FO and Mortar Section HQ possess, allowing the HQ to pass on the FO's commands to the mortars.

Select the FO team (their icon resembles a pair of binoculars). FO teams are extremely valuable assets that are specialized at calling in fire missions more quickly than HQ teams. They may also have access to more powerful artillery that an HQ team cannot contact. Guard them carefully!



Follow these steps to call the fire mission:

1. Click on the artillery icon (located just above the special equipment panel). The fire mission interface will now appear. Select one of the M1 81mm mortar boxes from the panel that pops up. The fire mission has parameters that must be defined. The parameters will determine the characteristics of the fire mission.
2. For Target Type, select Point Target; for an on-map mortar this choice does not matter, but we will return to the Target Type parameter shortly. The cursor will turn orange and you will now pick the target. Left-click on any of the tanks.
3. For Mission, select Medium. This defines how intensively the mortar will fire. A Heavy mission will cause the mortar to fire as fast as possible, while a Harass mission will order it to fire rounds only occasionally, conserving ammunition. Emergency missions shorten the length of the call for fire at the risk of greater inaccuracy; only use these missions in true emergencies.
4. For Duration, select Medium. This tells the mortar for how long to fire. Quick fire missions last only a very short time, while Maximum fire missions will last until the mortar has expended all of its ammunition.



5. Confirm the fire mission. If you mess anything up or change your mind, you can cancel here and re-start the call for fire. The window also tells you approximately how long it will take for the fire mission to begin.



You will also notice that a glowing green line connects both the spotter and the mortar team to the target. Repeat the call for fire using the other mortar team. Select another tank in the second row as the target, and switch up the fire mission parameters if you wish to see the differences in execution.

Advance the turn. By the end of the turn, the mortar rounds should be falling on or near the tank. While these explosions are fun, we can make bigger ones with artillery. Artillery fire is always called from off-map, and is usually only accessible to FOs.

In the call for fire interface, select the M2A1 howitzer and order a fire mission on the trenches near the back of the map. Because this howitzer battery consists of four guns, we can define different target types. The Target parameter will tell the howitzer battery to either fire on a single spot (Point Target), a circular area (Area Target), or a line (Linear Target).

Select Linear Target and left-click on one end of the trench line in the back of the target range. Dragging the mouse will show a thick green line that follows it. Left-click again on the other end of the trench line. Once adjusted, the artillery shells will land on this line.



Within a few minutes, the trenches will be rocked with explosions. Continue to experiment with the artillery as you see fit throughout the mission. You also should try ordering a point target and area target mission to see the differences.

■ COMBAT COMMANDS

Select one of your machine gun teams and open the Combat orders panel (hot-key F6). Select Target, then move the cursor onto the map. A line will be drawn between your machine gun and the cursor's location. This line indicates your line of fire (LOF) and the distance to the target in meters. If the line is light blue, you have a clear LOF and can fire at the target. If the line is dark blue and pink, then the line of fire is blocked somewhere along the way and you cannot fire at the target. A grey line means that you



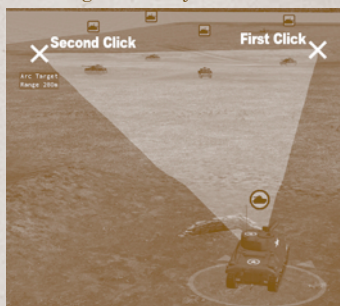
can issue a fire order, but not all of the men in the unit can see the target and fire at it.

Click somewhere on the trench to designate it as a target and advance the turn. Your machine gun will shoot at the trenches until you order it to stop by using the Cease Fire order in the Combat panel, or by selecting the unit and pressing the Delete key.

Issuing a Target order against the ground or a building will order the unit to perform what is known as Area Fire. The unit will fire at the terrain without knowing whether it is hitting any enemy units or not. Area Firing units will spread their shots around to cover the nearby terrain, and will switch to enemy units if they appear in the area.

■ MORE TOYS!

When 15 minutes are left on the clock, you will receive a notification that reinforcements have arrived. Two M4A1 Sherman tanks have appeared on the road. With the tanks, you have some real firepower! Move them up to the firing line. They will automatically begin firing at the German tanks, changing



targets as each is destroyed. Usually your units will fire upon enemies automatically and intelligently, and only occasionally require Target commands from you.

Sometimes you will want your units to focus their fire in a specific area. The Cover Arc command was made for this purpose. A unit with a cover arc command will usually attack only enemy units that are located in the designated area, unless it feels immediately threatened by an enemy outside its arc.

Select one of the Shermans, then open the Combat orders tab, and then select the Target Arc command. By left-clicking on the map twice, make a small highlighted arc in front of the team. You can use the Cease Fire command to erase the Cover Arc order.

The Pz. IV tanks in the front rows will be destroyed fairly easily, but the two tanks in the back – the Tiger and the Panther – may be more of a challenge. These are heavily armored tanks and will resist your Sherman's attacks in their frontal arc. However, even heavy tanks have weaker armor on their sides and rear. Try moving your Shermans to the ends of the firing range where they can score a flank shot on these tanks, and see if your results improve.

■ END

Continue to play around with the weapons available until you are satisfied. When you are ready to move on to the next scenario, hit the Cease Fire button. In the next scenario, you will use what you have learned to defeat an enemy that will be shooting back at you.

■ MISSION 3: BATTLE DRILL

You will learn how to:

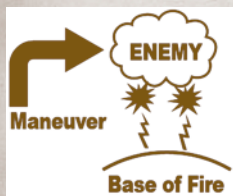
- Conduct basic fire and maneuver tactics.
- Use advanced commands.
- Use cover and concealment to your advantage.
- Understand suppression and morale.
- Understand the AAR screen and victory calculation.

■ START

At scenario start you find yourself back on the road leading to the Nelson Farmstead. Since you were last here, however, the engineers have thoughtfully constructed a trench defensive network around the hill to the west, labeled **Hill 2014** for training purposes. You have at your disposal one infantry platoon, a heavy machine gun, and a light 60mm mortar. Soldiers playing the opposition forces are holding this hill, and your job is to take it from them. Never mind that they are wearing German uniforms, holding German weapons, yelling German insults, and eating German rations. They are just *really* into their role.

■ FIRE AND MANEUVER – BASE OF FIRE

The opposing force occupies a dominating position on the hilltop, protected by trenches and with clear ground all around them. In order for your infantry platoon to most effectively assault the hill, you will need to suppress and destroy the defenders as much as possible before your infantry try to attack the position. To do this you will split your forces into two rough groups: a base of fire group and maneuver group.



The base of fire group usually consists of heavy weapons such as machine guns and mortars. As luck would have it, your platoon has both! Their job is to fire constantly on the enemy positions and keep them ducking. Once the enemy is suppressed by your base of fire, the maneuver group moves in and attacks at close range. You will use this basic tactic or some variation of it in almost every Combat Mission battle.

You will begin by moving the machine gun team, ammo bearer team, and mortar team to the objective **Base of Fire**. This small wooded hill will give your base of fire excellent concealment and a clear vantage point. We will use this movement as an opportunity to learn some advanced commands.

■ ADVANCED COMMANDS

You will use a combination of commands to give the weapons team very specific orders to get to their positions. Select your mortar team. Open the Movement tab (hotkey F5), select Hunt, and place a waypoint up the hill towards the **Base of Fire**. The destination should be at the bend in the road; use the picture on the next page as a guide. With the Hunt movement order, they will move slowly and cautiously, with rifles at the ready. If they are attacked, they will immediately cease their movement and drop down to cover. This movement order is very useful when you are moving into unknown territory.

Select the Hunt waypoint by left-clicking on its colored line. It will highlight and the white ball will turn into a pyramid, indicating that any orders you give will edit the waypoint. Open the Special commands tab (hotkey F7), and select Pause. A five second counter will appear above the waypoint. Once the unit reaches the waypoint, it will wait five seconds before moving on to the next waypoint. Left-clicking the Pause order repeatedly will increase the length of the pause and eventually remove it. Set Pause to 5 seconds (00:05) and left click anywhere on the screen to deselect the waypoint.



What you have just done is stack commands. A waypoint can contain one command each from the Movement, Combat, and Special orders tabs. This allows you to dictate very sophisticated orders to your units. The next waypoint you plot will contain three orders stacked on it. Refer to the picture on the left as a guide.

Ensure that your mortar team is still selected and that the first waypoint is not highlighted. Open the Movement tab and select Slow. Slow

orders your units to crawl on the ground. This movement order is very slow and tiring, but allows for maximum protection and concealment. Left-click anywhere inside the **Base of Fire** objective to order them to crawl to it. Select the Slow waypoint by left-clicking on its line, and open the Special tab (F7) and select Deploy Weapon. The mortar weapon will now automatically begin deploying once they reach their destination.

With the waypoint still selected, open the Combat tab (F6) and give the unit a Cover Arc that covers **Hill 2014**. Notice that the orange arc follows the waypoint, and not the current position of the unit. The unit will adopt this covered arc as soon as it reaches the waypoint.

You have just stacked three commands on the final waypoint. To summarize your units orders, it will Hunt up the hill, pause for five seconds, Slow move (crawl) to the **Base of Fire**, then deploy their weapon and cover **Hill 2014**. Whew!

Repeat these instructions (or mix it up with your own commands) for the machine gun team and ammo bearer team. Advance the turns and watch them carry out their orders.

Once in position, direct your mortar team and machine gun team to fire on enemy targets in the trenches. German machine guns are high priority targets and should be destroyed by your mortars if possible. While your mortar will run out of ammunition fairly quickly, your machine gun carries thousands of rounds of ammunition and can comfortably fire constantly throughout the scenario.

■ FIRE AND MANEUVER – MANEUVER

Now that your base of fire is set up, move the rest of your men to the hill and join them. They will have the unenviable task of assaulting the hill. The hill is mostly surrounded by open ground, except for the **Raleigh Woods**. These

thick woods should give your soldiers the cover and concealment they need to get as close as possible to **Hill 2014** without incurring devastating enemy fire.



Move your platoon to the **Raleigh Woods** objective. Use Hunt movement orders if you are not being fired upon, or Assault movement orders if your troops are under fire. Under Assault orders squads will move alternately in small groups of men and engage the enemy on the move, making this order time consuming but very useful when closing with the enemy to destroy them. If you have trouble seeing around the trees in this area, you can temporarily toggle them off visually by pressing ALT-T.



COVER AND CONCEALMENT

A word on these two terms, as the distinction is very important. *Cover* comprises obstacles or terrain that will physically stop enemy fire. A bunker, a trench line, or being behind a hill are good examples of cover. A unit inside cover will be harder to hit for the enemy. *Concealment* only prevents a unit or soldier from being spotted by the enemy; concealment provides no or very little protection from projectiles. Laying prone in a wheat field or hiding in bushes are good examples of concealment.

Most terrain provides some degree of both cover and concealment. The thick woods around the **Raleigh Woods** objective provide excellent concealment and fairly good cover, which is why your soldiers are using it to approach **Hill 2014**. The **Base of Fire** position has good concealment, with tall grass and bushes, but not much in the way of cover. In general, you should try to occupy terrain that offers both excellent cover and concealment, but circumstances may dictate that you only take one or the other.

■ SUPPRESSION AND MORALE

As your troops are fired upon by the enemy, you will notice that some of them will curl into a fetal position and not do much of anything that is useful other than trying to survive. You are witnessing the effects of suppression. People

quite reasonably do not like being shot at or blown up and, if pushed hard enough, will begin to value conserving their lives over following your orders.

Each unit's morale status can be seen in the unit's info screen. A colored indicator (picture to the left) tells you how suppressed the unit is. The more intense or accurate the enemy fire, the higher the level of suppression will be, and the more likely the unit will sustain unfavorable penalties.

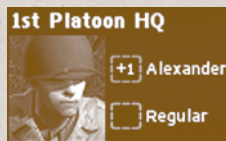
Taking casualties will cause even higher amounts of suppression. Moving a unit away from enemy fire (or stopping the enemy from shooting at it) will allow the suppression to wear off and the morale state to eventually improve.

Always monitor your troops' suppression levels throughout the battle and try not to push them too hard. If a unit receives a large amount of accurate enemy fire, it may become "Pinned", where it is still in relatively good order but will ignore your movement orders. You can lose control of your units even further if their morale continues to drop. If the unit's morale state is enclosed by a red box then the unit is so demoralized that it will not respond to your commands. The unit may even run away or surrender to the enemy! If a unit's morale becomes seriously degraded, it may become "brittle", incurring a significant morale penalty for the rest of the battle.

How much suppression a soldier or vehicle can take depends on its Motivation. A unit with high Motivation will be able to receive more enemy fire before becoming suppressed than a unit with poor Motivation can. A unit with high Motivation will also rally faster after being suppressed.

HEADQUARTER UNITS AND LEADERSHIP

By now you have probably begun to wonder just what the HQ units with flag icons are good for. These units contain your leaders. Usually, every section, platoon, company, and battalion possesses an HQ unit. Leaders fulfill two very important functions: they exert a leadership modifier on their subordinate units, and link units to the Command and Control (C2) network.



If you select your platoon leader, you will notice a "+1" next to his name in the unit information panel. This means that he exerts a positive leadership bonus on all units under his command. The details of what this bonus entails are intentionally somewhat murky, but the

basic gist is that units under his command will simply perform their jobs better than units under the command of a leader without a bonus. Leaders may have a -2, -1, 0, +1, or +2 leadership bonus; yes, that means that you can even get *bad* leaders!

In order for a leader to exert his influence over his subordinate units, he must have command of them. In the World War 2 setting, radios were relatively rare below the platoon level. In the game, this usually means that a leader must be within visual signaling or shouting distance of the unit he is seeking to influence. This is usually about



50 meters but will vary dramatically with the terrain; the more dense the terrain, the closer your HQ unit must be to have command of his troops. Note that tank platoons usually use radios to stay in command and don't need to stay within a short distance of each other.

What does this mean for you in the current scenario? Keep your HQ unit near your squads as they assault the hill. The leader will confer his leadership bonus to them, and they will most likely need his bonus more than the base of fire units.

The Command and Control (C2) network is a complicated topic that will be left for the manual. You can find more information on C2 later in the manual. You experienced some of it in the previous mission when your mortars were linked to the FO through radios.

■ CLOSE ASSAULT

By the time your troops reach **Raleigh Woods**, they should be in contact with the enemy. Give them Assault orders to the fence between the wood line and the trenches. As some of the soldiers move forward, others will continue to engage the enemy. You will take casualties, but you should press on.

Once they have reached the fence, give them assault orders to the trenches. As they near the trench they will stop to shoot at Germans and engage them with grenades. If everything goes according to plan, the Germans will eventually break and run, or surrender. You will then own **Hill 2014!**

■ AFTER ACTION REPORT SCREEN

Once the enemy has surrendered, the After Action Report (AAR) screen will appear. This screen lists a summary of the scenario results and outcomes. Most importantly it will tell you who won the battle. The AAR screen always shows the Victory Points (VP) breakdown in detail, organized by objective types.

There are three objective types in CM:BN: Ground, Targets and Parameters. Ground objectives are the touch objectives you have seen before and the Occupy objective on **Hill 2014**. Target objectives are units themselves. Depending on the scenario, a side can get points for destroying enemy units or even just spotting them. Parameter objectives deal with simple percentage-based statistics, such as being awarded 200 points for sustaining less than 25 percent casualties.

■ CAMPAIGN END

With the conclusion of this battle, you have graduated from the Basic Training Campaign! If you feel that you need some more practice, you may wish to repeat this scenario. Otherwise you should move on to *Task Force Raff: Combat Training*. You are about to cross the English Channel and lock horns with the Wehrmacht.

■ TASK FORCE RAFF

If you are reading this, then you have already completed the Basic Training Campaign or are a seasoned Combat Mission: Shock Force player. This three mission training campaign will let you familiarize yourself with World War

2 equipment, and, if you are new to tactical war games, teach you more advanced tactics by building on lessons learned in the previous campaign.

Mission 1: Raff Moves Inland. Learn how to conduct a combined arms attack in depth.

Mission 2: Fauville. Defend against an AI attack.

Mission 3: Link Up. The “graduation” scenario. You will learn more useful skills and fight enemy tanks.

It is recommended that you play in Turn-based play mode (WEGO), and on Veteran skill level. Veteran skill level will cause fire support to take a little longer to arrive, as well as make identifying enemy units slightly more difficult.

The rest of this tutorial assumes that you are playing in turn-based play mode, but it works equally well for real time play. It also assumes Veteran skill level.

■ MISSION 1: RAFF MOVES INLAND

You will learn how to:

- Use scouts to recon the terrain ahead of you.
- Use spotting in the game to your advantage.
- Use basic fire and maneuver tactics in conjunction with tanks.
 - Fight in bocage terrain.
 - How to collect enemy prisoners.

■ THE BATTLE

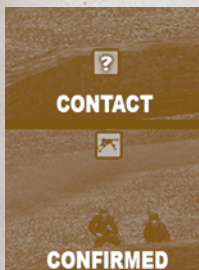
You will be greeted with a view of your forces on the map: two M8 armored cars and a three-man scout team. These are reconnaissance elements from the main task force that have been sent out ahead to find the enemy’s location. Your main force of infantry and tanks will arrive over the next five to ten minutes. In the meantime, you will use your starting force to scout ahead, so that you will better know where (and where not!) to attack when the main assault force arrives.

■ SCOUTS OUT!

The terrain ahead of you is criss-crossed with what is known as *bocage* or hedgerows (these terms will be used interchangeably). These earthen embankments topped with dense vegetation will block line of sight (LOS) and often line of fire (LOF) unless a unit is directly adjacent to them. This means that it will be very hard to see far ahead unless you can gain an elevation advantage and see over the tops of the hedgerows. Fortunately, to your north is the Mardelle Manor. The second story of the southwestern building in this manor will provide an excellent observation post for your scout team.

Select your scout team by clicking on the men or their floating icon and give them Hunt movement orders to the second floor of the objective named **Observation Post**. Leave your scout cars where they are for now; there might be a German tank or anti-tank gun behind the next hedgerow for all you know!

Once your scout team is in place, a German machine gun team should appear by the **Crossroads** objective. Alternatively an anti-tank gun may be seen. The act of your units seeing enemy units is known as *spotting*.



SPOTTING AND CONTACTS

Spotting is a rather complicated affair in CM:BN, but it basically consists of seeing confirmed enemy units, which are signified by a floating icon that can be selected, and contacts, which appear as question marks. A confirmed enemy unit is straightforward: at least one of your units can see it, and confirm its basic type, such as a soldier, an anti-tank gun, or a vehicle. Your units will automatically fire upon these units as they see fit. The machine gun team by the crossroads is a confirmed enemy unit.

Contacts, on the other hand, are merely *possible* enemy units: your units think there might be something there. Your units will not automatically fire at contacts. The opacity of a contact will tell you how confident your troops are that something is there: a very translucent contact is less certain than one that is fully opaque. Contacts can be upgraded to confirmed units over time, by moving closer to the contact, or if the enemy moves or fires at your units. Units that move or fire are much easier to spot. Contacts can also be the last known location of confirmed units.

Unlike CMx1's "Borg" spotting, units do not automatically share their spotting with all friendly units: this is known as relative spotting. For example, if one of your units spots an enemy anti-tank gun, a nearby unit might not see the same anti-tank gun at all! The unit will have to spot the anti-tank gun on its own, or have the information passed to it through the C2 network. You can tell which of your units can spot an enemy unit by clicking on the enemy unit icon. Your units that have currently spotted and confirmed it will have highlighted icons.

You may have noticed that right at the start of the scenario some contacts were visible: this is known as pre-battle intelligence, and tells you the location of some enemy units at the beginning of the scenario. You, or your opponent, may receive this bonus. Whether a side receives pre-battle intelligence and how much will vary based on the scenario.

■ SCOUT (CARS) OUT!

Now that you have determined that there is not, in fact, a battalion of German tanks around the next bend, you can send your scout cars out ahead. Move them cautiously; these vehicles are not meant to fight toe-to-toe with the Wehrmacht, and they will take damage very quickly.

Move one towards the bend in the paved road running down the middle of the map, and the other through the field south of Mardelle Manor (your vehicles can move through the wooden fences). Use Hunt orders so that your scout cars will stop moving forward if fired upon. If you detect that a heavy weapon is firing on your vehicles, use the Reverse movement command to get them out of trouble. You may lose a car to a distant anti-tank gun. With luck, however, you may get an idea of where that gun is located.

Continue to edge forward with your scout cars until friendly reinforcements arrive. If you've advanced past the objective named **Overwatch**, you've probably stretched your forces too far.

■ A WORD ON BOCAGE

Bocage is a raised mound of dirt that is topped by heavy vegetation dense enough to block most vision and projectiles. There are two types of bocage in CM:BN: low bocage, which is about chest-high, and bocage, which is tall enough to hide a vehicle.

Both types of bocage are nearly impenetrable to both foot and vehicular travel unless specialized equipment (not available to you in this scenario) is used. Vehicles are forced to move through large gaps in the bocage, so these passageways will be of enormous importance to you. Remember that your opponent knows this too!

Infantry usually have an easier time of traversing bocage; although infantry cannot travel across a solid section, bocage is often dotted with small man-sized gaps that soldiers can squeeze through.

Remember these rules of thumb when dealing with bocage:

- Bocage will block LOS and LOF unless directly adjacent to the bocage.
- Bocage offers substantial concealment and cover to infantry.
- Bocage cannot be moved through unless through a gap, either natural or made by your units.
- Hedges are different from bocage. They do not block movement.

■ REINFORCEMENTS

At five minutes into the battle (40 minutes on your clock), reinforcements will arrive on the road. You now have two Sherman tanks and a platoon of infantry to command. With information on the battlefield gathered by your scouts, you can now begin the assault!

Our first objective to take is the **St. Martin Farm**. This objective is probably defended by the Germans, and most likely there are German defenders elsewhere who could fire on troops you send to capture it. In order to effectively attack this position, you will need to split your group into two forces: a maneuver element and an overwatch element. The maneuver element will directly move into and attack the enemy position, while the overwatch element will fire upon the enemy from a covered position, hopefully keeping their heads down (or destroying them) and reducing the effectiveness of enemy fire. Your Shermans will be particularly useful in this regard.

You should begin by moving your infantry platoon and tanks to the objective named **Overwatch**. From here, your force can fire upon the German defenders and cover the troops that move forward. Be sure to move the units directly adjacent to the bocage so that they will be able to see through it. Since your scouts have already cleared the route to **Overwatch**, you can quickly move your units. Don't move your F Company HQ, mortar team, or ammo bearer team with the platoon: we have special plans for them.



■ FIRE SUPPORT

While your troops are moving to the **Overwatch** position, you should set up the mortar team at Mardelle Manor to provide indirect fire support. CM:BN features on-map mortars and infantry guns which are capable of indirect fire; these weapons can shoot at targets that they cannot see, via a spotter who can direct their fire. Spotters must be a Forward Observer (FO) or some sort of headquarters unit.



In order for the fire mission to be available, the mortar team must have a command link with the spotter. Usually this means the mortar team must be physically close to the spotter, but the spotter can also be linked to the mortar team through radios if they are available. We will set up the mortar team to attack German defenders that are unreachable by the current force.

Move the F Company HQ Team to the **Observation Post**; it will be acting as the spotter. The ammo bearer team carries more ammunition for the mortar, so keep them close to the mortar team. As long as they are 8 meters away or closer, they will automatically share ammo with the mortar team as needed.

It will take a few minutes for your men to get into position at the **Overwatch** objective. In the meantime, direct the mortars to fire at distant enemy positions. Indirect firepower is a precious commodity and should always be directed at the most valuable enemy assets. In this case, German machine-guns, panzerschrecks, and anti-tank guns are high priority targets.

■ CLOSE WITH AND DESTROY

At this point your men at the **Overwatch** position will be engaged in battle with the Germans. Continue to fight from this position for a minute or two until German return fire has slackened. Once that has happened, order two of your squads to Assault move to the group of trees by the canal and just east of the **St. Martin Farm**. Capture this objective using these two squads and Assault move commands, occupying the barn and the farmhouse. You may wish to move the Shermans forward into the field so that they can fire onto the houses if needed.

■ SURRENDER

As you assault the **St. Martin Farm**, you will probably see individual Germans throwing their hands into the air and ceasing to fight. In CM:BN, units that have low morale and are in close proximity to enemy units may surrender. Once they have surrendered, they will not move or take any action.

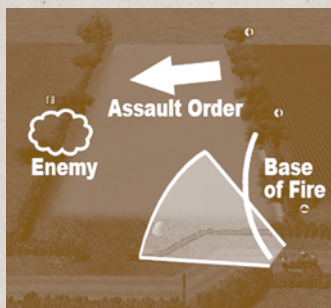
You can "round up" the surrendering Germans by moving your soldiers close to them, and then staying nearby for a short time. Eventually the surrendering Germans will disappear and be marked by a white flag; they are now

removed from the game completely. Surrendering soldiers who have not yet vanished can be rescued by friendly units in the same manner.

■ HEDGEROW FIGHTING

Ten minutes into the battle (35 minutes left on your clock), the remainder of your forces will arrive. The hedgerows to the north of the **St. Martin Farm** and the paved road are infested with Germans. You will use the new reinforcements to root them out.

Hedgerow fields are found throughout Normandy, and are very dangerous to fight within. The nature of bocage allows the defender an almost unlimited number of ambush opportunities, and the fighting will usually be at close range. Because bocage blocks LOS so well, fighting in these areas can be thought of as a series of mini-battles, with each field its own battle. You will have to leverage superior firepower and numbers to clear the defenders from this terrain without sustaining high casualties.



Move the newly arrived platoon and tanks towards the series of bocage fields to the north. The paved road should be relatively safe to move on now. Amass your troops on

the first line of bocage. If Germans open fire on them from the next field over, you will count on overwhelming firepower to silence them as quickly as possible.

If you find that Germans are on the other side of the same hedgerow, you can flank them by sending a Sherman or soldiers down the road until it can see around the hedgerow.

Once you are reasonably certain that the coast is clear, move half your platoon to the next row, and then quickly follow up with the remainder. The Shermans can stay on the road, following your platoon's progress, and ready to blast any defenders that show themselves. Your Shermans will not be very good at spotting Germans in the bocage, so you will probably need to order them to Area Fire on the bocage.

■ VICTORY!

Continue fighting towards the Crossroads objective. If you have cleared the bocage fields to the north, the Germans will probably surrender before you reach it, and you will be shown the results of the battle. If you were defeated, you may wish to replay this mission before continuing. Regardless, the campaign will progress to the next mission. Note that in other campaigns, a loss can prematurely exit you from the campaign or inflict some disadvantage in future missions.

MISSION 2: FAUVILLE

You will learn how to:

- Use set up zones at the beginning of a scenario.
- Conduct a defense.
- Use advanced squad combat tactics and commands.
- Use infantry anti-tank (AT) weapons to defeat enemy vehicles.
- Breach obstacles using demolition charges.

SETUP PHASE / DEFENSIVE SETUP

The setup phase is a special phase that occurs at the beginning of every game.



During this time the battle is paused and you may arrange your forces around the map instantly and give them starting orders for the first turn, which they will immediately execute when the battle begins.

Upon entering the scenario, you will notice that the ground underneath your troops is tinged blue, in two different shades. These are setup zones. There can be up to three different setup zones present per side in any battle. A unit that starts within a setup zone must start the battle within that same setup zone. A unit that

is not in any setup zone is locked in place until the battle begins. In this scenario, you have two setup zones, one located roughly in the southern outskirts of the town, and the other covering the rest of the town.

Your force of paratroopers start situated in defensive positions in the town of Fauville. The default setup is pretty decent; most of the force, including machine guns, is covering the main road where an enemy attack is most likely, with some units on the flanks to watch out for any sneaky enemy attacks.

In all missions you will receive a default set-up that is usually good enough to begin playing with immediately, but you can usually fine tune your forces to your liking. For example, you may wish to change the positions of your mortars to make them more available to potential FOs. You will also want to ensure that your two machine gun teams are covering the most likely avenues of enemy attack; machine guns are extremely effective at countering enemy infantry.

Your primary mission is to control the two objectives in the town, **Fauville Town Center** and **Fauville Outskirts**. To this end your force should be arrayed to stop the German forces from moving onto the green ground that signifies the objectives. You do not need to park your entire force on top of them; one combat unit within the objective is sufficient to hold it for victory

purposes. It is much more important that your forces stop the Germans from ever getting close to them.

■ WHAT ARE THOSE GERMANS UP TO?

Upon starting the battle, the German artillery will begin creating a smoke screen just south of town. This is a very good indicator that the enemy plans to attack from this direction within moments. The smoke screen will allow the German troops to move across the open ground without sustaining withering fire from your paratroopers. There isn't much that can be done about this, so for now let's turn our attention to the **Investigate Activity** objective to the west of Fauville.



As noted in the briefing, you are ordered to send a small combat patrol to this location to investigate. It is possible that the Germans are setting up an ambush for Task Force Raff, and you are going to put a stop to it. Send a squad from your west flank to the objective.

As your squad approaches the area, you should begin to think about how you will attack the objective once you have spotted German troops. Although Assault naturally splits up the squad into fire and maneuver teams, you can have more control if you split them yourself.

Go the Admin orders tab and select the Assault order. Your squad will split into two distinct units, one which contains the soldiers armed with heavier weaponry more suited to suppressive fires, such as scoped rifles and machine guns, and the other with lighter weapons more suited to close quarters combat, such as submachine guns. There are a variety of other Split Team commands which can be very useful in the right situations. To merge a squad that has been split, move both teams to the same spot and let them stay there for a moment. They will automatically merge into a whole squad. Only teams originally from the same squad can merge.

Use the team with the M1919A6 machine gun to Area Fire on the objective. Then move the other team in from the flank to attack the objective at close range. Once they close with the enemy, you may want to cease the fire from your other team: if they shoot any explosive weapons into the area, they can hurt your soldiers!

■ WHEN GERMANS ATTACK

By the time your combat patrol has finished mopping up the German anti-tank gun crew, the main German attack on Fauville should be in full force. While you may feel helpless and unable to act as the enemy forces descend on your town, there are some proactive measures you can take to beat back the attack:

- Be sure to use your mortars! A well-placed and well-timed strike on a cluster of advancing enemy infantry can make the difference between victory and defeat. Call in fire missions on large groups of attackers.
- Watch for and anticipate enemy artillery strikes. In most cases, the spotter must call in a number of spotting rounds before he can order the artillery to fire for effect on the desired position. If you see an occasional artillery round landing closer and closer to one of your units, the Germans are probably about to order an artillery attack on the position. Get your units out of there, or hunker them down inside a building.
- Don't be afraid to give a little ground. If one of your squads is getting particularly hammered by enemy fire, then remember that discretion is the better part of valor, and pull the men back to a safer position.
- Always have an eye on your flanks. It is an easy temptation to commit everything you have to the attack in front of you, but if your flank is attacked, you may be at a disadvantage. Have units positioned to observe the approaches east and west of the town, so that they can spot any advances from those directions. Keep a few units back from the front line so that they can shift to meet a new threat if needed.

If you are feeling ambitious, you can even keep the squad that you sent to **Investigate Activity** in the hedgerows, and use them to ambush and harass Germans moving around your flanks.



INFANTRY ANTI-TANK WEAPONS

You've probably noticed by now that a German halftrack is advancing on the town. This halftrack is an armored vehicle that will resist small arms fire from your paratroopers. Fortunately, some of your paratroopers possess bazookas, short range anti-tank weapons capable of destroying light armored vehicles and even tanks. The bazooka has a maximum range of about 250 meters, but becomes very inaccurate past 100 meters. Most infantry units will have some sort of anti-tank capability: tanks engage infantry in close quarters at their peril.

The German equivalent to the bazooka is the Panzerschreck, which you have already encountered by now. German squads may also be equipped with the Panzerfaust, a one-time use, very short range weapon that packs a fearsome punch against armor.

To defeat the halftrack, select one of your units that is equipped with a bazooka. Your company's dedicated bazooka team is ideal for the job. You can also split off a bazooka team from one of your squads using the Split Squad orders in the Admin tab as discussed earlier.

You will want to get as close as possible in order to maximize the chances of a first-shot hit: once that bazooka fires, your enemy is going to try to wipe it out as quickly as possible. Assuming that the halftrack has not been destroyed already by a lucky shot, move the bazooka team as close as you dare to the halftrack; the objective labeled **Bazooka Firing Position** is a good

spot. From here they should be able to quickly destroy the halftrack or force it to retreat.

If the halftrack moves out of range, or your bazooka team fails and gets blasted away... try using the mortars to attack the halftrack. Open topped vehicles are very vulnerable to indirect fire.



DEMOLITION CHARGES AND BREACHING

Sometimes, heavy explosives, applied lovingly, really do solve problems. Your paratroopers carry demolition charges capable of breaching obstacles such as buildings, walls, and bocage. These allow you to make new routes when using the current one is too dangerous. They can also be thrown at bunkers if the infantry are close enough!

The Breach command is used to expend a demo charge to breach an obstacle. To breach an obstacle, select a unit with demo charges and move it directly adjacent to the obstacle. Open the Movement tab (F5) and select Blast. Place the Blast waypoint just on the other side of the obstacle. Whatever is between your unit's current location and the Blast waypoint is what will be breached. Your unit will go prone and stay still for several moments while they place the demo charge. The explosion should tip you off that they are done.

Try breaching an obstacle or two with your paratroopers. Breaching obstacles can be done to avoid enemy lanes of fire, to attack from an unexpected angle, or even to stun enemy defenders in a building! Demo charges are carried by breach teams, American engineers and paratroopers, as well as German pioneers.

■ VICTORY... FOR NOW

You should be able to fend off the German attack, although some of your squads may sustain considerable casualties. Since you have controlled ground on a defensive mission, you should easily win the scenario. However, you haven't seen the last of the Germans. What if this was only the first attack? It's a good thing Task Force Raff is arriving tomorrow morning.

■ MISSION 3: LINK UP

You will learn:

- Target Registration Point (TRP) use.
- The importance of campaign resupply and refitting.
 - How to fight enemy armor.
- Advanced coordination of artillery with infantry.
- How to breach obstacles with demolition charges.

Because *Link Up* is the last training episode, you can think of this scenario as a graduation exercise. This scenario will likely be tougher than the previous ones, and, with a couple of exceptions, you will be left to make your own tactical decisions.

■ SETUP PHASE

You will begin with two separate forces on the map: the embattled paratroopers defending **Fauville**, and a column of Task Force Raff tanks and infantry arriving from the southeast. Your paratroopers' setup zone is back towards the town center, while TF Raff is restricted to a road.

■ TARGET REGISTRATION POINTS (TRPs)

You also have two special fortification "units": Target Registration Points (TRPs). TRPs are sites where your artillery has "dialed in" and crunched the math necessary to fire on the site quickly and efficiently. Ordering a mission near these points results in shorter delays and greater accuracy. Furthermore, your spotter does not need to have a visual LOS on the TRP to order the fire mission. Needless to say, this is a huge advantage, especially if you possess heavy artillery.



Unlike all other units, TRPs are not restricted to set up zones and may be placed anywhere on the map during the set up phase. However, once the game has begun, TRPs cannot be moved. TRPs are also secret: your opponent will not know where they are.

The TRPs are already placed in recommended locations of the map. You should leave them where they are. In future scenarios, you should place TRPs on objectives that are likely to be heavily defended, obvious enemy routes of advance, and in "dead space" that your units cannot see but you suspect that the enemy will try to move through.

■ CAMPAIGN RESUPPLY AND REFITTING

If you inspect your units, you will notice that the casualties they sustained in the previous battle have carried over. In campaigns, *core* units will carry over casualties, vehicle damage, ammunition expenditures, and sometimes morale from scenario to scenario. This should encourage you to handle your troops with care in future campaigns: you may not know when they will next be reinforced or resupplied! Troops, vehicles, and ammunition can be replaced between battles in campaigns, but how much will vary by campaign and even scenario to scenario.

■ TO THE RESCUE

On the first turn you will notice that the Germans are mounting another attack on **Fauville**. You will also note that they have tanks this time. Even head-on, the Sherman is a match for the German Pz.Kpfw. IV, but you aren't practicing to fight fair! Your first order of business will be to take out the Pz. IV on the paved road by the **Moylan Farm**.

The preferred way to take out any enemy tank is a flank or rear shot. All tanks have weaker armor on their flank or rear, and attacking them from the side has the added advantage of making them rotate their turret to engage their attacker – valuable time gained if your tank misses the first shot. If you are up against a heavy tank, such as a Tiger, this is especially important!

You can give your tanks a slight edge by using the Open Up command found in the Special Orders tab. This tells the tank commander to unbutton and poke his head out of the tank. An unbuttoned tank can usually spot enemies *much*

more easily than a buttoned tank can (try walking around looking through only a toilet paper tube if you need a demonstration). The benefit to spotting ability comes with a risk, however, as the tank commander is now vulnerable to enemy small arms fire. Luckily, the AI is smart enough to button back up if incoming fire becomes too intense.

The German tank near **Moylan Farm** can be attacked via flank shot from the field to its right, or a rear shot from the highway behind it. Meanwhile you should be advancing your force towards and around **Moylan Farm**; you need to defuse the German attack on **Fauville** before you push on to take out the **German HQ**.

■ GUNFIGHT AT THE MOYLAN FARM

The **Moylan Farm** is the first objective in your path, and also seems to be the German base of fire for the attack on **Fauville**. Neutralizing it would probably grind their attack to halt. However, there are a lot of German machine guns there. Luckily, you have a number of tanks and a TRP located on the farm. After five minutes have elapsed, you should have access to a battery of 75mm howitzers. These howitzers pack the punch necessary to soften the position up for your troops to assault it.

Select your FO to call in the fire mission. If you call in a fire mission on the **Moylan Farm** TRP or near it, you will notice that the delay

time is much shorter than usual. A Medium length mission should be sufficient. Don't forget that LOS is not required to call in a fire mission on a TRP.

You should keep your infantry at a distance – a hundred meters or more - while the artillery adjusts onto the target. Spotting rounds can land on your troops and casualties will result. Once the fire mission is in full force, move an infantry platoon up close to the **Moylan Farm**, such as the field behind the bocage bordering the east side of the paved road. The idea is to close assault the farm as soon as the artillery strike ends; the faster you arrive on the heels of the artillery, the more stunned and shocked the defenders will be.

While you are waiting for the fire mission to end, infantry and tanks should also be moving around both sides of the farm. For extra punch, you can order the tanks to Area Fire on the building. Just remember to cease their Area Fire before your troops run into it! The plan is to completely demoralize the enemy; ideally, your men will just have to mop up. Don't be surprised if they encounter resistance, however.



■ PESKY ANTI-TANK GUNS

As your forces travel across the map, one of your Shermans may suddenly explode with no obvious cause. Unlike certain civilian automobile models, this explosion was likely caused by an anti-tank gun. The Germans possess 75mm guns here, which are more than capable of penetrating your Shermans armor. Being small, they can also be difficult to spot.

If you encounter one, it is best to not engage it with your tanks (unless you can quickly overwhelm it with Area Fire), but instead take it out with mortars. The 60mm mortars that arrived with Task Force Raff are perfect for this purpose. An anti-tank gun will have a hard time spotting a team hiding in bocage while they call in a mortar strike. It may delay the advance for a few minutes, but it is well worth the wait.

■ BREACHING BOCACHE

Bocage, due to its impenetrability, is very good at channeling your movement; however, you do have some options available to breach the bocage and surprise your opponent by moving through an area normally impassable. Bocage can be breached in three ways:

1. **Demolition charges.** Demolition charges breach bocage just like walls and buildings. At least 2 demolition charges are required to breach a hole large enough for a vehicle to pass through (bocage is tough stuff!). The best way to ensure a large enough breach is to order two consecutive Blast commands, the first Blast command across the far side of the bocage, and the second Blast command returning to the start point. Breaching the **Moylan Farm** building or bocage may prove to be useful in your attack.
2. **Artillery.** Higher caliber artillery can destroy bocage. The larger the caliber, the less rounds required. The process can be laborious and will likely alert your opponent with ample time to respond.
3. **"Rhino" tanks.** American Stuarts, M10s, and Shermans in July (and *only* July!) 1944 may come equipped with Cullin devices. These blades affixed to the front of the tank allow it to plow its way through bocage. The Germans do not have access to this equipment. Needless to say, these devices are very useful as they allow the American player to quickly move armored units through terrain that would otherwise be impassable.

■ ADVANCE

With the **Moylan Farm** captured, the German attack on **Fauville** should be halted. Although you will have to mop up the remnants of the attack, the town has been saved. You should move your forces west across the map, towards the **German HQ**, and destroy the remnants of the 795th Battalion. Don't forget to use your TRP near this objective to liberally douse the area with artillery before you arrive.

■ CAMPAIGN END

You have successfully led soldiers into combat and begun the liberation of Europe. Although the tutorial is over, the learning will never end, as there are a near-endless number of tactical situations to experience in Combat Mission. With a game as richly detailed and complex as Combat Mission, you

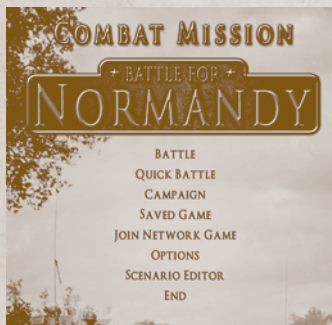
■ BATTLES & CAMPAIGNS

CM:BN offers three basic types of scenarios to play: Campaigns, Battles, and QuickBattles.

■ BATTLES

As the game title “Combat Mission” implies, the actual battle is at the core of the game. This is where player and/or computer-controlled forces clash and their fate is decided. Battles constitute the base for the Campaigns and QuickBattle systems, explained further below. A number of pre-designed and tested battles and campaigns are available with the game. By using the powerful Editor tools, players can also create and share an unlimited number of new battles.

Battles are missions put together by a scenario designer, and include the map, objectives, forces, reinforcements and AI scripting. Battles can depict a nearly unlimited number of combat situations. The Editor section of the Game Manual explains in detail how Battles can be created.



■ HOW TO START

To start a Battle, click on the Battle button on the main menu screen. The battle window opens, listing all available battles from the game’s “Scenarios” folder. Clicking on the title of each battle provides additional information to give the player a quick idea of what the Battle is about.

- **Image:** an optional image associated with the Battle. Could be an in-game shot, or map overview, or anything else that the scenario designer deems worthy of showing. If no image is provided, this area remains black.
- **Parameter icons:** four icons showing important parameters for the battle:
 - **Environment:** (from left to right) Forest, Hills, Open, River, Rough, City, Town, Village



- **Time of Day:** Dawn, Day, Dusk, Night,



- **Battle Type:** Assault, Attack, Probe and Meeting Engagement.



- **Battle Size:** Tiny, Small, Medium, Large, Huge.



- **Duration:** the duration of the battle in minutes

- **Temperature:** the air temperature during the battle

- **Description:** a short one-line description entered by the scenario author to describe what the mission is about

The player has the option to click OK or to Cancel. The latter brings the player back to the Battle selection screen. Hitting OK opens the next screen:

■ SELECT COMBAT FORCE

The player now chooses the side he would like to play - Allied (US) or Axis (German)

■ SELECT GAME OPTIONS

In the next screen, the Style of play and number of players is set, as well as the difficulty level for the mission.

Players - options range from single play in real-time or turn-based, or various 2 player options (LAN/Internet, Hotseat and Email)

Skill - the difficulty setting including Basic Training, Veteran, Elite and other settings.

Click OK to load the scenario.

■ MISSION BRIEFING

The mission-briefing screen opens when first entering a battle. The briefing screen shows:

- **Strategic Map** (e.g. an overview map of Normandy or the geographical location of the battle). Empty if not uploaded by scenario author..

- **Operational Map** (e.g. a topographical map of the neighborhood where the battle takes place). Empty if not uploaded by scenario author.

- **Briefing Text.** Describes the mission orders to the player using a common format.

- **Button for Tactical Map.** Toggles map or briefing view and shows a tactical map to the player, e.g. a bird's eye view of the battlefield. Empty if not provided by scenario author.

- **Designer Notes:** shows additional notes (only if provided by the the scenario author) to both players. Unlike the briefing text, the designer notes do not impose a common format.

Hitting OK takes the player directly to the 3D battlefield.



■ SETUP PHASE

When you first enter the 3D battlefield you start out in the Setup Phase. Gameplay is paused and both sides are able to move their units within the available Setup Zones.

The Setup Zones are visible as colored areas (in shades of red for the Axis player, and shades of blue for the Allied player) overlaid on the terrain. Each side can have up to three different colored Zones in any configuration (including non-contiguous). Units may be moved within the same colored Zones they start out with, never any place else. Units that are not within any Setup Zone may not be moved during the Setup Phase, though they may be given movement or other orders which will be implemented once the battle begins.

Note: If Terrain Objectives are part of the mission, then you can see them (during the setup phase and at any later time during the battle) by using the hotkey combination Alt-J.

Almost all of the regular Commands available to a particular unit while in battle are available during the Setup Phase. However, some Commands only activate once the battle starts. For example, any Combat Command issued to a unit during Setup Phase won't do anything until the combat starts. Movement Commands given to a unit within its Setup Zone will move it there immediately and without any game effect, such as Fatigue. Movement Commands which are placed outside of a Zone instruct the unit to move to that location as soon as the battle starts, but not before. Other Commands, such as Button/Unbutton, Acquire, Split, have an immediate effect and can be

done or undone instantly and without their typical game costs (time delays, Fatigue, etc.).

Note: the Target command is available during the Setup Phase, but ONLY to be able to check lines of sight and distances. No targeting orders are actually saved during the Setup Phase!

In addition to your soldiers, weapons and vehicles, you can also position various types of fortifications (if available) during the setup phase, such as Trenches, Barbed Wire and other obstacles, or mines.

Once you have positioned your units to your liking and are ready to start the battle, click on the red blinking button in the lower right hand corner of the screen. This is the "End Phase" button which quits the Setup Phase and launches the actual battle. The game clock will start ticking and will continue to do so until you pause (RealTime) or until the 60 seconds of the first Action Phase are completed (WeGo). More about this in the following chapter about "Gameplay Styles".

■ END GAME REVIEW

After a battle ends, the End Game review screen displays the "score" for both players, listing all mission parameters and objectives (including hidden objectives), indicating whether or not the player achieved each objective (and to what extent), and totalling all points, thereby calculating the victory level. The victory levels range from total defeat to total victory and various steps in between (including minor, major and tactical defeats/victories as well as a "draw" if the points accumulated by both sides are nearly equal).

Hovering the mouse cursor over the individual Parameters and Objectives shows further details about the point calculation and totals near the bottom of the screen.

■ COMBAT VICTORIES

The players may also review the 3D battlefield after the battle. All Fog of War restrictions are removed, so they can see all units for both sides at the current state when the battle ended. Players can select both friendly and enemy units, and once selected, the Combat Victories for the given unit are shown in the lower left of the screen. The Combat Victories display lists how many and what type of infantry, vehicles, and big guns this unit destroyed.

Note: in the End Game review, using the +/- keys to "jump to the next unit" also works with enemy units.


■ VICTORY CONDITIONS

Scenario designers can set a number of specific victory conditions for battles, and mix different objectives and objective types. Each objective can have a different victory point value associated with it. The objectives of the opposing sides do not have to match. In fact, one side can have totally different goals than the other side. Also, objectives are not automatically known to

both sides: a mission goal is only known to the side that has to achieve it; or only the other side; or both; or none.

The Editor chapter explains objectives in more detail. Here are the basics for the player:

For each scenario, there are three main types of objectives for each side: terrain-based objectives, unit-based objectives, and force-wide objectives.

| AFTER ACTION REPORT | | |
|---|---|--|
| Devils | | |
| Both Sides: Cease Fire | | |
| Skill: Iron | | |
| GERMAN ARMY MINOR VICTORY | | |
| U.S. Army |  | German Army |
| FAILED  | Ground |  FAILED |
| FAILED  | Targets |  FAILED |
| Parameters | | |
| 238 | Points | 370 |
| 127 Men OK 1 Men Killed 15 Men Wounded 0 Men Missing 0 Tanks Lost 0 Armored Vehicles Lost 0 Other Vehicles Lost | | 37 Men OK 9 Men Killed 15 Men Wounded 1 Men Missing 0 Tanks Lost 0 Armored Vehicles Lost 0 Other Vehicles Lost |

■ TERRAIN BASED OBJECTIVES

The scenario designer can set any number of terrain-based objectives, i.e. areas on the map of some importance to the mission. Terrain based objectives are assigned to all available units for that side. The available objective types include:

- **Occupy:** player needs to occupy an area, clear it completely of enemy troops, and keep some forces there (until the end of the battle) to gain points
- **Destroy:** player needs to destroy an area (e.g. a building or bridge)
- **Preserve:** the opposite of Destroy; the player needs to ensure that an area (e.g. building or bridge) remains undamaged.
- **Touch:** player needs to reach the objective area to gain points, but does not have to remain in position there
- **Exit:** Exit Zones allow all friendly units to leave the map. There are no points awarded for leaving a map. However, units that are part of an *enemy* Destroy/Destroy All Unit Objective (see next section) and do NOT leave the map are credited to the enemy as if they were destroyed.

■ UNIT BASED OBJECTIVES

There can be any number of unit-based objectives in a scenario. The objective can be tied to one single unit (such as a tank or an HQ unit) or to entire formations (such as a platoon or even a company), or to a mix of various units. Unit-based objective options include:

- **Destroy:** you must destroy the designated units. The more damage you cause to those units, the more points you earn.

- **Destroy all:** you must destroy the designated units in order to earn any points. Points are not awarded for damaged units.

Note: If the enemy has a Map Exit Objective, then you will gain points for all designated Destroy/Destroy All units that do not leave the map before the battle is over.

- **Spot:** you earn points by spotting and identifying the designated units.

■ FORCE WIDE OBJECTIVES

These are the main victory parameters for a scenario. The scenario designer assigns victory points to each objective individually. Options include:

- **Casualties** (friendly and enemy): if the player keeps his own casualties under this percentage (relative to the entire force in the scenario) or pushes the enemy above another percentage, he is awarded the respective victory points
- **Condition** (friendly and enemy): if the player keeps his percentage of wounded, incapacitated and routed soldiers below this percentage, or pushes the enemy above another percentage, he is awarded the respective victory points

Note: dead (KIA) and severely wounded soldiers (not eligible for buddy aid) are counting as "Casualties", while lightly wounded and incapacitated soldiers (eligible for buddy aid) are counting against "Condition"

- **Ammo** (friendly and enemy): if the player retains more than this percentage of ammo or pushes the enemy to expend more than another percentage, he is awarded the respective victory points
- **Friendly bonus:** onetime bonus to the side. A quick "fix" to balance uneven battles, which can be fun at times.

The full range of Victory objectives is available for Battles and Campaigns. QuickBattles use a simplified auto-generated system, which is explained at the end of this chapter.

■ CAMPAIGNS

A Campaign is a single player game that progresses through a series of interconnected Battles stretching over many simulated hours, days, weeks, or even months. After completing a Battle, Combat Mission selects the next Battle based on the results of the one just completed. The Battles within a Campaign are all premade, but are adjusted to reflect combat results from the previous Battle. Combat Mission campaigns are what we call "semi-dynamic": this means there are some predetermined elements, as well as some based on the player's actions.

Certain units have their casualties, changes in leadership, ammo usage, damage, Combat Victories and other factors carried over to the next Battle they appear in. Such units are called Core Units and constitute the bulk of the player's available force for the Campaign. This does not mean, however, that every Core Unit appears in every battle. On the contrary, very often units seen in one battle might not appear again until several battles later. Some

units may only appear a couple of times, while others appear nearly every battle. However, Core Units are always seen at least two times, unlike Auxiliary Units which are seen only once for the whole Campaign. Combat Mission makes no attempt to inform the player about which units are Core, in order to remove the temptation for players to abuse of Auxiliaries (i.e. treating Auxiliary units as “disposable”).

Depending on conditions before each new Battle, Combat Mission may replace fallen soldiers, repair damaged vehicles, replenish ammo, etc. However, as with any real-life military campaign, replacement, repair, and replenishment are not guaranteed events. A wise player will keep this in mind and avoid wearing out his forces trying to achieve something that, in the larger context of the campaign, is relatively unimportant.

Combat Mission chooses which Battle comes next based on the score from the previous Battle. However, the evaluation is based on expectations about how well the player should do. Sometimes expectations are high and sometimes not. This could mean a high score for one Battle keeps the player on the optimal path to victory, while the same exact score for another Battle may mean a detour before getting back on the straight path to the Campaign’s end. Generally, however, better results lead to a more direct path to the final Battle.

■ PLAYING A CAMPAIGN

From the Main Screen, click on the Campaign button to view all available Campaigns.

Once a Campaign is selected, the player receives a special one-time-only Campaign Briefing. It describes the “big picture” of what is expected of the player and which forces are available to achieve the objective. After absorbing this information, the player moves onto the Mission Briefing to find out the specific details of the coming Battle. At the end of each Battle, the player views an After Action Report (AAR) that scores the player’s performance for that battle. After viewing the AAR, the next Battle’s Mission Briefing comes up and the whole process is repeated until the end of the Campaign.

Campaign players have an option to switch between RealTime and WeGo Modes in between battles. To do this, save the game between battles, exit to the main screen, then start up your Campaign save game normally. Before the battle starts an option is presented to switch Modes. This is useful for those people who prefer to play in RealTime for smaller battles and WeGo in larger battles.

Campaigns started using an earlier version of a Campaign can be continued with newer versions once the current battle being played has been completed. The way to do this is:

- a. Save your current campaign in between battles just after you dismiss the After Action Report and exit to the main screen.
- b. From the main screen select the New Campaign option and then highlight the updated Campaign you wish to play. Hold down the SHIFT key and then click the OK button.

c. An "Import" screen will appear and you'll see your save game in the list of files. Select it, click OK, and the Campaign will start up again normally. The game does its best to reconcile changes to such things as Core Units, but there is only so much the game can do successfully. In the event it can't make sense of new and old it simply defaults to the new information, which may cause some of the battle history to change. Therefore, this new feature works best when the Campaign designer is making minor corrections instead of major overhauls.

After the last Battle, the player sees the Campaign AAR. Unlike previous AARs, which showed results for the just-completed Battle, the Campaign AAR details how the player performed over the entire Campaign. This signifies the end of the Campaign.

The individual campaign missions make full use of all Victory Options available for Battles.

Note: Players can create their own campaigns. Please read the "Editor" Chapter for details on how to link battles.

■ QUICKBATTLES

QuickBattles offer unlimited replayability in CM:BN, and are also a quick way to "generate" a new battle. Units for both sides, and the map to be played on, are either purchased/selected or randomly chosen according to a number of parameters set by the player.

■ QUICK BATTLE OPTIONS

■ ENVIRONMENTAL OPTIONS

These options define the general setting for the Quick Battle (QB).

Battle Type – Meeting Engagement, Probe, Attack, Assault, or Random. This setting has an impact of what type of Quick Battle Map will be loaded: if you select Meeting Engagement, only maps defined as Meeting Engagement will be considered for loading. If you choose any of the other Battle Types, then only maps which are NOT a Meeting Engagement are considered. The Battle Type also determines how many "purchase points" the defender/attacker will receive to assemble their forces. Additionally, the attacker in an Assault type battle automatically receives a certain level of intelligence/recon information at the beginning of the battle, informing him about a certain % of known enemy positions.

Battle Size – ranging from Tiny to Huge. This has an impact on how many units will be available to both sides (ie. how many points are available)

Length of Battle - determines the length of the QB in minutes/turns (from 30 minutes to 2 hours).

Map Selection - can be Human or Automatic. If Human, then the player will be able to choose a map from the list of available maps after finishing all settings on this screen. If Automatic, then the map will be randomly chosen, based on the selected Battle Type and two additional options:

Map Size - ranging from Tiny to Huge. Only maps of the selected size will be considered when making the random choice of which map to load.

Environment - sets the general type of terrain to be played on. This setting has a direct impact on what type of Quick Battle Map will be loaded.

Note: if the Automatic map picker does not find any eligible maps for the QB based on the settings made by the player, the game will simply load the Main Menu screen again.

Year & Month - sets the date for the scenario.

Daylight - sets the time for the scenario.

Weather - sets the current weather for the scenario.

Rarity - Rarity determines the degree real life historical availability factors into unit purchases. The choices are Strict, Standard, Loose, or None. See the Purchase Forces section later in this chapter for details about the Rarity purchase system.

■ UNITS OPTIONS

These options define the units that both sides will be playing with. Units can be either purchased by the player(s) or are selected randomly, based on the parameters chosen in this screen.

Service - choices include: US Army, German Army, Random, Random Allied and Random Axis. (the random settings really only make sense when you have modules installed which introduce additional service types). This defines the base pool of units for that side for the QB.

Combat Force - the composition of your task force for the quick battle can be selected here, e.g. Infantry only, Armor only, etc.. These choices are based on historical formations, but are additionally balanced for Quick Battles. See "QB Purchase Restrictions" later in this chapter for details.

Two additional choices are always available as well: Mix (which means that units of ALL branches are going to be available for the QB, without restrictions), and Random (which means that a Combat Force setting will be randomly selected).

Type - this defines the rough composition of the unit based on the previous choices. For example, for an Infantry Branch, the choice could be Heavy Infantry, Medium Infantry or Light Infantry, defining the TO&E as well as available weapons and formations.

Quality - ranging from Poor to Excellent, this defines the general quality of the equipment used by the purchased units.

Max. Fitness - Unfit, Weakened, Fit or Random. This modifies the fitness parameter for all units of this side, allowing to simulate battle weary or tired formations.

Unit Purchase - can be set to Human or Automatic. If Human, then the player will be able to purchase units for this side in the next screen. If Automatic,

then the computer will randomly assign units for this side based on the choices made so far.

Note: even if you are playing solo against the computer opponent, you can set this parameter to Human for the computer player, and will be able to pick the forces that you will be up against.

Map Preview – this option is available only when Unit Purchase is set to Human. The available choices are No Preview or Preview Allowed. If Preview is allowed, then the Map Preview button is active in the Unit Purchase Screen, allowing the player to explore the map in 3D view while assembling his force.

Force Adjustment – allows playing an unbalanced QB. If set to the default “no change”, both sides will have the default amount of purchase points available to buy their units with. The options allow you to give the Allied Force an extra 150% of units, or to deduct 60% from the Allied pool.

Note. “default purchase points” does not mean that both sides have always the same amount of points! The amount of points per side depends on the chosen Battle Type and Size. For example, in an Attack/Defend type situation, typically the attacker will receive more points than the defender by default. In an Assault, the attacker will receive even more (almost twice as many), while in a Meeting Engagement, the point values will be nearly identical.

After setting the parameters and determining the QB map to play on (randomly or by selecting one), the player will either be tasked with purchasing the participating forces (if the Unit Purchase was set to Human for one or both sides), or the game will proceed with the QB launch (if Unit Purchase is Automatic).

■ PURCHASE FORCES

This screen appears if Unit Purchase was set to Human for one or both forces. It will appear once for each side that is set to Human Purchase.

The Purchase screen for Quick Battles is very similar to the Purchase screen used by scenario authors in the editor (see the Editor chapter later in this manual). Here, we will describe the basic functions and the main differences between QB Purchases and Editor purchases.

The Purchase screen consists of several main areas (explained below in the order that you usually use them):

■ MAIN MENU

The menu bar on the left of the screen is the main workhorse for the Purchase Window. Here you see three lines showing your 1) points budget, 2) how

much of it you have spent already, and 3) how much is remaining. You will also find a button called "Suggestions" which allows you to have the computer player put together a suggested force for you with just one click. You do not have to accept the suggestion if you don't want to, you can edit it or discard it, and you can have the computer make as many suggestions as you like.

The Map Preview button is active if map preview is enabled for this side, and opens a 3D preview of the battlefield when clicked.

By clicking the Cancel button, you exit the QuickBattle and return to the QuickBattle menu. By clicking the OK button, you accept any purchases and choices made in this screen and proceed to load the battle map.

■ FORMATION SELECTION TABS

Located on the left side of the screen, this is where you determine the settings on which the choices available in the Available Troops window are based on. You select the branches and formations and special units and vehicles that you want to purchase here. The available choices are preset based on the Unit Options you selected when starting the QB.

When you start purchasing your units, you MUST start with at least one Formation. This is necessary so that a proper Command&Control chain can be established for the battle. After purchasing one or more formations, you can then switch the display to Specialist Teams or Individual Vehicles if you would like to "cherry-pick" specific units that are not part of the pre-defined (historical) Table of Organization & Equipment. These units are automatically attached to the currently selected (already purchased) Formation.

■ EQUIPMENT QUALITY DROPDOWN MENU

You can set the general equipment available for the troops you purchase with one click on the dropdown menu, ranging from Typical (for that force and period), through Poor and Excellent. To finetune the selection after your purchase, read the next section "Toolbar"

■ AVAILABLE TROOPS

Depending on how the Formation selection tabs are set, a number of available formations, vehicles, units, support assets or fortifications is displayed in this list, including their point and rarity values (if Rarity is not set to None). A "+" behind the purchase point value indicates that the number shown is a "lowest case" for certain formations.

■ ACTIVATED TROOPS

This list shows the troops that you intend to purchase. You can subsequently delete and revive units in this list to finetune any selections made.

■ SELECTED FORMATION/UNIT TOOLBAR

Near the bottom edge of the screen, a dynamic display appears, depending on which formation is selected in the Activated Troops list. The toolbar consists of two main areas: on the left, the Soft Factors menu, and on the right the Equipment toolbar.

■ SOFT FACTORS

Here you can adjust various “soft factors” for each individual unit or formation, such as Experience, Motivation, Fitness, and Leadership. For a more complete description of the soft factors, see the “Editor” chapter.

■ EQUIPMENT TOOLBAR

Some formations allow you to determine the type of equipment that they are going to field for the battle, such as different tank or vehicle or gun types. For example, if you select a US Armor formation, typically you will be able to determine here which models of Sherman tanks will be appearing in the battle.

Note: if you don't want to set the choices for individual units or formations, use the Equipment Quality Dropdown to set a general quality setting for the units you purchase.

This menu is highly context sensitive and dynamic, depending on which formation or unit you highlight in the Activate Troops list. Sometimes you can select an individual squad and several choices will appear here, sometimes you can select a Battalion HQ and select the equipment for the entire formation with a few clicks.

In addition to different equipment, you can usually also determine here if you want indirect weapons such as guns, howitzers or mortars appear on the map, or be available as off-map support assets only.

The choices made here may affect the point value of the formation that they apply to. This is why the points listed under Activated Troops may differ from the “typical” point values shown under Available Troops for the exact same formations.

■ QB PURCHASE RESTRICTIONS

The Purchase Screen for Quick Battles differs from the Editor's in a couple of significant ways. In the Editor there are no restrictions on how many, or what types, of units can be purchased. For Quick Battles, there are restrictions on both, depending on what Options are specified. For example, when Battle Size Option is set to “Huge”, Combat Force set to “Infantry Only”, and force Type set to “Light Infantry”, your force will be large and restricted to nearly pure infantry units. Change Combat Force to “Light Combined” and some amount of vehicles can be purchased, but the majority of the force will remain infantry.

■ RARITY

The amount of uncommon units allowed for purchasing can be restricted if desired. “Strict” keeps unit purchases almost exclusively to common units, “None” has no restrictions at all. “Standard” approximates actual availability for that particular month, “Loose” is more generous than that.

■ LAUNCH THE QB

Next, the player is asked to select which side they want to play (Allied or Axis), and to set the game options: which style of play they prefer (Real Time,

WeGo, 1 player or 2 etc.), and which skill level (Basic Training, Veteran etc.) to choose, just as for a regular scenario.

■ SETUP POSITIONS

The randomly purchased units are located in the predetermined setup areas at the beginning of the QB.

Note: Soldiers are automatically boarded onto their vehicles, by default, but you may unload and reload in the Setup Phase (and later) as usual.

■ VICTORY CONDITIONS

Victory conditions for QuickBattles are much more limited than for Campaigns and Battles. Only two types of victory conditions are available:

- 1 - Terrain objective zones. These are always considered as OCCUPY zones.
- 2 - A set number of points are rewarded for causing enemy unit casualties. The more casualties caused, the more points are awarded.

■ SAVED GAMES

This Main Menu entry allows you to load previously saved games as well as Incoming Email files from a human opponent in Play-By-Email games. The available files shown to load are originating from the /Game Files/Saved Games and /Game Files/Incoming Email folders inside your game directory.

Note: if you want to delete saved game files, please open the folder(s) in Windows Explorer and delete them manually. For the Mac version, doubleclick on the Game Files shortcut to open the folder(s) in Finder, and delete the unwanted files manually.

■ GAMEPLAY STYLES

Combat Mission: Battle for Normandy can be played in a number of ways. At its core, it's a simultaneous-time ground combat simulation where one second of playing time equals one second of real time. In other words, a 30 minute engagement will also take 30 minutes to play out. Since not everybody has time to play real-time, a number of alternative playing styles are supported.

No matter which playing style you choose for a given battle, the underlying simulation engine always runs in real-time. In other words, as far as the game is concerned, turn-based play is nothing else than a game played in 60 second increments of real-time, in between which gameplay is paused to await player input. It doesn't have any effect on the simulation itself.

■ SINGLE PLAYER

Single-player mode allows one player to fight against the Computer Opponent (often also referred to as Artificial Intelligence, or AI).

The Computer opponent consists of three main sub-elements:

- the customizable "Scenario AI" which can be "programmed" by the Scenario Designer who determines the overall strategic goals as well as possible avenues of approach and is able to "script" certain behavior;
- the hard-coded Operational AI (OpsAI) that coordinates and assigns the orders to sub-units;
- and the hard-coded Tactical AI (TacAI) that controls the individual behavior of units and soldiers based on the assigned orders and the situation that develops after the shooting starts.

■ REAL-TIME

The Real-time Single Player mode starts with the player entering the battlefield in the Setup Phase. Time is paused, and the player is able to get to know the battlefield, study his orders and units, and place his troops within the designated setup zones. During the setup phase, it is possible to issue orders which will be executed immediately when the battle starts.

With setup completed, the player launches the battle, starting the clock. The clock ticks in true real-time (1 second of game time equals 1 second in the real world) and only stops if the game is paused. All actions happen simultaneously. After the allotted Scenario Time expires, the battle ends, and the results screen is shown.

■ TURN-BASED

The turn-based single-player mode begins again with the Setup Phase, which works just like for Real-Time play: both players are able to change the deployment of their units, and issue orders which will be executed during the first turn.

After the Setup Phase ends, the first game Turn begins. For the first turn (only), the turn begins with the Action Phase, during which the units execute the commands given to them during the Setup Phase. After the Action Phase ends, players can rewind and replay the Action (without being able to issue commands) as often as they like during the Replay Phase.

Each following Turn is divided into three phases: a Command Phase during which the player is able to issue orders to his units for the upcoming turn, an Action Phase, during which the units execute these orders, and a Replay Phase, during which the player is able to rewind and watch the action as often as he likes.

The Action Phase runs in real-time for 60 seconds and automatically ends after that time. The Player is not able to issue further orders during the Action and Replay Phases but can move the camera freely around the battlefield.

■ TWO-PLAYER

The Computer Opponent can be quite formidable when you are just starting to play CM:BN, but it is no match for an experienced human player, because, unlike a human, the AI is not capable of learning from its mistakes or adapting its gameplay to its opponent(s). Although a lot can be done by the Scenario Designer to increase the difficulty of winning against the Computer Oppo-

ment by carefully scripting the Scenario AI, sooner or later, multi-player games against other humans will provide the only real challenge.

Playing against other human players is possible using a variety of methods.

■ REAL-TIME

Two player Real-time play is possible via two modes: a local area network (LAN), where two computers are connected to each other locally, and internet play, where the two players can be anywhere in the world and connect via the internet. Both types of play use the TCP/IP protocol for connection; therefore, the steps to set up and play a game are basically identical.

■ LAN/INTERNET

CM:BN uses a peer-to-peer connection between the two players. One player assumes the role of the host, while the other player joins as client. The host first creates a new Battle by choosing which scenario he wants to play, and from the Game Start window selects the appropriate game type: "2 Player Internet/LAN". On the next screen, CM:BN automatically detects and lists all IP numbers associated with the host computer, as well as which port will be used for the connection. It then waits for the client player to join.

Note: Combat Mission Battle for Normandy uses the UDP and TCP port 7023 for all multiplayer games. If you are trying to HOST a TCP-IP game make sure and open port 7023 for both UDP and TCP traffic.

The host now has to communicate this information to the client player by email or chat. The client launches the game and chooses "Join Game" from the main game menu. Here, he enters the correct IP address and port given to him by the host. After clicking "Join", the game will attempt to connect with the host computer and, if the connection was successful, the game will launch. From here on, gameplay resolves exactly the same as in the 1 player Real-Time game mode for each player.

Note that CM:BN lists ALL the IP addresses assigned to a system. If you have multiple modems or network cards, it will list all IP addresses associated with those devices. What it can't do is tell you which one is the correct IP address, because that depends on how your system is configured. If you do not know the correct IP address yourself, your opponent will have to try all of them to find the correct one. Make a note of its place in the list, because even if the IP address itself might change, the order in which the IPs are listed should not.

If either player is behind a firewall (hacker protection) or is using a proxy system, you may need to reconfigure your system by manually opening the necessary port for incoming and outgoing transmissions. You might have to

uninstall some firewalls completely (software-based) or disable them (hardware-based). Some firewalls might have to be uninstalled completely. Users with routers need to add the TCP port to the routers forwarding table and match it to the internal IP address of the computer that hosts the game, then use the router's control panel to get the external IP address given out by your ISP. This external IP address is what your opponent will need in order to connect to you as host.

People using Internet Connection Sharing on their home LANs cannot host Internet games. They can, however, host locally to systems that are connected on the same home LAN. They can join other hosted games normally, via Internet or LAN. This limitation on hosting affects systems that gain their access to the Internet SOLELY on ICS connection.

■ TURN-BASED

Two player turn-based play is possible via two modes - Hotseat, where the two players play on the same computer and take turns plotting their orders for each turn, and Play By Email (PBEM), where the two players save and swap their turn files via email.

■ HOTSEAT

Hotseat play is very similar to Turn-Based Single Player games. Each player plots his commands and actions as he would in a Single-Player game and, once done, exchanges the seat in front of the computer with his opponent (hence the term "hotseat"), who now does the same. This is repeated for each turn.

■ EMAIL

Play by Email works exactly like Single-Player Turn-based play, except that once a player completes their commands and actions, a special save game file is generated. The player emails this file to their opponent who loads it on their end, executes their commands, watches the results of the previous turn, then saves a file and returns it to the first player.

Here is a more detailed explanation of the process:

1. You pick a Game and are prompted to create a password. This creates Game file 01 which is stored as an Outgoing file. You will find this file in CM:BN/ Games File/Outgoing Email. You send this to your partner
2. Your Partner gets the 01 file and saves it in his Incoming Email Folder.
3. He starts game and finds file 01 in the Saved Game portion of the Opening menu.
4. Partner puts in password and a new file 02 will be generated to be sent to you.

By saving and swapping these files via email, the players advance the game from turn to turn at a pace that the players can adjust to their liking. The gameplay itself, i.e., the Action Phase, still takes place in real-time - just like in Turn-Based Single Player mode.

■ SKILL LEVELS

When you launch a new battle, you can set the skill level, which adjusts the overall difficulty of the game. Unlike other games, the skill level does not simply give an artificial bonus to the computer opponent, but instead has an influence on core game mechanics. The following section describes the differences between the different levels. Only the differences from the previous lower level are described.

■ SCENARIO AUTHOR TEST

"Scenario Author Test" may be selected as a Skill Mode in 1-player games only. It is intended to be used by Scenario Authors only when testing their creations, and is not intended for "live" play. This setting will cause all enemy units to be fully displayed to the player, but not additionally "known" to player's troops. Computer controlled units show their movement paths when selected.

Note: in Scenario Author tTest mode, using the +/- keys to "jump to the next unit" also works with enemy units.

■ BASIC TRAINING

This is the easiest setting. The following special rules apply:

- *Friendly units are always spotted*
- *Spotting information is instantly shared among teams (aka "Borg Spotting")*
- *Troops suffer slightly fewer casualties and are less likely to panic*
- *Treatment of wounded soldiers ("buddy aid") is extremely fast*
- *Artillery and air support arrives extremely fast*
- *Enemy units, once spotted, are always fully identified*
- *The life/death status of enemy vehicles is displayed immediately*
- *Enemy weapons and suppression are displayed*
- *You can hear the voices of unspotted enemies*

■ VETERAN

Most people familiar with the Combat Mission game system will prefer this setting. It is a fair balance between realism and fun that does not burden the player with unnecessary details or long waiting times. The following special rules apply:

- *Friendly units are always spotted*
- *Enemies, once spotted, are not always immediately identified and can appear as generic "Enemy contacts" (but less often than at Elite level)*
- *Spotting information is distributed among teams using the standard Command & Control rules (See Command & Control*

chapter)

- *Treatment of wounded soldiers is faster than in real life*
- *Artillery and air support arrives faster than in real life*
- *The life/death status of enemy vehicles is hidden until the crew bails out or the vehicle starts to burn*
- *Enemy weapons and suppression are not displayed*
- *You cannot hear unspotted enemies*

■ WARRIOR

Warrior is similar to the Veteran setting but introduces more realistic time delays for a number of tasks and events. Hardcore players will favor this setting. The following special rules apply:

- *Enemies appear as generic "Enemy contacts" until they are positively identified by your forces on the battlefield*
- *Treating wounded soldiers takes a realistic amount of time*
- *Artillery and air support take a realistic amount of time to arrive*

■ ELITE

Elite is identical to Warrior with only one difference:

- *Enemy infantry icons are always the plain "soldier" type, regardless of their armament or function*

■ IRON

Iron is an optional setting that goes even one step further than Elite, and introduces special restrictions on what the player can do and when. While even more realistic than the other settings, this option introduces a number of interface limitations which might put off the casual player, so it is strictly an optional choice.

- *Friendly units need to be spotted just like enemy units. If you have a friendly unit not in line of sight or in contact with another friendly unit, then the only way to find this unit is by either re-establishing contact with another friendly unit or by clicking through the chain of command in the game interface, jumping from unit to unit.*

■ BASIC SCREEN LAYOUT

The main screen layout breaks down as follows:



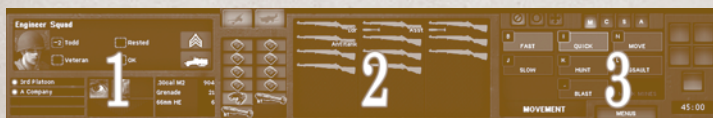
- 1. Top Navigation/Info Bar** - the info bar at the top of the screen provides information about friendly and enemy units located within the viewing area, even if the units are hidden or obscured by an obstacle. Clicking on one of the triangle-shaped icons instantly switches the player to that unit.
- 2. Game Area** - this is the central display area where all the action takes place. Using mouse and keyboard controls, the player can move the camera around the map, as well as access units and info by clicking on them directly and/or on their floating information icons (if enabled).
- 3. Game User Interface (GUI)** - the main interface bar at the bottom of the screen presents the player with all the information and controls necessary to interact with units.

Note: This screen layout is used for all instances where the player interacts with the 3D game world. 2D game elements such as menu screens and the editor use a different GUI layout.

■ GAME USER INTERFACE (GUI)

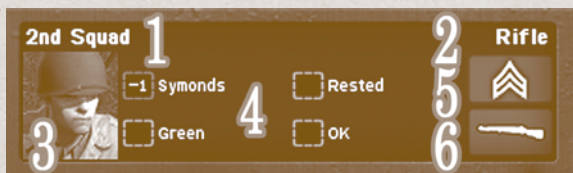
As soon as you enter the 3D game world of CM:BN, the GUI appears at the bottom of the screen. It always consists of the same three main parts, even though some may be empty or unavailable at times.

1. Unit Info Panel
2. Team Info Panel
3. Command Panel



■ UNIT INFO PANEL

The Unit Info Panel displays the most important information for the currently selected unit. It breaks down as follows:



1. **Unit name** - standard or customized unit description
2. **Unit type** - describes the type of unit, such as "Rifle Squad"
3. **Portrait** - a picture that represents the current unit type
4. **Unit attributes** - the central characteristics affecting the unit's ability to perform:
 - a) leader name (leadership modifier)
 - b) experience level (no modifier)
 - c) physical condition (physical fitness modifier)
 - d) morale (motivational modifier)

Modifiers determine, for better or worse, how the unit behaves during the game. Each modifier can have a positive or negative value, as follows:

- +2 - excellent
- +1 - good
- +0 - average
- 1 - below average
- 2 - poor

5. **Rank** - the rank insignia of the highest-ranking leader of the unit. This does not change within a battle - even if the leader becomes a casualty and the next highest ranking member assumes the leadership role.
6. **Branch of Service** - shows which Branch of Service the unit belongs to.



7. Chain of Command - displays the parent formations of the selected unit. A green icon indicates that the HQ unit/formation is currently in contact with the next higher HQ unit/formation, while a red icon indicates lack of contact. In the previous example, if the icon beside the "1st Platoon" entry is red, then the 1st Plt is out of contact with A Company Hqr, while - if the icon next to "A Company" is green - then Company A HQ is in contact with Battalion HQ.

Note: this part of the interface does not tell you anything about the selected unit being in command or out of command with its parent HQ. That is indicated in the C2 Link (point 9 below).

8. Ammo panel - the ammo panel displays the available and remaining types, calibers and amounts of ammunition that the unit has at its disposal. Each bullet/round is listed here for each specific caliber/type.

9. C2 Link - the Command and Control (C2) link shows the current established means of communication for **the selected unit with its next higher HQ** in the chain of command. The left most position shows if there is a visual connection, the middle position shows if there is either voice or radio contact. The right most position is reserved for communications not present in the Normandy setting. See chapter *Command & Control* later in the manual for more details.

10. Suppression Indicator - an inverted color-coded pyramid indicates the amount of suppression the selected unit is enduring at any given time. It also gives the player a rough measurement of the total volume of incoming enemy fire. As the color moves from green to yellow to orange to red, the amount of suppression increases, and the unit will be more likely to go to ground, panic, or break. When units are pinned (i.e. they can shoot but do not respond to movement orders), or panicked, routed or broken, that status is shown in the suppression meter display as well.

11. Artillery and Air Support buttons - allows access to the Artillery and Air Support screen (if such support is available and if the currently selected unit is allowed to request support).

12. Special Equipment - this area consists of 12 slots which display various types of special equipment that a squad, team, or vehicle might be equipped with (e.g. demo charges, binoculars, etc.).

Note: keep an eye out for knocked-out burning vehicles that contain extra ammo and other special equipment. CM:BN is simulating "cook-offs", i.e. exploding ammo inside a burning vehicle. After each explosion, ammo is crossed off the list, but remaining ammo may still explode later on. You should keep your infantry away from burning vehicles or they could suffer injuries.



■ TEAM INFO PANEL

The Team Info Panel shows all Soldiers assigned to the unit. Depending on the type of unit and the nationality, the Team Info is further subdivided into Teams. Squads show three columns representing up to three Fire Teams, designated A, B and C. The actual composition is determined by the nation's specific TO&E.



Each Soldier is represented by his Weapon, his Wounds, and his Speciality. Behind the scenes, the rank, individual ammo count, type of body armor (if any), number and type of grenades, Special Equipment, and spare ammo are also tracked for each Soldier.

The Unit Info Panel displays cumulative ammo counts and any Special Equipment. The total weight of everything a Soldier carries is also tracked and has an impact on fatigue from movement. In order to prevent unnecessary information overload, these details are not available to the player.

The large variety of Weapons available to soldiers are accurately portrayed according to their real world characteristics, such as ammo type, rate of fire, reloading procedures, chance of jamming, inherent accuracy, weight, etc. On the 3D battlefield you can see the weapons as they are being used. The Encyclopedia chapter details each Weapon and it's capabilities.

The color of the Weapon icon in the panel denotes the general health of the Soldier. Green means the Soldier is in good shape, though perhaps a little banged up. Yellow means that the soldier has sustained a significant wound

that is likely to impair his ability to fight. Seriously wounded Soldiers are dropped from the Team Info Panel completely. The Soldier's base within the Game Area also shows Green, Yellow, Red (seriously wounded) and Brown (dead) to reflect his Wound status. If you point the cursor at a weapon, the name of the weapon is displayed and that soldier's base is subtly highlighted in the main 3D display.

Seriously wounded soldiers (red soldier base) can be given first-aid by their comrades, which is called "Buddy Aid". There is no Command for this action, rather it happens automatically when a friendly soldier (regardless if he is from the same squad or not) is moved close to the location of an incapacitated comrade. Depending on the situation (incoming fire etc.) the soldier may decide to treat the wounded man. The word "medic" is displayed in the status field. The player can abort the treatment at any time by giving the parent unit that the medic belongs to any kind of Command. The medic may decide to abort the treatment himself as well if there is significant incoming fire.

Once treatment for a seriously wounded soldier is complete, the wounded soldier will disappear from the Game Area.

Note: Seriously-wounded (red base) soldiers who have not received "buddy aid" (i.e. disappeared) by the end of the game have a 25% chance of becoming KIA in the final tally.

Dead soldiers (brown soldier base) can also receive "Buddy Aid" (by moving a friendly soldier close to the location), but all it does is reclaim their ammo and weapons, if possible. "Aid" to dead soldiers is pretty quick.

Many Soldiers have a special ability due to training and/or weapon assignment. These Specialities are represented by a short line of text over the Soldier's weapon icon, such as "Commander", "Gunner", "Driver", etc. Soldiers can perform tasks they aren't specialized, just not as well as those who do. For example, some soldiers have been trained to drive a vehicle, command a Team, use AT weapons, etc. If a soldier without a specific Specialty tries to perform the same task, he is generally worse at doing it.

■ DETAILS PANEL

All units that are not Squads are simply referred to as Teams and have up to seven Soldiers in the Team A column. In place of columns B and C is the Details Panel, which is where special information about the Team is shown. There are three different types of Details Panels based on Team type: Vehicle, HQ, and Heavy Weapon.

The layout for each Detail Panel is essentially the same with Profile, Stats, and Reports sub sections. The Profile shows a silhouette unique to that unit, the Stats give some indication as to what the unit is capable of, and Reports give details relevant to the Team's specialized purpose. Reports are "tabbed" and can be accessed one at a time. CM:BN remembers which Report was last in view so the next time you select a unit of that type, the same Report shows up by default. The following sections briefly describe the unique features shown for each unit type.



■ DETAIL PANEL COMPONENTS

The Details Panel is divided up into three conceptual pieces: Profile, Statistics, and Reports. The information for each varies a little depending on if the unit is a Vehicle, HQ, or Heavy Weapon (HW).

■ PROFILE

Designation and Purpose - lower portion. Several pieces of information are displayed here, depending on the type of unit selected. Generally speaking, this section gives you information such as military designation (e.g. M4A1, MG34, etc.), caliber of main weapon, minimum/maximum range, and/or a description of the unit's purpose (e.g. Headquarters, Medium Tank, etc.). For headquarters the formation name is also displayed.

HQ Button - when a Vehicle or HW is also a HQ, a button appears which toggles the HQ Reports on or off instead of the unit's Vehicle or HQ Reports.

Silhouette - an illustration of what the unit looks like. For heavy weapons, text is superimposed over the Silhouette depending on the type of weapon and its state of readiness. "Semi-Deployed" means the weapon can be used, but not optimally. "Not-Deployed" means the weapon can not be fired until Deployed. "Limbered" tells you the weapon is in its towed, non-firing position. When no text is present the weapon is fully deployed and ready to fire.

Crew Positions - a grey dot for each designated crew position, a blue dot for each occupied position, and a grey dot with a black center for WIA.

Passenger Positions - works the same as Crew Positions, but uses a green dot instead of blue to represent an occupied position.

Vehicle Name - The common name of the vehicle, if any (e.g. Sherman, Tiger etc.). Not applicable to HQs and HWs.



■ STATS

Vehicles - Weight, Speed, Power-to-weight ratio, Offroad and Turning ability

Heavy Weapons - Caliber, Setup and Pack Up Times, Speed, Minimum and / or Maximum ranges

HQs - Personnel, Experience, Condition, Morale, Suppression

■ REPORTS

Ammo Report - available for Vehicles, HQs, and HWs. Displays the amount of ammo of each type assigned to that unit.








Defenses Report - available for Vehicles only. Shows the vehicle's ability to defend against...

1. Hollow charge rockets (e.g. Bazooka, Panzerschreck, Panzerfaust)
2. Large caliber anti-tank rounds (e.g. 88mm)
3. Medium caliber anti-tank rounds (e.g. 50mm)
4. Small arms (e.g. Machineguns)

...against the

- Front >
 Sides ><
 Rear <
 and Top v

The amount of threat posed by the various munitions is shown graphically as Bad (small red x) , Poor (o) , Average (yellow o) , Good (light green square) , and Excellent (thick green square) .



Damage Report - available for Vehicles only. Shows how well each system of the vehicle is functioning. The icons used are coded in the same way as the

armor icons in the Defense Report (previous page). Additionally, vehicle systems that are destroyed are displayed not just with the red "x", but also by the system name appearing as bright red text.

Note: The game tracks and applies limitations to what a vehicle can or can't do *precisely* as shown here, so keep an eye on the damage report during combat! If the engine is destroyed then your vehicle won't be able to move. If its engine or running gear are damaged it may be able to move but only slowly, and even more so across difficult terrain or up steep slopes. If the radio is destroyed or damaged, it may lose connection to higher up, resulting in loss of Command & Control, and so forth.

Unit Report - available for HQs only. Shows up to nine units directly attached to the HQ and their status (ranging from fully operational to depleted to eliminated). Clicking on an entry jumps to that unit.

Formation Report - Identical to Unit Report, but showing up to nine Formations attached to the HQ (if any).

■ COMMAND PANEL

The Command Panel is a highly interactive area that allows the player to issue Commands to units, to select from various Menu options, and to control the speed of the game. The various component pieces are broken up logically so they can be accessed quickly. The components are numbered according to this picture of the Command Panel:

1. **Instant Commands** - allow one click change in unit behavior. The left button tells the unit to HALT and retain its Commands. Clicking on the button again tells the unit to RESUME. The middle button instructs the unit to CANCEL all its Commands and to do nothing for the moment. The right button tells the unit to EVADE by abandoning its current Commands, seeking immediate cover and perhaps popping smoke. Although units can Evade on their own initiative, sometimes they try too hard to stick to their Commands and need to be redirected without further delay. Instant Commands work in both Real-Time and We-Go styles of play.
2. **Command Modes** - determines which type of Commands are being used; Movement, Combat, Special and Administrative. When selected, the name of the Command Mode is displayed along the bottom and the appropriate Command Buttons are shown in the Button Screen.



3. Button Interface - shows either Command or Menu Buttons, depending on which is currently selected. Command Buttons display their assigned hot-key and are color-coded to match the Command Lines shown in the Game Area. See section [Commands] for more details about Commands
4. Menu Mode - by clicking on the Button "Menu", the Screen displays various special Options the player can use. These Options are detailed below. Clicking again on the "Menu" button quits the Menu Mode.
5. Playback Interface - used mainly for We-Go style play, this interface allows you to replay, rewind and fast forward through each game turn and phase. The large red button in the middle is used to End Turn or End Phase in turn-based mode, or to Pause the game (same as pressing the ESC key) in Real-time mode. The elapsed game time is shown at the bottom.

■ MENU OPTIONS

The Menu Options Panel contains a total of seven buttons, explained below. The Panel is accessed by clicking on the "Menu" button. Clicking again exits Menu Mode and resumes regular Command Mode for the Panel.

1. Save - opens the Save Game screen, allowing you to save a game in progress. The saved game can be found under CM:BN/Game Files/Saved Games, and can be loaded from the "Saved Games" entry in the Main menu visible upon game launch.



2. Conditions - opens a pop-up window listing the environmental conditions for the current battle, including:
 - Weather (e.g. Clear, Overcast, Rain...)

- Temperature
 - Ground Conditions (e.g. Dry, Wet...)
 - Wind Strength and Direction
3. Briefing - opens the Briefings Panel with the current Mission Briefings
 4. Hotkeys - opens the Hotkeys Panel listing all important in-game hotkeys
 5. Cease fire - toggles the call for a Cease Fire on and off. If the opponent selects this option as well, the game ends with a mutually agreed to Cease Fire
 6. Surrender - immediately surrenders the battle to the opponent
 7. Quit - aborts the current mission immediately, without calculating results

■ COMMAND INTERFACE

Units are controlled by issuing Commands. The Command Panel is the primary method for viewing and issuing Commands. All Commands are grouped into one of four conceptually similar Command Modes:

Movement: Commands to get units from waypoint A to B

Combat: Commands to engage enemy targets

Special: various special Commands that complement Movement and Combat Commands

Administrative: Commands that affect a unit's basic organization

There are several ways to issue a Command during the game, so you can choose whichever suits your style of playing best.

■ NUMBER PAD

Each key on the Number Pad is "hard-wired" to the Command Button that is in the same relative position in the currently active Command Panel. For example, with the Move Command Panel open, the top row of Commands (from left to right - Fast, Quick, Move) corresponds to the keys 7, 8, and 9. You can switch Command Panels to access other Commands with the / and * buttons.



■ KEYBOARD

You can use the keyboard to issue Commands via Hotkeys. You can customize the hotkeys to your liking and either use a hotkey for each individual command (Direct access) which eliminates the need to bring up the required Command Panel first, or use the Default Keys (Relative access). You can access Command Panels directly with the F5-F8 function keys.

■ MOUSE

You can use your mouse to operate the Command Panel in the Game Interface directly. Simply click on the corresponding buttons to switch Panels and issue Commands.

■ ON-SCREEN MENU

A selectable Command Menu popup in the 3D area is also available. The onscreen list of available commands can be viewed by selecting a unit and pressing the SPACE BAR. Simply click on the desired Command and then follow normal procedures for that Command (e.g. clicking a Waypoint or selecting an enemy unit to Target). The menu can be dismissed with another press of the space bar or by clicking the mouse anywhere outside the menu.

Some Commands are "modal", such as Deploy Weapon for Heavy Weapons. These Commands remain lit up to show that the unit is already performing that particular Command. Issuing the Command again has the effect of telling the unit to cease that action.

Units whose Morale State is Panic, Broken, or Routed are not capable of receiving any Commands. Units that are heavily Suppressed ("Pinned") may accept Commands but may not necessarily act upon them right away.

■ PLAYBACK INTERFACE

For Turn-based We-Go play, this interface is used to playback each turn's action. For other play styles, such as Real Time, this panel is only used to conclude the Setup Phase at the beginning of each battle and launch the battle. The controls resemble those of a regular VCR or CD player, and include:

- play/pause (toggle)
- skip to end
- rewind
- fast forward

The large red button in the middle of the Playback Interface is used to advance from one phase to the next, i.e. ending the Setup Phase and starting the game in Real Time mode, or ending the Playback phase and starting the Command Phase of the next turn. In Real Time mode, pressing the button has the same function as the ESC key, and pauses the game. Below this button is the elapsed game time expressed in minutes.

■ SPOTTING

One of the center pieces of the new CM:BN game engine is the concept of "relative spotting", where a number of game elements - from command & control, to skill levels, to individual unit abilities - all come together. A typical battle-field is full of chaos by its very nature: combatants worldwide call this chaos the "Fog of War", where no two soldiers "see" the same thing. To simulate this, CM:BN employs complex calculations and a unique spotting concept which only shows the player what his currently selected unit can see.

Spotting is computed for each unit individually, and is not only based on actual lines of sight, but includes many other factors such as: what the spotter and target are doing (facing *does* matter!), the equipment they have available (scopes, binoculars etc.), skill levels, visibility based on climatic effects and the time of day, even sounds (units can "hear" nearby enemies!) and so forth.

Note: nighttime battles introduce an increased chance for friendly fire which can cause casualties among your own troops

Enemy units that are not seen by any of your troops are not shown on the map. This includes muzzle flame, smoke, dust, and other effects directly attached to enemy unit behavior - these are also not shown unless the unit itself is already spotted by at least one friendly soldier.

But even when an enemy is spotted by one of your units, that information does not pass immediately to other friendly units; instead, it is transmitted using the usual Command & Control channels, and is subject to the same restrictions.

Note: Relative Spotting is turned off for Basic Training Skill level

Example: One squad might see an enemy unit that a friendly squad, close to the first, does not see. It only takes a few seconds before the first squad is alerted about the enemy presence by visual signals (e.g. hand signals), but it takes much longer to pass this information to other units in the Chain of Command. Units out of contact might not receive this information until they are in contact again.

FLOATING ICONS

In addition to being handy ways to keep track of and select units, the Floating Icons also convey important spotting and unit status information. Unless disabled by its hotkey the icons appear over the center mass of the units they represent.

Unknown, unidentified, or previously spotted but now out of sight units, as well as pure sound contacts, are shown with a plain ? marker.

Each icon can be in one of four states: normal, dimmed, highlighted, and transparent. Transparent icons are only used for units which are attempting to surrender.

Note: Floating icons for friendly units briefly blink after sustaining a casualty.

With no unit selected, all icons are in their regular state. This shows the player the combined information from all his units as passed up the Chain of Command.

Note: Icons for units that are not capable of receiving commands (e.g. panicked, destroyed) are faded, by default.

When a friendly unit is clicked on the following icon changes occur:

- the selected unit's icon background blinks between normal and highlighted
- all friendly units within the same immediate formation (usually a platoon) remain in their normal icon state
- friendly units in other formations are dimmed
- whatever enemy units can be directly seen by the selected unit are shown the others are hidden

Note: Double clicking yields the same behavior except that units within the same formation have their icons highlighted.

When an enemy unit is clicked on the following happens:

- the selected unit's icon background blinks between normal and highlighted
- friendly units within LOS of the enemy unit remain in their normal icon state
- all other friendly unit icons are dimmed

Some of the most immediate effects of this system are that units with dimmed icons cannot be directly targeted by the selected unit. The unit TacAI will continue to behave as if no enemy unit was present. It will, for example, continue walking down a road into a possible ambush, unaware of the threat.

The icons displayed are nation-specific and unit-type specific. Normally, German forces are displayed by rectangular grey colored icons, while US forces use round olive drab colored icons. The unit representations show the main type, such as tank, infantry, vehicle, etc., using the silhouette of the most common unit for that nation.

Note: at Skill Levels Elite and Iron, enemy infantry icons are always the plain "soldier" type, regardless of their armament or function

If play is Axis on Axis or Allied on Allied, the colors and shapes remain the same but the black unit representations on the icons change because they are specific to one nation's equipment.

Most actions which are possible for the player to do by clicking on a unit are also possible when clicking on the unit's icon instead. This is often easier since the unit icons are "stacked" automatically for easier access. For example, when embarking a vehicle you can click on the vehicle or on its icon.



■ COMMANDS

At the very core of the CM:BN tactical game lies its system of Commands. Commands are the primary form of interaction between the player and his virtual soldiers on the battlefield. CM:BN uses a structured Commands system which emulates most of the typical orders a squad of soldiers would give or receive on a real battlefield.

Similar Commands are categorized into specific Command Groups. The four main Command Groups are:

Move Commands - move units from A to B using various methods

Combat Commands - instructs the unit to use its weapons in some controlled fashion

Special Commands - specific instructions that are nestled in between Move Commands

Admin Commands - similar to Specials, except specific to unit organization



This structure is more than just for ease of reference. Each unit is able to combine one command from each group and perform it simultaneously. For example, a unit can conduct a Move and Combat Command at the same time, while another might perform a Move and Special command. Not all commands can be combined like this, but many can. Some commands, especially certain Special and Admin Commands, might require full focus by the unit until completed.

Which commands are available to which unit, and at which time, is highly dynamic. Suppression, fitness, unit cohesion, location, the unit's equipment, and the time of the battle can all have an effect on what types of commands are available at which time. Some commands might be grayed out, indicating that they're temporarily unavailable, while others might not appear at all because they're only available to a specific type of unit, or only if a specific type of equipment is carried.

Just as in real life, your virtual soldiers are not robots and therefore will not mindlessly execute each and every order from you. There are many situations - usually under heavy enemy fire - in which soldiers may simply refuse to execute a Command you have given them, or may replace it with what they consider more suitable. For example, you may give a unit a Fast Move Command only to see it changed instantly to a Slow Move Command because the soldiers feel hugging the ground is the better way to stay alive. Units with or without orders will also usually initiate evasive action on their own in the face of extreme danger - for infantry this may include crawling to cover, for vehicles it could mean popping smoke, rotating to face the threat and retreating away from threats. This can happen if you ordered it or not, if you want it or not, as the unit is simply concerned about its own survival at

that moment. Keep this in mind when you see that your Commands are not exactly working out as you think they should...

The following is a list of ALL available commands. Certain restrictions are mentioned, but not ALL possible combinations are listed.

In addition to the above, a special category, "Instant Commands", is available. Instant commands do not appear in the usual Commands Panel, but have their own buttons at the left top of the Commands Panel interface. These Instant Commands are "emergency" commands, allowing a player to quickly instruct a unit to PAUSE, CANCEL ALL, and EVADE. Obviously, this is mainly useful for Real-Time play. Instant Commands are explained in more detail in the next chapter.

Lastly, there are certain actions that the units conduct themselves without the need to explicitly give them a Command, such as providing first aid for wounded or sharing ammo. These actions are listed and explained at the very end of this section.

■ MOVE COMMANDS

Move Commands include orders that usually have to do with getting a unit from point A to point B in a certain fashion. Movement commands are generally issued by selecting the desired type of movement and then clicking on the map with the mouse, thus placing a waypoint. A Command Line extends from the unit's current position to the waypoint.

Additionally, when an infantry unit is moving and the waypoint is placed over ground terrain (i.e. not a building or vehicle), the actual destination for each one of the teams that make up the moving unit is highlighted in yellow. Teams B and C (if any) also have their adjacent destinations highlighted when plotting moves and when giving facing orders attached to a final waypoint. Note that the final facing is important for positioning "wing man" teams, so you should attach facing orders to final waypoints as needed. ,

Note: if you need even more granular control over each of your teams, feel free to split them and issue individual movement commands.

Infantry soldiers/units automatically try to position themselves "smartly" around and along buildings, walls, ridgelines and other terrain which provides cover and concealment. When targets present themselves soldiers will try to gain line of fire by repositioning themselves. However, as in real life soldiers are reluctant to reposition themselves in exposed positions when they are currently in good cover.

Units do not always follow the exact Command Line drawn on the map, but will choose their movement path independently based on the terrain between the start and end points, including finding their way around impassable obstacles. The chosen route depends on the type of movement command issued, as well as if the unit is being fired on or not. Keep in mind that the longer the distance between the start and ending points, the more the route

the unit chooses might deviate from what you had in mind when you gave the order to move out.

You can issue several Move Commands (from the same type, e.g. Move + Move; or different types, e.g. Move + Fast) one after the other, generating a string of waypoints that the unit will pass through one by one. There is no limit as to how many waypoints you can place, though more than a handful is hardly practical.

Infantry units will usually halt at each waypoint for a few seconds and regroup, attempt to maintain formation etc. Vehicles will simply pass through waypoints if it is a string of the same movement types and if they can do so without having to slow down for a hard turn.

Note: new players tend to make a number of common mistakes when ordering around vehicles. Here are couple of tips (all are obvious when you think about how people drive vehicles in the real world):

- when maneuvering in difficult terrain with many obstacles (such as densely packed urban areas with narrow streets etc.), use Slow movements
- when setting waypoints for your vehicles, avoid sharp turns. If your movement command creates a 90 degree turn, the vehicle has to slow down or even stop in order to make the turn. By setting 2 or 3 waypoints instead at less steep angles, the vehicle will be able to move much quicker.
- if moving in a convoy, make sure to space out the intervals between vehicles sufficiently, and increase the distances the faster you want them to go! Have you ever tried driving at 50 mph with only a couple of meters of distance to the car in front of you? Not recommended!
- pay attention to impassable terrain between the starting point and destination when plotting movement commands. Vehicles will attempt to complete your orders and if faced with impassable terrain, may take a drastic deviation from the course you had intended for them. If you move through difficult terrain, use Slow Movements and set several waypoints closer together. Plotting one waypoint across half the map is inviting disaster.

When you issue a Move Command with the cursor placed over a vehicle capable of transporting soldiers (or over its icon), the unit that is given the Move Command will automatically embark onto the transport vehicle, either as passengers or, in some cases, as crew.

When you issue a Movement type order with a waypoint placed inside a building, a pop up menu will allow you to select the floor level that you would like the unit to occupy as its final destination. You can select Level 1 if you want the unit to simply enter the building, and then select Level 2 for the next waypoint later on to instruct it to move up, or you could immediately select Level 2 and have the unit pass through the ground level immediately to the second in one motion.

While moving, soldiers will sometimes stop and take a quick shot at nearby/exposed enemy troops, then resume moving. This depends on the Movement Command issued, and is more likely for enemies in front of the unit, and less to the sides and rear.

Moving troops that come under heavy fire usually try to move **FASTER**, except when they are so tired that they could only use walking speed (i.e. not even **QUICK**). In that case they will switch to **SLOW** (i.e. crawling), and sometimes they cancel their move altogether to seek nearby cover.

■ GROUND CONDITIONS, BOGGING AND IMMOBILIZATION

When issuing Movement commands, keep in mind the ground condition that you want to order a unit to move over. All vehicles are rated for Offroad performance and ordering a non-tracked personnel carrier to **FAST** move across a muddy field is very likely to bog it down. Slower speeds decrease the chance of a bog to some extent.

Keep in mind that Ground Conditions can change during the course of a battle. E.g. during a Downpour, ground conditions may change from Wet to Muddy during the battle.

Some vehicles are able to drive over obstacles, such as low walls or fences. However, this usually greatly increases the risk of immobilization and bogging.

Bogged vehicles display a "Bogged" marker in their unit panel, and are not able to move. Bogged units attempt to un-bog themselves automatically. This may fail, however, and lead to a permanent immobilization.

Ground conditions (as well as the terrain itself) do play a role for infantry units, too, affecting the soldiers' speeds and rate of exhaustion.

■ MOVE

Infantry - This is the standard "move from A to B" command usually used in situations where enemy contact is not expected or is unlikely. It is fairly slow, but it maintains unit cohesion, pretty good all-round awareness (but no anticipation of imminent contact), and is not tiring to infantry. Usually units that come under fire while executing a Move Command stop or change their movement order and take evasive action, and there is a high chance that they will return fire and look for cover.

Vehicles - this command means slow speed and usually instructs the crew to unbutton to maintain good all-round observation.

Restrictions - Move is not available when a vehicle has been knocked out or immobilized (usually by a track, wheel or engine hit, but also if the crew has been incapacitated). For infantry, move might not be available temporarily due to wounded and incapacitated soldiers as well as excessive fatigue (in which case you have to let the soldiers rest a little)

Example - use Move to change floors in a friendly occupied and previously cleared building when speed is not important. Use Move to drive down a road not expecting enemy contact.

■ QUICK

Infantry - soldiers move at a jog. This movement type slightly emphasizes speed over cover, cohesion and awareness, but is not a full-out run. It may lead to some bunching up, as it's more difficult for soldiers to remain in formation. More tiring than Move but still sustainable for longer periods, at least for fit soldiers.

Vehicles - this command means medium speed, and emphasizes arriving at the waypoint quickly over returning fire.

Restrictions - same as for Move, but fitness and fatigue play a bigger role.

Example - this command is best used to shift positions quickly when speed is important but when the area to move through is covered and not under immediate enemy view and fire

■ FAST

Infantry - Fast Movement maximizes speed to get from one place to another at the cost of fatigue, and also decreases awareness and spotting ability, especially to the sides and rear (relative to the unit's movement direction). Fast makes the unit less likely to return fire or to stop or change its movement direction and objective. Keep in mind that this means that a soldier running FAST will NOT stop to reload, either.

Vehicles - Fast means movement near the maximum speed possible for the terrain, and a decreased awareness of what is happening around the vehicle.

Restrictions - Fast has the same availability restrictions as Move (immobilization, fatigue, etc.), and, additionally, might be unavailable when certain components of a vehicle are damaged (even if not fully destroyed), or for infantry units, when combat/equipment loads are excessive.

Example - use Fast to have a squad sprint across an open road from one building to another, making sure that they do not slow down to return fire. Use Fast to cross a stretch of open ground with a vehicle in order to reduce the time of exposure to enemy tanks.

■ SLOW

Infantry - Slow is the equivalent of a Crawl command. Soldiers move forward in the prone position, maximizing cover and concealment at the cost of speed and fatigue. Crawling is extremely slow and very tiring and should only be used to move short distances. Crawling soldiers are generally hard for the enemy to spot (depending on terrain). Crawling soldiers tend to pause and return fire at nearby/exposed enemy troops often, then resume moving. After reaching the destination, soldiers who move SLOW (i.e. crawl) will tend

to keep their heads down for a little while even if there is no incoming fire and no enemies are spotted.

Vehicles - instructs the vehicle to move slowly, at walking speed. Useful when coordinating vehicle movements with infantry.

Restrictions - same as for all Movement commands.

Example - crawling up the last meters towards a crest or edge of a tree line helps maintain concealment. Slow vehicle movement makes the vehicle less likely to appear as a sound contact to the enemy.

■ HUNT

Infantry - this command maximizes the unit's awareness for possible enemy contact. Soldiers advance slowly, weapons ready. Upon seeing an enemy unit, or when fired upon (even if the enemy is not seen) the unit stops immediately. This is a good command to use when enemy contact is imminent.

When soldiers using HUNT get too tired, they stop and pause for 90 seconds before continuing to HUNT.

Note: in combination with a Target Arc command, Hunt is restricted to only the area within the arc, and ignores enemy units outside the arc.

Vehicles - orders vehicles to advance slowly and observe the battlefield for enemy contacts. Upon spotting a threat, such as another enemy vehicle or tank, or when fired upon (even if the enemy is not seen), the vehicle stops immediately.

Restrictions - same as all other Movement commands.

Example - Hunt is very useful for cleaning out houses which are suspected to have enemy hiding inside, or as a "move to contact" order for tanks.

■ ASSAULT

This command is available for infantry squads only, and requires a certain minimum headcount (in other words, you cannot use assault if you only have two or three people active). It instructs the squad to conduct a so called "leap-frog" movement, which is executed by splitting the squad into a movement element and a firing element. The moving element advances at FAST speed (the same limitations apply as with the FAST command) while the firing element remains stationary and provides covering fire. After the movement element stops (ending the first "leap"), the roles switch, and the movement element (now the firing element) provides covering fire while the firing element (now the moving element) advances, reaches and overtakes the firing element, and arrives at the next "leap". This procedure repeats until the squad has reached its designated objective location.

Assault is usually executed in the face of enemy fire (typically from the front) and is a good compromise of security and forward movement while maintaining unit cohesion and limiting fatigue. The disadvantages are that it is a fairly slow form of advance, and that it requires a certain minimum unit experience to implement.

Restrictions - Since "leapfrogging" does not make much sense with only a handful of soldiers, it requires a certain minimum headcount.

Example - use Assault to cover open ground over long distances while under enemy fire. Assault can be also useful to clean out buildings (only the assault team is exposed to ambushes)

■ BLAST

This command enables an infantry unit with demo charges to blast a hole through a building wall, exterior or interior, as well as through tall stone or brick walls, and of course also through the nasty Bocage hedgerows, allowing units to pass through the breach.

Note: the breach may not automatically be wide enough for vehicles to pass through. This may require more than one blast attempt.

The time it takes to conduct this command varies based on unit experience, and can range from one minute to several minutes per detonation.

The Blast Command instructs the unit where to move. This makes it no different from any other Movement Command, except that the unit attempts to blow up a section of (nearby!) wall or hedgerow along its path.

Note: It is a good idea to place the Blast Command on the opposite side of the wall you want breached. This ensures that the correct section of wall is breached and that the unit moves through the opening.

Restrictions - only available for infantry units carrying demo charges.

Example - moving in a city down an open street can be lethal - especially when the enemy has a few well positioned machineguns in place. A much safer, but more time consuming method, is to blow holes in adjoining buildings, avoiding the open street entirely. Another good use for this command is to enter and storm a building from an angle the enemy isn't expecting.

■ MARK MINES

This command enables engineer units to detect and mark hidden minefields so that other units are aware of them. Other units can then move through the marked minefield, albeit slowly. Mark Mines is a very slow movement command that takes the unit's full attention and reduces awareness and returning fire. See the Encyclopedia chapter for more details about Mines.

Restrictions - only Engineers can mark mines.

Example - Marking mines under fire is suicidal unless you have other forces suppressing the enemy or call for a large scale smoke screen.

■ REVERSE

Simple "back up" command, available only to vehicles. Instructs the vehicle to drive backwards without changing its facing (e.g. keeping its gun and stronger front armor forward towards the enemy while retreating).

Restrictions - same as for all Movement commands.

Example - use Reverse to back up into cover while keeping a tank's front armor directed at the enemy.

■ COMBAT COMMANDS

Combat Commands usually have to do with firing one's weapons at a designated target, be it an enemy unit or a general area on the battlefield where enemy units are suspected or known to hide (or to move to). Only one Combat Command can be active at any one time, but it can be combined with commands from other Groups (e.g. movement).

Note: In general, the player cannot determine exactly which weapons are used. This choice is made by the squad/unit leader based on the circumstances (range to target, ammo situation, suppression and so forth).

■ TARGET

This is the standard fire command, instructing a unit to use all of its available weapons to fire at the designated target. The target can be an enemy unit or a piece of terrain (area fire).

Note how it says "available weapons" in the preceding paragraph! Some weapons may have restrictions, such as having to be deployed before you can fire them. Perhaps the most notable restriction is that rocket propelled anti-tank weapons (e.g. Bazooka, Panzerfaust, Panzerschreck) may not be fired from enclosed spaces (such as buildings or bunkers) due to the lethal backblast.

If the target is an enemy unit, the firing unit will fire only when the enemy target is visible and hold fire (but maintain the target) when it is not. If the target is an area, the firing unit will maintain a constant stream of outgoing fire at the selected area, automatically shifting its center of aim during the process to each side to maximize coverage and effect. Area targets always "snap" to the underlying action grid in CM:BN

Area fire orders are immediately canceled when any active member of the firing team/squad enters the target area (useful for room clearing).

Note: A special situation is the targetting of an enemy unit near a TRP (Target Reference Point). In CM:BN, these double-function not only for artillery support fire, but also as "ambush markers". Soldiers targetting an enemy unit near a friendly TRP are much better at estimating the range correctly.

How much and what type of fire (small arms, main gun, grenades) is outgoing depends on a number of factors, including the type of firing unit, the dis-

tance to the target, target type, and the available ammunition. For smaller targets further away, the firing unit will use aimed fire and single shots or short bursts while it might switch to full auto at targets at close range and when it has enough ammunition available.

Note that you do not have to use this command to make a unit fire. Units will open fire on sighted enemy troops and vehicles automatically if/when they can. In fact, unless you have a specific reason to order a unit to concentrate its fire on a specific enemy, it is often the better choice to let the unit decide its targets freely.

While the target command is being issued, the command line extending from the firing unit to the mouse cursor assumes the function of a Line-of-Sight tool. Different shades of, grey, blue and red indicate if a line of sight is free, obscured, or blocked, and where it is blocked (the area out of sight is marked with red). When placing a target command the color denotes how strong the LOS is to the target. If the line to the target is light blue the LOS is clear, part dark blue and part magenta if it's blocked, and gray if it's mostly clear but not for every soldier in the squad/team.

Additional Notes can be displayed at times above the target, alerting the player to special conditions, such as Hull Down or Partially Obscured or plain Out of Sight targets.

How well a unit performs in executing a Target command depends on a large number of factors, including distance and equipment, target type and status, as well as the firing unit's experience. The quality of range estimates made by gunners and the speed of acquiring and re-acquiring targets especially depend on the experience level of the shooter.

Note: Virtually every bullet in CM:BN is tracked from muzzle to target. This applies to both small arms as well as heavy calibers. The principle of "what you see is what you get" applies: if only part of a vehicle is visible (e.g. behind a wall or partially concealed by a slope in the terrain) then only that part can be hit by direct fire. The only exception to this is that vehicles are NOT shielded by hiding behind knocked-out armored vehicles; however, infantry does gain cover in this situation. In fact, infantry also receives a blast protection bonus when an armored vehicle (live or knocked out) is between them and a very large explosion.

Restrictions - Target is not available if the unit has no ammo.

Example - enemy snipers are firing from a building. Instead of targeting the enemy unit, the player calls for area fire from a tank, which uses high-explosive ammo from its main gun to blow up the whole side of the building.

■ TARGET LIGHT

This is a variation of the Target command and works very much the same, but at a reduced fire output. Usually it limits the firing unit to use small arms and MG fire, while larger calibers and heavier weapons hold fire.

Note: on-map mortar teams that receive a Target Light command will use their mortars, but only at a very slow rate of fire

Target Light is useful when you want to put a few MG rounds into a suspected enemy location but not waste a tank's main gun round, or if you want to take a few aimed shots at a low threat infantry target not too far away without wasting too much ammo. Target light does not prevent the use of hand and rifle grenades, though, at the appropriate ranges.

Restrictions - same as for Target

Example - for firing at long distances, the game itself already reduces fire output even if you use the Target command, so Target Light is most useful as an ammo preservation tool for targets at medium and close ranges.

■ TARGET ARC

The Target Arc command orders the unit to only fire at enemies within a certain target area and/or range. After selecting this command, the player has to click on two points on the game map, and the cone-shaped area between those two points represents the designated target area; or, you can keep the SHIFT key pressed when selecting this command. This will create a 360 degree arc around the selected unit, allowing you to set the distance at which the unit will engage enemies but no specific direction.

Any visible enemy units that are located inside this area, or that move into this area, will be fired upon. Any enemy units outside of this target arc will be ignored (until self-preservation takes over and the Tactical AI decides to override player orders; e.g. if an enemy unit suddenly pops up at extremely short range).

When placing a target arc, the distance in meters is displayed.

This Command is also useful to keep a unit's "attention" focused on a specific part of the game map while it moves. If, for example, you want to keep a close eye on a bunch of buildings (where you suspect enemy activity) while driving down a road, you could assign a target arc to several units covering this area. The target arc increases the chances that units will recognize and engage an enemy threat within the target area quickly.

After placing an arc, the unit will rotate its main gun turret - if available - to face the center of the designated target arc, to minimize acquisition delays and maximize spotting abilities. Infantry units will shift their facing accordingly.

Restrictions - You cannot mix Target/Target Light and Target Arc commands. The AI will sometimes override Target Arcs in self-defense, when, for example, an enemy unit suddenly appears at close range.

Example - an unidentified enemy vehicle contact is reported near a building. We give a target arc command to one of our Sherman tanks to make sure they engage the enemy vehicle as soon as it pops up from behind cover.

Note: Target Arcs placement is "relative", i.e. in relation to the unit's position and facing, and not tied to an absolute location on the game map. In other words, if you move a unit with a designated Target Arc, that arc will move and turn together with the unit. In this way, you can order a unit to "cover the three o'clock position". You cannot use a Target Arc to "stick" to a particular spot on the map. So, if that's what you want, you have to keep the targeting unit stationary or adjust the arc accordingly during the unit's movement.

■ CLEAR TARGET

Instructs the currently selected unit to stop focusing on its designated target. A unit without a designated target is then free to engage targets at will, or will follow other player-specified commands.

Restrictions - Clear Target is grayed out if the selected unit has no currently designated target.

Example - after area firing at a building and blowing a hole in the wall, no further enemy contact is reported. We abort the area fire command to allow the unit to focus on other targets at will.

■ FACE

Infantry - issuing a Face command will cause the soldiers of the unit to re-evaluate the cover provided by the surrounding terrain in relation to the facing the player has indicated, and, if better cover is available, to move to that cover. For example, the unit might move around a wall, or house corner, to face the new direction while maximizing cover against fire coming from that direction. You can issue a Face Command to a unit in motion as well. If you do so, then the last waypoint will be automatically highlighted so the Face Command will apply to that last waypoint, not the current position. You are also able to manually select a waypoint (any waypoint, not just the last one) and issue a Face order from there however.

Note: the Face command is "absolute" to the point you click on the map, not "relative" to the position of the unit at the time that you click. An example: You issue a Face command to a moving unit by clicking on a house in the

distance. When the unit reaches its final waypoint, it will turn to face the house.

Vehicles - The unit will rotate its hull and turret (if applicable) to face the direction the player has designated.

Restrictions - vehicles cannot rotate if immobilized.

Example - an enemy Panzerfaust team is spotted on the flank. We change the facing of our Sherman tank to rotate its stronger front hull towards the threat.

Note: facing matters! It matters for both infantry as well as vehicles and greatly increases a unit's awareness and spotting abilities in the direction it is facing. CM simulates the natural human behavior to "look around" the battlefield (which includes a higher attention towards the front, less to the sides and even less towards the back) for both infantry as well as each individual crew position on a vehicle or tank!

■ TARGET SMOKE

Besides simple vision-blocking smoke only, CM:BN also features White Phosphorus smoke grenades, which can cause damage and burns to soldiers exposed to it (within very close proximity to an exploding shell).

Infantry - not applicable. Uses Pop Smoke instead.

Vehicles - The unit will fire smoke shells at the designated target or location.

Restrictions - Units need to be capable of firing smoke shells, and ammunition needs to be available.

Example - a major threat appears in front of your tank. The tank commander orders smoke to be fired in front of the enemy to blind it, gaining valuable time for a retreat.

■ SPECIAL COMMANDS

Special Commands include various special tasks not directly related to movement or firing weapons. Many Special Commands deal with specific situations or specific equipment, and therefore are only available to a unit if those conditions are met or if the equipment is available. Popping Smoke, for example, is only possible if the unit has smoke grenades available. Likewise, Deploy Weapon is only an option if the unit carries a heavy weapon which can (or has to be) deployed before firing. Most Special Commands are exclusive, meaning that they are the only command that can be executed at a given time, and cannot be combined with other Command Groups.

■ HIDE

Infantry - soldiers will generally go prone and hold fire and look for nearby terrain offering good concealment, trying hard not to get spotted.

Vehicles - vehicles will hold fire and not move, trying to keep a low noise profile. Hiding vehicles that are struck by a projectile, or that spot an enemy vehicle targeting them, will automatically un-hide.

Note: Hiding while facing an enemy takes a lot of nerve, and units might decide to stop hiding if fired upon or if the enemy approaches extremely close, depending on that unit's experience, morale and leadership.

Restrictions - hiding is no good if the enemy is already firing at you, or if you are trying to hide in open ground in full view of the enemy.

Note: Issuing a Hide command to a moving unit is possible. The unit will continue moving and will automatically hide after reaching the FINAL waypoint. If you want a unit to hide immediately you have to first issue a CANCEL ALL Instant Command to clear all waypoints, and then issue the Hide Command.

Example - we hide a German Panzerschreck team to let the first few vehicles and US infantry pass by before un-hiding and launching a grenade at the side of an enemy tank. This ambush tactic is especially effective if used in conjunction with a friendly Target Reference Point (TRP), as this increases the firing unit's accuracy for the first shot.

■ DEPLOY WEAPON

Certain heavy weapons can be deployed before firing to increase their chance of hitting or to increase their fire output, while others cannot be fired at all before being properly deployed. Deploy Weapon instructs the gunner of a heavy weapon (such as a medium or heavy machinegun, a mortar, an anti-tank gun, howitzer, or other heavy equipment) to deploy his weapon (on the appropriate mount), while one or more other soldiers of the same unit are designated as loaders and/or security or lookouts.

Some weapons, such as, for example, medium machineguns, can be fired without first being deployed, but will suffer from decreased accuracy and a lower fire output. Other weapons, such as mortars or howitzers and anti-tank guns, cannot be fired at all if not properly deployed.

Note. weapons which can be fired even if not fully deployed show a "semi-deployed" message across the weapon icon in the interface, whereas other heavy weapons typically show "not deployed". Guns that are not deployed but are in transport mode show "Limbered" in the interface.

Deployment takes a specific amount of time for each type of weapon, and also depends on various other factors, such as the unit's experience and current condition.

If you order a unit with a currently active Deploy Weapon command to move, it will automatically first de-activate the Deploy Weapon command, and then execute the movement command. There is a longer command delay in such case.

Note: anti-tank guns that are deployed in the Setup Phase and do not move or rotate are harder for the enemy to spot!

Restrictions - If you issue the Deploy Weapon command to an already moving team, it will deploy its weapon at the end of the movement command. If the movement command consists of several waypoints, the weapon will be deployed after the last waypoint has been reached. If you want the team to deploy immediately, you need to first clear the movement command(s).

Note: Depending on the weapon system, certain restrictions may apply as to where a weapon can be deployed or not. For example, some weapons may not be deployed inside buildings or on balconies or roofs. Others may be deployed, but the Setup Time is increased: for example, heavy MGs may deploy inside buildings, though assembly time is increased.

Example - we want to use a heavy machinegun to provide covering fire for an infantry assault. Finding a good position with a good field of view and field of fire, we issue the Deploy command to maximize that guns accuracy and fire output.

■ DISMOUNT

Orders the passengers of a vehicle to leave the vehicle. This command is available to both passengers as well as the vehicle itself. If you select a vehicle and issue the Dismount command, ALL passengers will leave. If you select a Passenger unit and issue the Dismount command, only that unit will disembark and automatically take up a defensive position near the vehicle.

Note: For Passengers, Dismount is not the only way to leave the vehicle. You can also select a passenger unit and issue one of the available Movement Commands. The passenger unit will automatically dismount and then move to the designated waypoint on foot. This is not possible for vehicle crews, since choosing a Movement order while a vehicle is the active unit will order the vehicle to move to the specified waypoint.

Disembarking troops may attach Face, Deploy, and Pop Smoke orders to waypoints.

Restrictions - only available to passengers inside vehicles or vehicles carrying passengers. Otherwise inactive.

Example - after the armored infantry platoon arrives at the intended dismount point, we group-select all Halftracks and issue a Dismount command. All teams dismount immediately.

■ BAIL OUT

Available for vehicle and antitank crews only, this command instructs the crew to leave immediately and seek cover nearby. Vehicle crews may re-mount their vehicle again during the same battle, but for anti-tank crews abandoning the gun is permanent, and therefore Bail Out should only be used in emergencies where staying with the gun would mean certain death.

Restrictions - AT Guns may not remount abandonend guns.

Example - to preserve the crew, we order them to Bail Out of an immobilized tank with a damaged gun sitting in plain view of enemy anti-tank weapons, since it's only a matter of seconds before the tank is going to brew up. Bail Out can also be used to dismount the crew and use it for recon, since bailed out crews can later re-occupy the abandoned vehicle.

■ ACQUIRE

The Acquire command allows an infantry unit to pick up equipment, weapons and ammunition from points where such goodies are available. In CM:BN, this usually means from infantry carriers such as halftracks and trucks which usually carry additional equipment in storage compartments.

In order to use Acquire, the infantry unit has to enter the vehicle first. A pop-up window lists all available equipment that the unit is eligible to choose from. Clicking on an entry removes the equipment or ammo from the list and places it into the inventory of the passenger unit.

Note: while soldiers automatically can share ammo without explicitly being ordered to (from nearby vehicles, or from nearby infantry units in their formation, as well as through buddy aid), the Acquire command gives you greater direct control.

Restrictions - only active when the infantry unit is inside a valid pickup area, such as inside a halftrack or truck

Example - after nearly an hour of continuous combat, the armored infantry platoon is running out of ammo. We split the squads into teams and order them into the nearby halftracks one by one to grab fresh ammo.

■ POP SMOKE

This order is available for both infantry equipped with smoke hand grenades as well as for vehicles equipped with smoke generators or smoke launchers. Pop Smoke instructs such units to place a smoke screen around its current position, to the best of its ability. Pop Smoke is used usually as a defensive command when the unit runs into overwhelming resistance and is useful to spoil the enemy's aim (even if only for a few seconds) and therefore gain time

to get into a better and more secure position (or out of an ambush, for instance).

The duration and placement of the smoke screen depends on the unit that is executing this order, as well as the weather and wind conditions. Keep in mind that smoke drifts and dissipates rather quickly under certain conditions, and can often become as much of an obstacle to your own forces as to the enemy. Offensive use of smoke (e.g. covering an advance) is usually left to supporting artillery or air assets and not to the individual ground unit.

Note: "Pop Smoke" can be aimed using the Face Command or current unit facing. The smoke will not fire until an existing Face Command is executed.

Restrictions - available only as long as unit has smoke grenades available and/or the smoke launchers are not damaged.

Example - an armored infantry platoon needs to dismount under fire. The accompanying Sherman tanks are ordered to pop a defensive smoke screen around the dismount point, allowing the infantry to dismount and head for cover, while spoiling the enemy aim.

■ PAUSE

Available for all unit types, this command instructs a unit to wait before carrying on with further orders. Pause can have different states, and each click on the Pause Command Button toggles through the list of available options.

Timed Pause - when you first select the Pause Command, an info text appears next to the selected unit icon: "Pause 00:15". This means that the unit is going to wait in place (but will continue firing, if applicable) for 15 seconds before continuing with any other orders. Each further click adds 15 seconds to the timed pause, for a maximum amount of 1:30 min (the longest selectable time for timed pause).

Pause - The next click sets the Pause Command to a "Pause for further orders" status. This is identical to the "Pause" used for Instant Commands, and is additionally indicated by an activated "Instant Pause" button in the interface. The unit will stay in place until the player clicks the Instant Command "Pause" button again, after which the unit will resume any pending commands.

Un-Pause - The next click resets the cycle and clears the Pause command. At this setting, the unit is not going to pause.

Restrictions - none.

Example - if you want to time it so that one squad at a time crosses a road - using FAST - then you could issue FAST commands to all squads in the platoon in advance, and assign each a different time delay using the Pause command. So, you could have 1st Squad break and cross the street immediately, then Squad 2 thirty seconds later, and Squad 3 after 1 minute, for example.

■ OPEN UP

Available for both vehicles and passengers. Open-up is a toggle. When activated (highlighted), it instructs the vehicle passengers or crew to open all available hatches. If the vehicle has none available, nothing happens. When de-activated, it tells the crew or passengers to close all hatches.

Restrictions - available only for vehicles and passengers.

Example - fighting from an open hatch increases the field of view and battlefield awareness of a vehicle crew tremendously (by eliminating blind spots created by the vehicle's vision ports), and even allows passengers to use personal weapons, but it can be very dangerous and lead to casualties, especially if the enemy returns fire from close distance. Use this command to choose between situational awareness or added protection, as the situation demands.

■ ADMINISTRATIVE COMMANDS

Administrative commands deal with the organization of squads, teams and crews.

■ SPLIT TEAMS

Evenly (more or less) splits a squad into two or three teams. How many teams are split depends on the nation's doctrine as well as the squad's current manpower. The Tactical AI tries to keep the teams at roughly the same strength and also distribute special weapons evenly, thereby effectively creating independent maneuver elements. Splitting teams is often advisable when fighting in urban terrain so as to avoid bunching up of soldiers into too small of an area, where they all can be taken out by a single well-placed hand grenade.

Split teams (including the assault, scout, and anti-tank detachments created by the commands explained next) belonging to the same parent squad automatically re-join when stationary within a few meters next to each other, and form a single squad-sized unit again without requiring the player to give another order. So if you want to split a squad into teams, make sure that you separate the teams shortly after splitting them, or they will reform into a single unit.

Restrictions - not available if the headcount of a given squad is too small.

Example - we want to assault an unsupported German machinegun position from the front and both flanks at the same time, and split a full strength US rifle squad into three teams. By splitting into three teams and using them as independent maneuver elements, we are reducing the MGs ability to suppress the entire squad.

■ ASSAULT TEAM

Splits a squad into two independent teams - a heavily armed security element that usually retains all heavy weapons (such as machineguns and rockets), and a maneuver element with small arms and automatic weapons, handgrenades and other equipment useful for close quarters battle. The game automatically tries to include the soldiers with applicable Specialties - such as Machinegunner or Sniper - into the correct Teams for their task.

Restrictions - same as for Split Teams.

Example - we want to clean out a building suspected to be occupied by the enemy. Sending forward the maneuver element with light automatic weapons, while keeping the heavy equipment back with the security element, reduces possible casualties from first contact and provides security for the moving team.

■ ANTI-TANK TEAM

Orders the squad to detach an Anti-Tank element, usually consisting of two or more soldiers (including any soldiers with an Anti-Tank Specialty, if available) armed with the best anti-tank weapon(s) that the unit has at its disposal.

Restrictions - only available if the squad/unit has anti-tank weaponry available.

Example - we split out a two-man Bazooka team from the main squad and place it in a different location, issuing a Hide command to have them wait for a good shot, while the rest of the squad engages and distracts the enemy by fire.

■ SCOUT TEAM

Splits a squad into two teams - a team consisting of a few soldiers (usually 2 or more) with light automatic weapons (if possible) that are sectioned off to act as light recon for the Squad or Platoon. The game automatically tries to put soldiers in a scout team that do not have other responsibilities such as anti-tank expert, radioman or leader. In other words soldiers that should be able to fight their way out of a bad situation, but that are not as critical (if lost) than others in the Squad.

Restrictions - same as for Split Teams.

Example - we want to send a recon element forward to see if there is an enemy ambush. Splitting off a scout team minimizes casualties from first contact, and allows the rest of the unit to cover the scout element in case of retreat..

■ INSTANT COMMANDS

Instant commands are mainly used for emergencies, when you need to quickly intervene to prevent a unit from getting into trouble (or to get out of trouble quickly). These commands allow the player to initiate three pre-defined "procedures" with one click, which, during emergencies, is often about all the time one has. These commands simulate actions soldiers would normally take by themselves on the battlefield when finding themselves in a tight situation.

Instant Commands can be used both in Real-Time mode as well as Turn-based mode. In Real-time mode they are executed immediately, in Turn-based mode they are executed immediately after the start of the next turn.



PAUSE - instructs the unit to temporarily halt all active orders and wait. This is the equivalent of yelling "Halt". This button is a toggle, and by pressing it again, the unit is ordered to resume what it was doing. This is the equivalent of yelling "Carry on!"

CANCEL ALL - deletes ALL active commands for the unit instantly. If you have plotted a long chain of waypoints, this command allows you to delete all of them with one click without having to delete each waypoint one by one. This is the equivalent of yelling "Stop" over the radio.

EVADE - deletes all active commands and instructs the unit to take immediate evasive action. This may include moving to cover as well as popping smoke, if available. This is the equivalent of yelling "Take cover!" over radio.

■ AUTOMATIC ACTIONS

In CM:BN, your soldiers are not brainless robots. The TacticalAI is at work at all times for both computer controlled and player controlled soldiers to try to simulate realistic behavior of human beings in a combat situation. There is a number of tasks that your soldiers will perform without the player having to explicitly order them to do it (in fact, there *is no way* for the player to issue such commands). Some are related to self-preservation and combat morale, others are important "administrative" tasks.

■ MEDIC

Any infantry soldier is capable of providing first aid on the battlefield (so called "buddy aid") to nearby wounded friendly soldiers. There is no Command for this action, rather it happens automatically when a friendly soldier (regardless if he is from the same squad or not) is moved close to the location of an incapacitated comrade. Depending on the situation (incoming fire etc.) the soldier may decide to treat the wounded man. The word "medic" is displayed in the status field. The player can abort the treatment at any time by giving the parent unit that the medic belongs to any kind of Command. The medic may decide to abort the treatment himself as well if there is significant incoming fire. Additionally, troops will never perform buddy aid if there is a spotted (healthy) enemy within 100m.

Note: Dead soldiers can also receive "Buddy Aid" (by moving a friendly soldier close to the location), but all it does is reclaim their ammo and weapons, if possible.

■ AMMO SHARING

Besides the Acquire command, soldiers on the battlefield are also capable of automatically sharing ammunition to some extent with those around them. Soldiers can automatically share ammo with other nearby infantry units that belong to their formation, as well as with nearby vehicles (provided that the vehicles carry anything to share). So it is not always necessary to embark on a vehicle to access stored ammunition, although it still gives the player more direct control than auto-sharing.

The automatic ammo sharing feature is most useful for heavy weapon teams and their designated ammo carriers. Moving (or keeping) the latter close to the heavy weapon will ensure ammo resupply without the player having to specifically order it.

■ SELF-PRESERVATION

Even your virtual troops don't like to die. The TacticalAI takes over control over troops for various stages of self-preservation without the player having to (or in fact being able to) issue any commands.

■ PINNED

Soldiers may become "pinned" when subject to heavy incoming fire ("suppression"). The term "pinned" refers to the inability and unwillingness of the soldier to leave his current position/cover, or to move at all, for fear of getting hit. Pinned is a temporary status that usually ends shortly after the suppression level is reduced, but extended periods of heavy suppression can cause a unit to move from "pinned" to "panicked" state.

Pinned units remain under the control of the player and may receive combat commands, but may not act on them immediately, and will generally reject and ignore any movement commands.

■ SHAKEN

Troops may become Shaken as a result of events on the battlefield, such as heavy incoming fire, near misses, or casualties. Shaken troops are automatically Pinned but additionally are not able to receive *any* player commands. Unlike Panicked troops, shaken soldiers will usually not attempt to get up and run away.

■ PANIC

Heavily Shaken troops are prone to succumb to Panic.

Panicked soldiers succumb to their fears and may act irrationally just to get out of the current situation. This may mean ignoring any orders, and a high chance of getting up and running away (even if in plain view of the enemy and thereby becoming an easy target) to the nearest cover.

Panicked units cannot be controlled by the player until they recover from the Panic, and will usually plot their own commands, often trying to move away from known enemy contacts, or to nearby cover.

■ BROKEN

Troops who have suffered heavy casualties and have become shaken or panicked, but have not recently been under fire, may partly recover to a "broken" state where they return to player control, but are so "brittle" that any significant further incoming fire or further casualties will cause them to become shaken or panic again very quickly.

■ SURRENDER

Heavily shaken or panicked troops in proximity to strong enemy units may decide to throw down their weapons and attempt to surrender. Surrendering units are indicated by raising their hands. Surrendering units cannot receive any further commands.

After a short while (usually about 1-2 minutes), units attempting to surrender "succeed" to do so, and disappear under a little white flag icon.

It is possible to prevent units from surrendering, by "rescuing" them. In order to do this, you need to first clear out all nearby enemies, and move friendly

units into the proximity. If successful, the surrendering units will return to their normal unsundered status (but will probably still be panicked).

Troops will not fire on surrendering enemies, but they will fire on unsundered ones that may be nearby, so it is possible for surrendering troops to be hit indirectly.

Note: Fanatic troops will never surrender.

■ ROUT

Heavily shaken, panicked soldiers may rout. Routing occurs when a soldier's combat morale is so badly shaken (usually after repeated Panic states) that he stops any further participation for the entire remaining duration of the battle. This may mean simply cowering in a hole on the ground or throwing away his weapon and running away. Routed soldiers appear as MIA (Missing in Action) on the After-Action Report.

Unlike surrendering, routing is automatically successful, and the routed soldier disappears under a red exclamation mark.

■ COMMAND & CONTROL (C2)

The concept of moving and acting on information is called Command and Control, or "C2" for short. Arguably, C2 is the single most important aspect of a combined arms force operating in the field. Its ability to pass information up and down the Chain of Command largely determines that force's opportunities and the options available to it.

Note: the C2 rules applied in CM:BN vary slightly depending on which Skill level you're playing. This chapter assumes the Elite, skill, with all the rules in full effect. At Veteran level, some of the restrictions imposed by the C2 rules are lifted or at least are not as strict, while playing at Basic Training level essentially means C2 is not active at all.

There are two primary components of C2: communication methods and control procedures. In practical terms, this means a break in communications reduces the ability for the force to function properly, but good communications don't matter if the commanders can't leverage the information to achieve an advantage.

■ COMMUNICATION METHODS

C2 methods are divided up into different groups and displayed in the Unit Info Panel:



The methods, from left to right, are:

Visual Contact (units within LOS of each other)

Eye Contact - close proximity

Eye Contact - distant

Audio Contact (units able to hear each other)

Voice Contact

Radio Contact

Like any sort of chain, the Chain of Command is only as strong as its weakest C2 link. Having all three methods available to a unit at the same time allows for the best possible results, while having none at all means a break in the Chain of Command. A break means the higher and lower parts of the chain are no longer connected and therefore unable to communicate with each other. This can have disastrous game results.

■ MAINTAINING C2 LINKS

The more types of C2 links units have, the better chance they have of maintaining connections. Just remember that not all C2 methods are of equal quality. Range is quite important because the farther away units are from each other the greater the chance they will experience breaks in communications. The inherent fragility of the method is also important since some are inherently more robust.

All units have the opportunity to establish Eye and Voice Contact, but to do so means keeping units fairly close and in plain sight (LOS) of each other. These are the most reliable, robust forms of C2 possible. Unfortunately, from a tactical standpoint, having units bunched up is generally not a good idea, nor is it even necessarily physically possible.

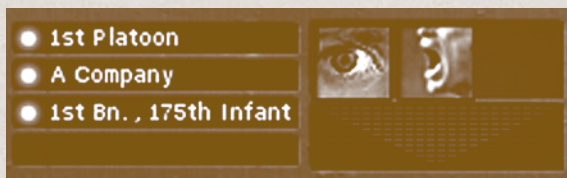
Radio Contact is the most basic technological means of overcoming these problems, however, radios are tricky things to operate effectively as distances increase, and good radios are quite expensive. CM:BN includes two major types of radios: small handheld radios (e.g. for the US side this is the SRC-536 AM Frequency "Handie-Talkie"), and large backpack radios (e.g., for the US side, the SRC-300 FM "Walkie-Talkie").

■ CONTROL PROCEDURES

CM:BN goes beyond just simulating the hardware to maintain contact on the battlefield, but also attempts to realistically track what happens with the information passed up and down the chain. A rifle squad reporting an enemy contact to its platoon HQ will trigger an entirely different response than if it is broadcasting the information through the battalion radio net! That's because the platoon HQ is set up and has procedures in place guiding it what to do in this situation. For the Battalion HQ, this piece of information is largely useless.

What this means in game terms is that units can effectively only trace command-and-control to their immediately-superior HQs.

Higher HQs may fulfill this role only to a limited extent. If a squad or team is out of contact with its immediate superior (usually a platoon HQ) then its company or battalion HQ may provide voice and close visual contact, but not radio or distant-visual contact. This simulates that a higher HQ can't babysit a large number of units more than one level lower in the organization, and it means that higher HQs can't be used in a gamey way to make platoon HQs unnecessary, but they can step in and provide command-and-control in a limited radius in emergency situations.



■ INFORMATION SHARING

The better organized and connected a force is, the better able it is to communicate critical pieces of information between units. Though it is not obvious to the player that the information itself is moved around, the results of it are. There are three primary benefits of good organization and communication: spotting of enemy units, calling for support, and maintaining discipline.

One of the most important aspects of Combat Mission is its system of revealing information about enemy units, such as position, type, and actions. Unlike most other games, CM:BN uses what we call Relative Spotting instead of Absolute Spotting. In an Absolute Spotting system, when an individual friendly unit "senses" something, that information is instantly, and perfectly, available to all units on its side. It doesn't matter where the other units are or what sorts of communications capabilities they have. Relative Spotting, on the other hand, keeps the unit's "sensed" information from moving to other units unless there is some way of communicating it to them. In other words, when you click on a unit in CM:BN you get to see what it sees relative to what it knows. If the unit is isolated from the Chain of Command it wouldn't be able to target something it didn't spot itself, for example.

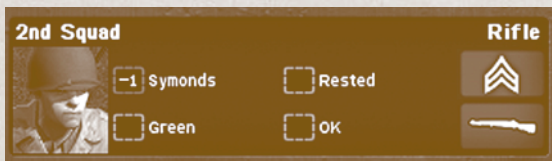
Good quality C2 between the right units becomes of paramount importance when Air or Artillery Support are required. Not all units are equally capable, or even able, to direct such fire missions. Picture that critical unit, with the ability to possibly change the course of the battle, cut off from the Chain of Command. How can it call in Support if it can't communicate with anybody? Well, it can't!

Note: On-map mortars can fire indirect even if they are out of command & control and lack a radio, provided that the spotter is within 50m.

Lastly, maintaining C2 is important for keeping unit cohesion intact. Units tend to get jumpy when they don't know what the friendly units around them are up to, or where their superiors are, or what the enemy might be trying to do at that moment. Without C2, the imagination can run a bit wild, so to speak, and the unit may be imagining the worst scenario. Perhaps all its buddies withdrew and forgot to tell it to pull back? Maybe the HQ was wiped out and nobody higher up knows about those tanks coming down the road, and therefore no help is on the way? Well-disciplined units hold up better under these circumstances, of course, but every unit has its breaking point. If it has contact with its fellow forces and feels supported, things are less stressful.

■ LEADERS

Every unit has someone in charge of its soldiers, though not necessarily the same type of Leader. Leaders provide units with, what else... leadership. They help maintain internal discipline, direct fire to be more effective, and keep contact with other Leaders. The more Leaders you lose, the harder maintaining C2 becomes.



Leadership influence takes the form of a Leadership Modifier represented in the Unit Info Panel. The better the modifier, the more effective the Leader is in keeping things on the straight and narrow. Note that the modifier values are +2, +1, 0, -1, and -2. This means that a Leader can have no special effect on Leadership (0 rating) or even a negative influence (-1 or -2). Anybody that has ever served in the military, or studied it in historical texts, knows that some people should never have been put in charge of anything except washing dishes (and you don't necessarily want to be the one eating from those dishes). CM dutifully simulates these poor Leaders.

There are two types of dedicated Leaders; Unit Leader and Assistant Leader. A Unit Leader is a soldier who has the training and rank to command the unit he is assigned to. The Assistant Leader has similar training and capabilities as the Unit Leader, but is of a junior rank and may not have all the skills necessary to command a unit over the long term. However, an Assistant Leader generally has the same chance of being a good Leader in a tactical fight, which is good because that is exactly what he'll have to do if the Unit Leader becomes a casualty.

Squad-type units usually have a Squad Leader (Unit Leader) in charge of Team A, and an Assistant Squad Leader (Assistant Leader) in charge of Team B. When Squads are split up, like Weapons Squads normally are, this effectively means that the command responsibilities are split up. If one Leader falls to fire, the other one will not take over his responsibilities, because they are assumed to be physically separate units when split off as Teams.

When a battle starts, the name and rank displayed are that of the unit's current senior Leader. Should that Leader fall in battle, the name and rank will change as the replacement assumes command.

■ RADIOS

World War Two commanders did not enjoy the luxury of a whole array of powerful communications tools that are available on a modern 21st Century battlefield (when satellite based tracking systems and communications are often available even to small units and formations). Instead, the primary means to communicate over distance (outside of visual and audio ranges) was the radio.

But radios were expensive and (compared to today) rare. While the US forces made a deliberate effort to try to provide radios usually at least down to the platoon level, many German formations only possess a radio for the main Company HQ, or have one reserved for specialized Forward Observers.

Players will probably learn quickly that paying attention to where the radios are on the Normandy battlefield is going to provide a crucial element on the

road to victory. Without a radio nearby, that group of on-map mortars is pretty much limited to only firing at targets within sight. Without a radio, that platoon commander who loses sight of his Company CO is effectively out of the loop with higher ups.

Below the company level communications were mostly by voice and sight. Because the effective range is so much less than a radio, Platoon HQs have to remain quite close to their assigned units in order to control them. A Rifle Platoon, for example, would usually advance in a way that most, if not all, of the attached squads and weapons teams could see or hear the Platoon Leader's commands.

Weapons type platoons were often asked to operate over larger distances than infantry type platoons. Since radios were not usually available, the solution was to add intermediate Section HQs between the Platoon HQ and the weapons under its command. Their job was to extend the range of the Platoon HQ by acting as a relay point for communications.

A good example of Section HQs can be found in most Medium Mortar Platoons. Often there are two Section HQs, each with two mortars, assigned to a single Platoon. By positioning the Section HQs, and their assigned mortar teams, to the left and right of the Platoon HQ, the Platoon Leader can communicate with each of his Section Leaders, which in turn communicate with each of their Mortar Team Leaders. This allows voice and visual commands to be quickly and efficiently relayed from top to bottom over a much greater area than platoons without Section HQs.

The importance of positioning Section HQs becomes apparent when attempting to call for indirect fire support. For defensive reasons, you don't want your mortars bunched together, yet if you spread out too much you'll lose contact with them. If that happens, then they usually will be unavailable for indirect fire missions. Section HQs, therefore, are vitally important despite their lack of radios.

■ ARTILLERY & AIR SUPPORT

When the going gets tough, the tough call for Support! Combat Mission offers players unprecedented access to this all-important aspect of 20th century warfare in a way that is both realistic and simple to use.

Support assets may consist of close air support as well as artillery (mortars, guns, howitzers and rockets). Support assets may be off-map (often stationed miles behind the actual frontlines), or on-map (the actual guns and mortars are visible on the battlefield, and are under the player's direct influence). In the latter case, the support assets can also be used in the direct-fire role; however, as far as indirect support is concerned, there is essentially no difference in how on-map or off-map assets are treated. More specifics about the use of on-map assets are explained later in this chapter.

Although Air and Artillery produce quite different results, CM:BN for the most part uses the same interface for both forms of Support. Better still, CM:BN helps walk the player through the various steps needed to complete a Support Request without requiring months of military training.

To see if Support is available, and what types, all the player has to do is click on one of his units, and then look at the Support Buttons in the Unit Info Panel, just above the Special Equipment area. If a button is lit up, then Support available; otherwise the button is dimmed and there is no support available for that type (air or artillery).

Note: you have to select at least one friendly unit for the Support buttons to light up. Also, for turn-based play, this only works during the Command Phase.

These buttons not only inform the player about availability, but also act as the means of creating new Requests (the act of "asking" for Support) or viewing existing Missions (a Support Request put into action). A button will also blink when the Mission starts to deliver its munitions, thereby giving the player some warning that something is going to go "boom" very soon.



Sometimes lots of Support is available, other times none. The availability of Support is always force wide and determined by the designer of the Battle.

■ REQUESTING SUPPORT

The first step in making a Support Request is to select a unit to be a Spotter, then clicking on either the Air or Artillery Support button in the Unit Info Panel (keep in mind that if a button is dim, Support is not available). Instantly, the user interface changes to include two new elements; the Support Roster and Support Panel. The Support Roster shows all available Assets while the Support Panel presents options for making a support fire request.



The following sections explain how to use this new interface to create a Support Request and turn it into a Support Mission.

■ SELECTING A SPOTTER

The player's first task is to identify which unit to give responsibility to for both creating a Support Request, and managing the resulting Support Mission. Since not all units are equal in this regard, here are some things to keep in mind when selecting a Spotter:

Line of Sight (LOS) - quality LOS to the target area always makes for more accurate and effective results, except for pre-planned strikes (called during the Setup Phase of a battle) and strikes on known pre-registered TRPs which do not require LOS

Note: Spotters for indirect support weapons (as well as on-map mortars) are able to target areas slightly outside of direct LOS under certain circumstances, such as when firing indirectly over a tall wall or just behind the crest of a hill.

Unit Type - specialized forward observer teams are better (trained & equipped) than formation HQs, for example. In fact, certain types of support (like Air Support) may only be called by specific types of units (such as only by dedicated FOs), and may be completely out of bounds for others.

C2 Links - ideally the Spotter should show green connections to all superior units. The spotter also needs a connection to the firing unit in order to be able to call on it to fire. Units without a communication link to the spotter are shown as "out of contact" in the Support Roster.

Stress Level - suppressed or shaky units don't make the best Spotters

Matchup rating - Depending on how urgently Support is needed, the Matchup rating (see next section "Support Roster") may be critically important. The Matchup value reflects the difficulty a specific Spotter has in getting in touch with a specific asset and securing permission to use it. A Platoon HQ will have difficulties reaching a Regimental howitzer battery, for example. In

fact, in some cases, such requests may be outright denied. If this is the case, then "Denied" is shown in the Support Roster on the affected asset.

Remember, if the Spotter doesn't appear to be up to the task, another Spotter can be selected. To do this, either deselect the current unit or click on the "X" in the upper left hand corner of the Support Roster. There are no game penalties for checking out how various units pair up with different Assets.

■ SUPPORT ROSTER

The Support Roster displays all Support Assets available for the current Battle, though only one type (Air or Artillery) at a time. Each Asset is represented by a colored square with these pieces of information:



Both off-map and on-map assets (capable of providing indirect fire support) are displayed.

Silhouette - an image of the piece of equipment

Number of Tubes - count of how many guns are assigned (aircraft are always "1" per Asset)

Matchup - in the upper right hand corner is a symbol representing how well the Spotter and Support Asset are matched for each other. There are five states, color coded as follows: Excellent (green circle) ●, Good (green triangle) ▲, average (yellow square) ◆, poor (red triangle) ▼, and bad (-) ▬. The better the match the more efficient and effective the results will be.

Overheating - green/red dots indicate how hot the artillery barrels are getting. When all dots go red, the battery has to hold down its rate of fire to no greater than its "sustainable" ROF. Otherwise it is free to use "maximum" ROF (if the mission wants it).

Designation - military designation, two lines

Main Weapon - primary weapons, two lines

Mission Status - when an Asset is being used or is not ready to be used, a line of text appears at the bottom of the Asset display. "Receiving" and "Preparing" indicate the Asset is receiving the details of the requested support mission and is setting up to carry it out. Artillery show "Spotting" when firing spotting rounds, "Firing" when firing for effect, and "Empty" when all ammo has been expended.

Additionally, on-map assets may show "not positioned" if they are not set up to deliver fire support.

Aircraft display “Attacking” when actively engaging targets, “Can’t Locate” when it’s failed to find the target, “Coming Around” when it is preparing for another run, and “Landed” when it is no longer available.

If you see “Busy”, the Asset is being used by another Spotter and can’t be interfered with by the current unit. Use the “Go To Spotter” button to switch to the unit directing that Asset to make changes to the Mission.

“Denied” is shown if the spotter is not allowed to use the Asset for some permanent reason. (e.g. a platoon HQ trying to call regimental artillery).

“Out of contact” is shown if the spotter has no C2 link to that asset.

Up to 5 Support Assets can be shown at one time, which is usually more than enough! However, if more than 5 Assets are available in the Battle, then Left and Right “shuffle” buttons are displayed to shuffle between the previous or next batch of 1-5 Assets. Clicking on an Asset in the Roster selects it and makes it activate the Support Panel where some additional information about the Asset is shown. To see another Asset, simply click on it and it will swap in for the previous one. At this point the player is not committed to do anything with the Asset, thereby allowing “browsing” without any sort of penalty.

■ SUPPORT PANEL

Once a Spotter and an Asset are selected, the Support Panel is activated and ready to turn a request for Support into reality:



The selected Asset is shown on the right side of the Support Panel and contains the same information as in the Support Roster. Below it, however, is new information which shows the munition types and quantities available to that particular Asset. The combination of the Asset Panel and the Ammo Panel represents all the information there is to see for that particular Asset.

The column of labeled buttons in the middle part of the Support Panel are the means of communicating with the Asset. From top to bottom the player clicks on a button, follows the instructions to make a selection, then moves on to the next button. As Parameters are chosen they are displayed to the left in the Parameters Screen. When the last Parameter is set, the player is prompted to “Confirm” the Support Request. This is the player’s last chance to back out of a Request without penalty, for once Confirmed the Request is off to the Asset for processing.

Note: in general, artillery support ranges for most assets available in the game are more than sufficient to ensure that any target on a given battle map can be reached, regardless of where it is. However, it IS possible for off-map artillery to be "out of range", if it is something very small like a light mortar and the target is far away from the friendly map edge!

Depending on conditions, it can take a few minutes or many minutes for the resulting Support Mission to commence. If the C2 link is broken at the wrong time during this process it can temporarily delay the Mission from continuing. If there is an extended lack of communication between Spotter and Asset the Mission will probably be cancelled.

The estimated delivery time in the Fire Support Mission Request display initially shows the best possible time (usually what you'd get with a "standard" mission). If a mission type other than "standard" is selected, the estimated delivery changes accordingly.

Once a support mission is activated, its estimated time of arrival continues to be updated in the Support View as time passes. Note this this is only an estimated time, and the actual arrival can come sooner or later.

Starting from the point of Confirmation, the Spotter and Asset communicate with each other to keep the mission on track. These communications are heard by the player in the form of radio traffic between the two. The exact things said depend on whether the Support Mission involves an Air or Artillery Asset, the type of Mission, and what point the Mission is at.

■ ADJUSTING OR CANCELING SUPPORT

Sometimes it is necessary to change a Support Mission's target or to cancel it entirely. All modifications to a Support mission must be made via the Spotting unit, since Spotter and Asset are linked until the Mission is over. The easiest way to find the Spotter is to select any unit, click the Support Button for the type of Asset you're looking for, then select the Asset of interest. Assets which are engaged in a support mission are listed as "Busy". In the Support Panel, the top Parameter button for a busy asset says "Go to Spotter". Click on that button and the Spotter instantly becomes the currently selected unit, complete with the Target line/s shown.

Now that the Spotter is selected, the Mission can be Adjusted or Cancelled in the Support Panel as long as the C2 link to the Asset is still intact! Yes, that's correct... if you have artillery raining down on your own troops and you want to cancel the mission, but suddenly find the Spotter has no C2, you're in trouble. There is no way to manually Adjust or Cancel the mission at this point. This is yet another example of why it is so very important to select a good Spotter!

Note: Support units (not only artillery but also air and other assets) in the process of receiving a cease fire command cannot be given further orders until the cease fire occurs. Also, note that missions cannot be "adjusted" while they are still being "received"!

It may turn out to be too little too late, but there are two reasons that CM will abort a Support mission on its own. The first happens if friendly fire is encountered and the friendlies have good C2 to the Asset doing the firing. Basically, they will try to get the Asset to cease fire even if the Spotter can not. The second reason is if the Spotter is out of C2 long enough that the Asset wonders if the Spotter is still able to direct fire. In that case it might cease fire on its own simply because it's a bad idea to fire blind with no feedback. However, in both cases the player is at the mercy of variables falling into place, so neither should be counted on in place of using a Spotter to cease fire when possible.

Clicking on the Adjust button allows the player to redesignate the Target portion of the Support Mission while leaving the rest of the Mission as originally specified. Shifting fire like this is very useful if the target units have moved or more important targets have presented themselves within close proximity to the original Target area. Observed fire should not require Adjustment to stay on Target. That is handled automatically by the Spotter to the degree it can see the Target and has C2 to the Asset.

■ ARTILLERY MISSION PARAMETERS

These are the Parameters for Artillery Missions. Which Parameters are shown for a specific request depends on the chosen support asset (for example, Smoke Missions are only available for assets that actually have smoke ammunition available):

Target - sets the size and shape of the area to hit:

Point Fire - focuses on a single Action Spot or specific enemy unit

Area - one click for the center and one for the perimeter

Line - requires two clicks, one for each end of the line

Number - sets the portion of the Asset to use, from 1 to the total number in Asset (usually 2, 3, or 4)

Mission - responsible for establishing initial Rate of Fire (ROF) and sustained ROF:

Emergency - no spotting rounds, otherwise like Heavy (not available for pre-planned artillery strikes)

Harrass - very slow ROF to conserve ammunition

Light - slow ROF, remaining at slow ROF

Medium - medium ROF, then going to sustained ROF

Heavy - max ROF, then going to heavy sustained ROF

Smoke - medium ROF, firing smoke ammunition to create a smoke screen rather than explosive ammo to damage or destroy the target

Duration - determines number of rounds to use per mission:

Quick - 2-4 rounds

Short - 6-12 rounds

Medium - 12-18 rounds

Long - 20-28 rounds

Maximum - exhausts ammo supply

Type - sets the munition mix based on the target type:

General - generic setting

Personnel - weights in favor of airburst antipersonnel rounds.

Note: Planned artillery strikes as well as strikes ordered on a TRP can airburst if set to a "personnel" target. Not all shells will airburst. This simulates the use of timed fuses.

Delay - establishes when to start the support, prep time inclusive. The options are:

Immediate - no extra delay

5 Min - sets for 5 minutes min

10 Min - sets for 10 minutes min

15 Min - sets for 15 minutes min

■ AIR MISSION PARAMETERS

These are the Parameters for Air Missions (which Parameters are actually shown depends on the selected Air asset):

Target - sets the size and shape of the area to hit:

Point - focuses on a single Action Spot or unit

Area - one click for center and another click for perimeter

Mission - responsible for establishing the scope of the attack:

Light - lighter Munitions

Medium - mix of lighter and medium Munitions

Heavy - medium Munitions with a smattering of lighter

Type - sets the munition mix based on the target type:

General - favors unguided HE munitions

Personnel - favors HE munitions

Delay - establishes when to start the support, prep time inclusive. The options are:

None - no extra delay

5 Min - sets for 5 minutes min

10 Min - sets for 10 minutes min

15 Min - sets for 15 minutes min

■ TARGET REFERENCE POINTS (TRPs)

Target Reference Points are special points on the battlefield which have been “pre-registered” in advance for a support strike. This means that the exact location and distance to a TRP is known to both the spotter and the firing element.

Artillery strikes targeted near a TRP (within 50m) do not require LOS from the spotter, do not use or need spotting rounds, and have a near-zero preparation time (however, the “communication” time is unaffected, so don’t expect battleships or corps-level rockets to be on hair-trigger readiness due to a TRP).

Placement of TRPs during setup is not limited to friendly zones.

Note: In CM:BN, TRPs also double-function as “ambush” markers for regular troops and vehicles. When soldiers fire their weapons at a target near a friendly TRP, they are much better at estimating the range correctly.

■ PRE-PLANNED BARRAGES

Artillery strikes ordered during the Setup-Phase are automatically considered to be “pre-planned barrages”. The game effects are similar to firing artillery near a TRP: no LOS from the spotter is required, no spotting rounds are fired, and there is almost no preparation time.

■ ON-MAP SUPPORT ASSETS

In the Support dialog for indirect fire, on-map assets work just the same as off-map assets. But there are a few peculiarities with regard to on-map support assets that are worth mentioning.

First of all, the player has full direct control over on-map assets, and this means that their actions on the battlefield may make them unavailable to provide fire support; such as when they are on the move and not fully deployed/unlimbered. Also, on-map assets need to be “in command” in order to be able to communicate with the spotting unit. An on-map asset that lacks a C2 link is going to be shown as “out of contact” in the Support dialog.

Exception: On-map support assets including mortars and howitzers can fire indirect even if they are out of command & control and lack a radio, provided that the spotter is within 50m.

Note: Spotters for indirect support weapons (as well as on-map mortars) are able to target areas slightly outside of direct LOS under certain circumstances, such as when firing indirectly over a tall wall or just behind the crest of a hill.

It is possible for off-map artillery to be “out of range” if it is something very small like a light mortar and the target is far away from the friendly map edge.

In addition to providing indirect support, on-map assets are also capable of firing directly at targets they have spotted. In this case, there is no need to use the Support dialog, and instead the player may give Target and other commands to the on-map asset directly.

■ AIR ASSETS

The player's interaction with Air Assets is similar to Artillery. The differences between the two are explained below, otherwise it should be assumed the same.

The player brings up the Air Support Roster by clicking on the Air Support Button in the Interface.

Not everyone can call for air support. In fact, the requirements for doing so on a WW2 battlefield are steep, as you require the right equipment and an existing chain of communication to do so. During WW2, for the most part only special liaison officers were able to call in close air support. In CM:BN, only Forward Observer teams are allowed to direct air assets.

Like Artillery, each Air Asset has specific Munitions in specific quantities to use. Unlike Artillery, these dramatically affect the kinds of missions the Air Asset can perform. A P-47D Thunderbolt, for example, can carry a small number of bombs or may be outfitted for strafing runs only. Same plane, entirely different capabilities.

The two words on the right describes the type of plane (e.g. fighter-bomber). For a given type of plane there may be different configurations (bombs, rockets, machineguns). The Scenario Designer simply selects the one(s) he wants for the given Scenario and that is what the player has to deal with. Also, unlike Artillery Assets, the number of planes is always 1 per Asset.

When the player selects an Air Asset in the Support Roster, it appears in the Support Panel like so:



The Mission Parameters and Support Buttons reflect the Air Asset options. Setting up a Mission is identical to Artillery from a user interface standpoint, but different in terms of what options are available and how the Mission is actually carried out. Air Missions require LOS from the plane to the target, possibly the identification of the target, estimate of the target size, and possible customization of the Mission for the scope of the strike. These factors determine if the Mission can be performed at all, how many Attack Runs are made, and which Munitions are used. For example, a P-47D Thun-

derbolt wouldn't drop a 500 lb bomb on a Squad or truck, nor would it make three passes dropping a 500 lb bomb each time.

If the Spotter has LOS to the target and is in communication with the Air Asset, it can confirm the target destroyed, or request that more runs are made if it isn't. If there is no communications link, or no LOS, then the Air Asset will have to make this decision on its own.

Accuracy is determined in part by the type and quality of the Spotter and his directions to the air unit. Basically the Spotter increases the chance that a target will be seen and also hit. This is particularly important at night.

Like Artillery, Air Assets have a chance of Auto Cancelling a Mission based on friendly fire risk. Unlike Artillery, this can sometimes happen before even firing a shot. The chance of a "scrubbed" Mission depends on the Spotter type, the quality of LOS between Spotter and Target, as well as proximity to friendly units.

■ THE EDITOR

CM:BN provides players with the same tools that were used to create the stock battles and campaign, and allows them to create their own maps and missions from scratch.

The Editor really combines four separate and powerful tools in one:

Mission Editor - settings needed to make a scenario, such as weather variables; briefings, victory conditions and more

Map Editor - creates realistic 3D combat maps from scratch

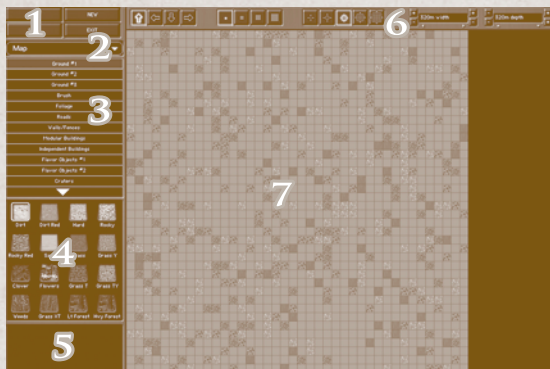
Unit Editor - purchase, organize, and deploy units

AI Editor - tailors higher level parameters for the computer opponent to follow, such as unit behavior, movement paths, and more

■ BASIC SCREEN LAYOUT

The picture below shows the basic layout for the Editor.

1. *File Menu* - buttons to Save, Load, and create a New scenario or Exit to the main screen.
2. *Editor Selector* - a pop-up menu to choose the Editor you want to work with. The popup menu also lists additional important features - *3D Preview* and *Make Campaign*, explained later in this section.
3. *Mode Selector* - a list of buttons showing the main Modes of each selected Editor.
4. *Option Palette* - graphical button palette which shows Options specific to the selected Mode
5. *Settings List* - displays values for the selected Option (if any), some of which may be editable (depending on Option).
6. *Toolbar* - tool icons for Map Editor
7. *Display Area* - this is where the 2D overview map is displayed for certain combinations of Editor, Mode and Options.



■ FILE MENU

Displays buttons for:

LOAD - opens dialogue to load an existing scenario file (from the Scenario folder)

SAVE - opens dialogue to name and save the currently active scenario to disc. If the scenario has already been saved before, the current name and save location are loaded as default.

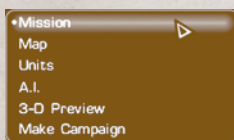
NEW - erases all settings and creates a "blank" new scenario file with all settings reset to their default entries.

IMPORTANT! Don't forget to first save any existing scenario you have been working on!

EXIT - exits the Editor and jumps back to Main Screen

■ EDITOR SELECTOR

This pop-up menu displays all available Editors and main functions. The selection made here has direct influence on which Options and Settings are shown, as well as the options available in the Toolbar and Display areas.



MISSION - used for editing mission parameters such as briefings, objectives, time and date, weather and more.

MAP - used to edit terrain features

UNITS - used to organize and deploy forces

A.I. - used to "program" custom computer player AI

3D PREVIEW - used to jump to a 3D view of the current game map

MAKE CAMPAIGN - The creation of a campaign file requires several ingredients:

- (1) The currently loaded scenario will provide the "core" troops, the mission briefings, and the snapshot data for the scenario choice screen.
- (2) A campaign "script" text file that designates the parameters and battle .btt scenario files by name.
- (3) The .btt scenario files for campaigns are created just like any other standalone scenario, but additionally the player imports the "core" troops from the base scenario mentioned under (1) above.
- (4) The battle files named in the script must be in the same directory as the script file or the Scenarios directory. The finished campaign ".cam" file will be saved in the Campaign directory, overwriting any previous file.

More details about campaigns in the following chapter

■ MISSION EDITOR

The Mission Editor defines the basic parameters and settings for a given scenario.

■ DESCRIPTION

When choosing which scenario to play, the player can click on it in the scenario list and see a brief overview to the right of the screen. These details help the player determine which scenario to play without needing to load it. None of these settings have any impact on the scenario itself. Just like any product sitting on the shelf, the packaging simply informs the person what is inside, nothing more than that.

■ BATTLE TYPE

Specifies the general nature of the battle and who is the attacker. Depending on the nature of the scenario's storyline you may wish to be "vague", or even inaccurate, so you don't give away surprises.

Assault, Attack, Probe, Meeting Engagement

■ ENVIRONMENT

This setting gives the player a rough idea of the nature of the area being fought over. People specifically seeking an urban battle, for example, will know right away that they want to skip over a scenario that is taking place in a Forest.

City, Town, Village, Open, Rough, Forest, Hills

■ DAYLIGHT

Characterizes the average natural lighting conditions. The actual lighting is determined by the time & day settings in the Data section.

Dawn, Day, Dusk, Night

■ BATTLE SIZE

The scenario's approximate size, from Tiny to Huge, gives players an idea of the overall scope of the battle. Each scenario author probably has a different idea of what Tiny or Huge is, but usually the amount of units involved as well as map size and battle duration should be factored into the setting here. As a general guideline, a Tiny battle involves platoon sized forces, or smaller, for each side and a very small map. A Huge battle involves a force of several companies on each side and a very large map. The rest fall somewhere in between.

Tine, Small, Medium, Large, Huge

■ TITLE

The scenario list is listing scenarios by the text entered here (i.e. the scenario title). Titles should be short and to the point, but catchy, too. When you playtest your game make sure the title looks good in the list.

■ DESCRIPTION

A short one-line description of what players can expect to find when they decide to play the battle. Be mindful that there is no way to customize the text to match a particular side's perspective, so keep it generic. When you play your scenario you should double check that all your text fits in the box.

■ IMAGE

Each scenario can have, and should have, a small image file associated with it. Think of this as the slick marketing image found on a packaged product. Make something exciting and dramatic, if possible, that gives the player a small idea of the nature of the battle they're contemplating to play. The file has to be in BMP format and a maximum of 170 x 170 pixels in size. Three buttons allow the scenario designer to:

- Import** a new image file
- Export** the existing image file
- Clear** the existing image file

■ DATA

The Data section defines a number of parameters which, unlike the Description section, do affect the inner workings of the scenario. These settings control:

LENGTH OF BATTLE - the maximum duration of the scenario

VARIABLE LENGTH - sets a variable (random) ending time

REGION & MONTH - sets the month and year

DAY - the day on which the battle takes place

HOUR - at which hour the battle starts

MINUTE - minute when the battle starts

WEATHER - sets the current weather for the battle

WIND STRENGTH - sets the wind strength

WIND SOURCE - the direction from which the wind is originating

TEMPERATURE - the temperature during the battle

GROUND CONDITION - sets the general ground condition.

ALLIED FRIENDLY DIRECTION - sets the direction into which Allied units would withdraw to join their lines

AXIS FRIENDLY DIRECTION - sets the direction into which Axis units would withdraw to join their lines

EARLY INTEL - can be set to None, Axis Force or Allied Force.

INTEL STRENGTH - can be set between No Intel (0%) to Full Intel (100%) and any step between in 10% steps.

Force vs Force - this setting allows you to create Allied on Allied and Axis on Axis missions in addition to the standard Allied vs Axis. This setting defines what units are available for purchase and deployment in the Units Editor. You may even mix and match forces in this way.

■ MISSION (ALLIED AND AXIS)

The Mission Briefings seen by the Allied and Axis players at the beginning of the battle are determined/created here. Each sides' set is unique to itself, but the method for creating them is identical for both. A full Mission Briefing set consists of a strategic overview map, an operational overview map, a tactical overview map, and the text for the briefing itself.

All four files (three image files for the maps and one text file for the briefing text) have to be imported into the scenario file.

Note: Once imported you do not need to include the original files anymore.

The three map images all have to be in BMP (Bitmap) format, but each can have a different maximum size:

Strategic Map: 224 x 224 pixels

Operational Map: 702 x 224 pixels

Tactical Map: 952 x 350 pixels



The briefing text itself is a simple text (.txt) file. A template is used as default for the briefing text when you create a new mission from scratch. It might be a good idea to export the template first, fill in your orders into the template, and then import the completed text.

Note: The ^ tags indicate the end of a section, and should not be removed.

Empty briefing sections are not displayed to the player at all.

The options for the images and briefings are:

Import a new file,

export an existing file

clear (delete) an existing file

■ DESIGNER NOTES

Designer Notes are similar to briefings and created in just the same way. The main difference is that Designer Notes are unstructured and allow the scenario author to enter any message he would like both players to see. This can range from tips on how to play, background information (such as the larger historical context of the battle), or even a short narrative to set the right mood.

■ PARAMETERS (ALLIED AND AXIS)

Unlike most wargames, Combat Mission allows "asymmetric" victory conditions where each side has its own unique parameters and is judged based on how well it achieves them. The side that best achieves its goals is declared the winner, even if technically both sides were within specified parameters. You can specify the following conditions for each side:

CASUALTIES - number of casualties the side is allowed to endure.

CONDITION - number of units allowed to be panicked, routed, tired, or wounded.

AMMO - amount of total ammunition that side is allowed to expend.

For each parameter the scenario designer determines the threshold in % (from 0% to 100%) and the amount of victory points associated with each once the threshold is reached. Specifically, you get the points if:

Enemy Casualties > X%

Enemy Condition < X%

Enemy Ammo < X%

Friendly Casualties < X%

Friendly Condition > X%

Friendly Ammo > X%

Casualties is casualties *suffered*, e.g. 100% means the whole force was wiped out. Both soldiers and vehicles are factored into this and you get partial credit for immobilizing a vehicle.

Condition is a combination of (from most important to least) morale, fatigue, suppression, and light wounds (more serious wounds or death are part of casualties, not condition).

■ TERRAIN OBJECTIVES (ALLIED AND AXIS)

Each side can be assigned up to 8 terrain based objectives. This involves defining where the objective is, what the player is supposed to do with it, and various other details. These parameters allow the designer to simulate a wide range of missions instead of just the usual "capture the flag" and "king of the hill" objectives commonly found in wargames. To start off, click on the corresponding button labelled Obj 1 - 8, and "paint" the objective area onto the 2D map.



Note: there are no limitations in how you "paint" the objective area. You can create a single large area, two or more independent ones, or even sprinkle small spots all over the map. Keep in mind that points for a specific objective are only awarded once and that 10 separate spots for a single objective means that the player must pay attention to ALL 10 spots, not just one. If the mission is to destroy these areas, for example, that means all 10 must be destroyed in order for the player to get points. This can be difficult to effectively communicate to the player, so be careful when spreading things out. Therefore, generally it is better to make separate objectives for non-contiguous goals.

After determining the objective area(s) you need to specify what the player must do with the area(s) and who knows about it:

OCCUPY - friendly units have to move to the area, clear it completely of

enemy troops, and remain there when the battle ends

DESTROY - the terrain (e.g. building) has to be destroyed/damaged

PRESERVE - the terrain must be protected from destruction/damage.

This type of terrain objective is probably best suited for buildings or bridges.

TOUCH - friendly units have to reach the area and are awarded points immediately upon reaching it. They do not have to remain in place

EXIT - friendly units may leave the map (permanently) after reaching this objective. Any friendly unit may use the exit zone. There are no points awarded for leaving the map! Instead, any unit that is part of a Destroy/Destroy All Unit Objective for the *opposing* player and does not leave the map, is scored as "destroyed" and the points are awarded to the enemy.

Exit Zones are a special type of Objective and may be a little hard to grasp at first, since they work differently than the other Objective types. Instead of awarding points directly to troops that successfully exit the map, it is the opposing player that gets points for any units that should exit but don't. The correct procedure to work with an Exit Objective is to:

- paint a Terrain Objective on the map for Side A
- assign Side A units to a Unit Objective (SHIFT+F1-F7)
- in the editor, open the Unit Objective tab for the opposing player (Side B), set the Unit Objective to Destroy/Destroy All, and assign points
- any unit that is part of the Destroy/Destroy All unit objective has to exit the map. If it doesn't, then Side B will be awarded full points for the unit as if it was destroyed.

Units leave the map automatically upon reaching the objective area, - usually within 60 seconds of reaching it - they do not need to be specifically ordered to. Units about to exit first display an arrow icon and then simply disappear from the map.

KNOWN TO... - player, enemy, both, none

Tip: If you do choose to use a hidden objective, it is probably a good idea to make it a secondary goal and one that is still fun even if known (through replay or peeking).

POINTS - assign how many points are awarded to the player who fulfills the objective.

Note: as mentioned above, Exit Objectives cannot be assigned points, so this option is not available for them. Instead, after creating an Exit Objective, you would then assign

units to a Unit Objective (SHIFT + Function Key F1-F7), open the Unit Objectives tab for the opposing player, set it to "Destroy" or "Destroy All" and assign some points. In this way the opposing player will be denied points if enemy units leave the map that are part of his Unit Objective.

NAME - assign a name to the Objective for easier reference (it's also shown to the player on the 3D map and upon completion)

■ UNIT OBJECTIVES (ALLIED AND AXIS)

In addition to (or instead of) terrain based objectives, you can also designate enemy units as objectives. This allows for such things as "destroy all enemy tanks" to be the primary mission and to judge success based on tank destruction instead of other things.



To designate a unit or formation as a scenario objective, you have to first assign it to a "unit objective group" in the Unit Editor. To do that, select the unit or formation and hold down the SHIFT key while pressing a number key from F1-F7. The selected unit(s) will then show a [U] next to its name followed by the corresponding group number you pressed. In order to remove a unit that is already part of a group, select that unit, hold down SHIFT and press F8.

Note: when deploying units in the 3D Preview of the Editor, units that are part of a Unit Objective show a U in the Suppression area of their Team Info Panel, followed by the number of the group they belong to (e.g. U:1 indicates Unit Objective Group 1).

Once you've done this, go back to the Mission editor and select the Unit Objectives Option. Click on one of the buttons for Unit 1 through Unit 7 to set the parameters for that group.

Note: keep in mind that only ENEMY units can be assigned as unit objectives. For example, an Axis unit assigned to Group 1 will be tied to the Allied side's Group 1 objective, never to the Axis side's Group 1 objective.

Unit Objectives can be one of three types - Destroy, Destroy All or Spot.

DESTROY - the designated target unit has to be knocked out for full points to be awarded, and damaged for partial points.

DESTROY ALL - the designated target(s) must be completely eliminated for points to be awarded.

Exception: if the enemy has an Exit Zone on the map, then points are awarded to the opposing player - as if the unit was destroyed - for ANY unit that is part of a Destroy/Destroy All unit Objective and that does not manage to exit the map on time.

SPOT - the designated target unit has to be spotted in order to be awarded target points.

KNOWN TO... - player, enemy, both, or none

POINTS - assign how many points are awarded to the player who fulfills the objective

NAME - assign a name to the Objective for easier reference (it's also shown in the After Action Report), e.g. "Eliminate enemy tanks".

Note: there are no restrictions with regard to how many and what types of units you may "lump together" into the same unit Objective. With the exception of Destroy All (which is an "all or nothing" type of Objective) partial points are awarded according to the following rule of thumb: you get some points for each soldier, more points for vehicles, even more for tanks, and less for lighter vehicles.

■ MAP EDITOR

The Map Editor is where you design your own maps from scratch by "painting" the landscape in a 2-dimensional top-down view. To see the results of your work in 3D, click on the "Editor Selector", and select "3D Preview" from the pop-up menu. After you've explored the 3D world, hit the ESC key to bring you back to the Map Editor.

The Map Editor consists of three main tools: the Option Selector on the left allows you to choose which features of the map to edit; the Settings Selector allows you to choose a specific type/feature of the selected Option; and the Tool icons on top of the screens allow you choose from several editing modes and "brushes" and change the map's dimensions.

**GROUND #1**

This tab includes various types of dirt, ground and grass coverage as well as lightly and heavily covered forest floors.

Note: Heavy forest is impassable for vehicles (regardless if you add trees or not)

Grass Y: yellow grass

Grass T: tall grass

Grass TY: tall yellow grass

Grass XT: extra tall grass

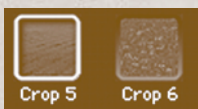
**GROUND #2**

This tab includes Mud, Marsh and Water, several types of man-made ground covers, and various types of fields and crops.

Note: Marsh is passable to infantry, albeit slowly. Shallow fords are passable to infantry and vehicles. Deep fords are only passable to infantry.

Tip: to avoid jagged riverbanks, set the

riverbank tiles to the same or one LOWER elevation than the water tiles.

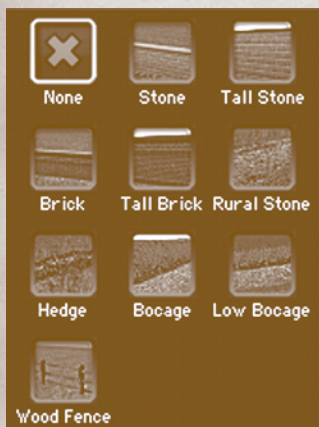
**GROUND #3**

Two types of Crops.



FOLIAGE

This tab allows you to select a number of different types of trees and three types of bushes.



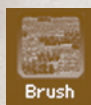
WALLS/FENCES

This tab offers various types of man-made dividers (walls, hedge, fence) as well as the infamous bocage (in two different heights)

Both types of Bocage are impassable to infantry and vehicles, with the only exception being US tanks equipped with the so-called "Rhino" extension. These can "plow" through bocage and create a gap to move through.

Tall stone walls are impassable to any units but can be demolished to create gaps (e.g. with demo charges).

Low walls, hedges and wooden fences are passable to a large degree. Infantry simply jump over them, while most vehicles, except the lightest types, are able to move through. However, the risk for immobilization (throwing a track, blowing a tire) is high.

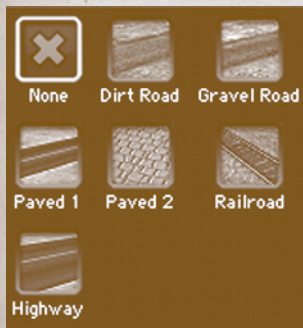


BRUSH

Adds brush to the terrain tile (can be mixed with other types of ground coverage).

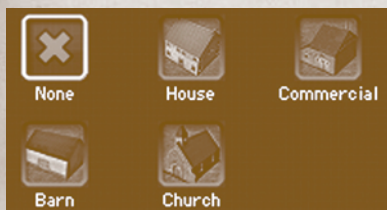
FLAVOR OBJECTS



**ROADS**

This tab offers several types of paved and unpaved roads, a railroad, and a multi-lane highway (extremely rare!)

Note: some road types automatically add a ditch on each side of the road. This can be used as cover for infantry but can also slow down careless vehicle drivers.

**INDEPENDENT BUILDINGS**

Various types of “special” buildings (commercial storefronts, barns etc.) designed specifically for the Normandy setting. As the title implies these are intended to be used as independent buildings. “Church” is available as a small country church or in 3 “building blocks” that can be used

to create a large cathedral.

**MODULAR BUILDINGS**

These are building “blocks” (ranging from 1 story high to 8 stories high) of varying sizes and configurations, and can be used by map designers to put together large building complexes, cities and other structures.

**BRIDGES #2**

Second tab with various bridge types



CRATERS

Different sizes of craters to simulate pre-battle damage:

3L - 3 small craters (from light calibers)

7L - 7 small craters

15L - 15 small craters

1M - 1 medium sized crater

2M - 2 medium craters

4M - 4 medium craters

1H - 1 large crater (from heavy calibers)

2H - 2 large craters

1S - 1 super-sized crater (from a large bomb)



BRIDGES #1

These are various bridge types. Depending on the type, some bridges may be impassable to vehicles.

No designation means a one-lane bridge allowing vehicles.

F = footbridge

R = railroad bridge

W = wide (i.e. two-lane)

The number is the length of the bridge in meters.

The following weight limits apply to bridges:

- Foot bridges: Infantry only
- Stone one-lane and Stone rail bridges:
..... Medium and light vehicles,
..... and infantry
- Two-lane bridges: Everything allowed

■ MAP EDITOR OPTIONS

■ ELEVATION

By default the map is perfectly flat and all tiles are set to elevation level 20. You can adjust elevation levels to be anywhere between 0 and 999. Each elevation change represents a height difference of 1 meter.

Note: Maps containing water tiles must have a minimum elevation of 5

CMBN's approach to elevations might be conceptually difficult to grasp at first.

However, once you get a feel for it you'll never want to use another elevation editor again! Instead of setting the height of each individual tile, you simply "draw" contour lines like you see on a topographical map. CM then logically slopes the terrain between the contours so that the transitions are smooth and natural looking.

The mechanics are quite simple. There are four different ways to change the elevation of a tile tile — Direct, Adjust, Adjust All and Clear. You can also set multiple tiles to the same height by keeping the left mouse button pressed as you move the cursor around the map. No matter which method you use, or how you use it, the results are the same. The tiles clicked on turn black to signify that you have "locked" the particular tile to a specific height, which is displayed in white numbers. All others remain in their natural state, showing that they are "unlocked". All locked tiles remain at the height you specified; all the unlocked ones dynamically change their heights to conform to the placement of new locked tiles. In this way you can specify a crest of a hill and the rest of the terrain will smoothly come up to meet it instead you having to do it all manually.



The Options panel on the left displays the four choices:

DIRECT - set a specific elevation with one click. First choose the desired elevation by using the + and - keys on the keyboard, then click on the map at the desired location. The elevation of that tile changes to the value you specified.

ADJUST - decrease or increase elevations by the amount set using the + and - keys on the keyboard. The default is 5, meaning that if you left-click on a tile with the elevation set to 20, it will be increased to an elevation of 25. Clicking on it again sets it to 30. Left-clicking while holding the SHIFT key *decreases* elevation by the set amount.

You can also set the adjustment value to 0. This locks a tile to whatever its current height is. For example, if an unlocked tile is 23, you can click on it and it will lock in at 23 without having to manually set the height to 23 using the Direct method. This is useful when you want to establish a fixed base to create a steep hill or valley without changing the surrounding heights.

ADJUST ALL - this allows you to nudge ALL tiles up or down by one level each time you press the + or - key, respectively. This is useful if, for example, you reached elevation 0 on the map but suddenly notice that you need a few lower elevations to finish a canyon. Increasing all tiles by +5 height gives you the needed room while retaining all your hard work map wide.

Note: this option only works when at least ONE elevation has been set by you on the map (i.e. when there is at least one black dot placed on the map).

CLEAR - unlocks a locked tile and adjusts nearby elevations automatically. For example, say you decided to flatten out a section of map that you had previously made hilly. Just clear the locked tiles and it will settle to whatever the surrounding terrain is set to.

Elevation numbers are, by default, only visible in this mode. If you want to see elevations in other map editing modes you can press the "E" key on your keyboard, which places an elevation overlay over the current 2D map display. Pressing E again removes the overlay.

■ LANDMARKS

Identifying key terrain features in the Briefing helps the player associate what he is tasked to do with where he is supposed to do it. To help tie these things together you can place text "landmarks" to indicate, specifically, where something is. For example, you can identify a prominent hill as "Hill 586" and note in the Briefing what the player is supposed to do with "Hill 586". To place a landmark, first click on the tile you want to label. A pop-up window opens with a text field to enter the name of the landmark. Note that this name is visible to both players, so it is generally a bad idea to make the landmarks too side specific if you intend on the scenario being playable from both sides. If you find you don't like the landmark you put down, or see that it is in the wrong place, click on it in the 2D map to select it and then choose Delete.

Note: if you want only one side to see a map label, use Objectives instead (see the chapter about the Mission Editor)

■ SETUP ZONES

Allows "painting" of up to three setup zones per nation, labeled Allied 1, 2, 3 and Axis 1, 2, 3 respectively. Zones are used to restrict how much the player can customize his starting locations. For example, allowing the attacking player to set up in the same spot as the defender would not be a good idea. Likewise, allowing the defender to put some snipers or AT teams in the middle of the attacker's assembly area isn't likely to win you any friends from people who play as the attacker!

Setup zones do not have to be adjacent, meaning that you can create one large zone, two or more independent zones, or even sprinkle spots all over the map. Units located within a specific zone during the Setup Phase of a battle can be moved to all spots of *that same zone number*, no matter where they are. So if you create two Zone 1 spots on the opposite ends of the map, a unit

can jump from one spot to the other without restrictions during the Setup Phase, as long as it is placed on a spot with the same zone number.

Note: units placed by the scenario designer outside of a Setup Zone during deployment cannot be moved at all by the player during the Setup Phase.

■ MAP TOOLBAR

The Map toolbar at the top of the screen is always visible when the 2D overview map is shown. The tools contained in the bar allow you to quickly access four functions:



■ OBJECT ROTATION

Most objects which can be placed on the map, such as buildings, road tiles, walls etc. can be rotated in one of four directions before placing them on the map. The four arrow buttons indicate the currently selected direction.

You can also change the rotation by holding the CTRL key and right-clicking (it doesn't matter where you click). Repeat this until the rotation direction you want is selected (the current selection is always indicated by a depressed button)

■ PAINTBRUSH

The "brush" with which you can "paint" terrain/objects on the 2D map is set to one of four sizes. The smallest size paints only one terrain tile per click, while the biggest level paints a rectangle of 15 by 15 tiles per click. Left-click applies the currently selected terrain to the area covered by the brush, right-click removes it.

Note: not all objects are eligible for different brush sizes. Most terrain types are, but, for example, Buildings or Flavor Objects are not. Additionally, Flavor Objects can only be placed in 2D view, but they cannot be deleted by right-clicking (since they are not visible in 2D view). You have to go to the 3D Preview to delete Flavor Objects.

■ MAP ZOOM

The 2D map can be set to any one of five different levels of magnification by clicking on the corresponding button. The left most button is max zoom in, the right max zoom out. The middle zoom level is the default. If the map view is zoomed in, then the view will scroll when you move the cursor to the screen edge.

■ MAP WIDTH & DEPTH

Sets the dimensions for the playable area of the current map. Two "boxes" are available, one for setting the width and the other for setting the height.

In order to adjust map sizes, you use one of the four buttons available per “box”. Obviously the + buttons increase the size, while the - buttons decrease map size. Each click increases the map by 32 meters.

Note: by pressing and holding the SHIFT key while clicking on one of the buttons, the increase (or decrease) is 160 meters.

What might be less obvious, but is logical once you think about it, is that the placement of the buttons also indicates the direction into which (or from which) the map is increased (or decreased). You just have to consider which axis is being lengthened or shortened, and the +/- pairs are then formed to affect each end of that axis.



The left/right arrows indicate that the west/east side of the map is affected. So pressing the plus on the **left** adds space to west. Similarly the minus on the **right** removes space from east.

The top/down arrows indicate that the north/south edge are effected. So the plus and minus on **top** affect the northern border of the map, while the plus and minus in the **bottom** do it for the southern border.

■ UNITS EDITOR

The Units editor provides all the tools to create Orders of Battle for both Allied and Axis sides. On the left is a list of options arranged logically, from top to bottom, in the order generally used to create a typical Order of Battle. First, you purchase units for a side, then you assign reinforcements, and lastly you deploy those units in the 3D environment.

The main screen layout consists of two columns in the main display area. On the left is a list of all the Available Troops that can be purchased for the specific and currently selected “Branch” (sub category of a side’s units). On the right is the Activated Troops display that shows all the units you’ve “purchased” for inclusion in your battle. At the bottom of the screen are various options to tweak the data for a whole formation or a specific unit.

■ PURCHASE UNITS

When purchasing units for your battle, you first **MUST** start by buying a Formation. Until you buy a Formation, most of the choices and functions of the Purchase Screen remain inaccessible.

■ FORMATIONS

Formations are a very important concept to both gameplay (which is not directly relevant here in the Editor chapter) and scenario making. Most of Combat Mission’s formations are based on authentic historical Tables of Or-

ganization and Equipment (TO&E) for the various forces used in the game. Every single individual unit belongs to a single formation, which in turn may (or may not) be a part of another formation. A formation isn't a unit itself, rather just a container for either units or other formations. For example, a Rifle Squad is a unit typically found in a Platoon formation, which itself usually belongs to a Company formation.

After you purchase a formation you then "delete" the specific units/formations you don't want. This might seem a backwards way to do things, but really it is quite necessary. If you bought units on their own they would have no formational context. Since such context is very important to gameplay and realism you'd then have to go through a complicated process of attaching units to each other, possibly in ways they never would be in real life. Therefore, it is much easier to start with the correct formations attached to each other and simply toss aside the units and formations you don't want.

All units are organized by Force type (US Army and German Army are the available choices in CM:BN, but future modules will provide additional options) and then secondarily to a specific Branch of that Force (e.g. US Armored Infantry, German Panzergrenadiere, etc.). When you select a Force, a list of the available Branches appears below. Selecting one of these shows what the Available Troops are for that particular Branch. You are allowed to mix and match units from Forces and Branches as much as you like, no matter how unrealistic it may be in real life.

Note: for Quick Battles, the Purchase Screen does impose certain restrictions with regard to the available forces.

Each line under Available Forces represents a unique, purchasable formation. At first glance there doesn't appear to be many choices since you initially see just the tip of the iceberg. Next to every formation name is a small + icon which allows you to "expand" it to show attached formations and units. By default, all formations start out "collapsed" in order to minimize the amount of space used in the display. To expand a formation, all you have to do is click on the "+" icon. Once expanded, the icon turns to a "-" icon which, when clicked, collapses the formation again.

To "purchase" a unit, doubleclick on it or, alternatively, single-click to highlight the formation, then click on the Purchase button. Either way, once a formation is purchased it moves to the Activated Troops column and is immediately available for use in the scenario. However, it is highly unlikely you'll need all the units of the formations you purchased. Therefore, in the next step you'll probably want to remove formations and units that aren't necessary for your battle.

Note: Purchase and Rarity points are shown in the Editor to provide guidance on balanced force compositions for Scenario Authors, but play no other role. A "+" after the purchase point value indicates a "lowest case" value for certain formations.

Removing units is very easy. In the Activated Troops list, simply select the formation or individual unit to remove and then click on the Delete button. The unit name grays out showing that it is no longer available for your battle. If at any time you change your mind, not a problem. Simply highlight the formation or unit and hit the Revive button to reset them.

You can also Rename units in the editor. When you rename a unit that is not a formation (e.g. squad or vehicle), the name change applies to that unit's leader (e.g. "Smith"), otherwise it applies to the unit itself (e.g. "Task Force Baker").

■ SPECIALIST TEAMS AND INDIVIDUAL VEHICLES

After purchasing one or more formations, you can then switch the display to Specialist Teams or Individual Vehicles if you would like to "cherry-pick" specific units that are not part of the pre-defined (historical) Table of Organization & Equipment. These units are automatically attached to the (already purchased) Formation that is currently selected in the Activated Troops list.

This option is mainly intended for Quick Battles, but it provides the scenario author with a quick and uncomplicated way to modify the game's TO&E to his liking.

■ SOFT FACTORS

Each unit has certain "soft" data that can be adjusted if desired. Soft factors are those elements that are, more or less, variable from unit to unit regardless of type. Most of these are related to the soldiers themselves, not the equipment they have assigned to them. You can see what the soft factors are by clicking on a unit or formation and looking at the popup options at the bottom section of the screen.

Of course you can adjust these settings individually as well, e.g. if you want more control or want to simulate a specific historical person or unit. What follows is a description of the various values and parameters used.

EXPERIENCE – determines the experience and training level of the soldiers of the formation. Options include:

- *Conscript*: draftees with little training and no combat experience whatsoever.
- *Green*: draftees with little training and some combat experience or reservists with some training and no combat experience. Green can also represent professional soldiers whose training is substandard in comparison to another force.
- *Regular*: professional soldiers who went through extensive, quality training programs, but lack combat experience. Or, Regular can represent troops that received mediocre training that have a fair amount of combat experience.
- *Veteran*: professional soldiers with standard military training and first hand combat experience. Alternatively, it can be professional soldiers who have trained to a slightly higher standard than Regulars, yet lack combat experience.
- *Crack*: exceptional soldiers with more than the average training and plenty of combat experience.

- *Elite*: the best of the best. Superb training, frequent combat experience, and generally all around tough guys.

MOTIVATION – determines the soldiers' will to fight. Options range from Fanatic (soldier will never give up and fight even when facing certain death) all the way to Poor (soldier has little desire to fight and will take the first chance to rout).

FITNESS – determines the inherent degree of physical readiness of the unit's soldiers. This influences on how quickly soldiers tire and recover from physical tasks, such as running or being bombarded by enemy fire. Options include: Fit, Weakened, and Unfit.

LEADERSHIP – the capability and experience of the unit leader does not always correspond with the quality of the unit. This rating allows a unit to range from great soldiers and terrible leaders, or terrible soldiers and great leaders. The values are from -2 to +2, indicating the leader's influence on the unit cohesion and various other capabilities.

SUPPLY – determines the amount of ammunition and other equipment available to the unit at the start of the game. Options include Severe, Scarce, Limited, Adequate and Full.

HEADCOUNT – this setting allows to simulate formations with casualties from previous combat.

VEHICLE STATUS – changes a Vehicle to be immobilized, knocked out, or burning from the very start of the game.

■ TYPICAL SETTING

For all of the above settings except Vehicle Status, the option "Typical" is also available. This choice randomly sets the value to be a typical (historical) value for the selected formation and the selected timeframe. Typical is the default setting for all options and is a good way for the scenario designer to get some variety for his scenario without having to adjust each and every unit individually.

■ PURCHASING EQUIPMENT

At the bottom edge of the screen is a display for selecting specific equipment options, depending on which formation is selected in the Activated Troops list. Some formations allow you to determine the type of equipment that they are going to field for the battle, such as different tank or vehicle or gun types. For example, if you select a US Armor formation, typically you will be able to determine which models of Sherman tanks will be appearing in the battle.

This menu is highly context sensitive and dynamic, depending on which formation or unit you highlight in the Activate Troops list. Sometimes you can select an individual squad and several choices will appear here, sometimes you can select a Battalion HQ and select the equipment for the entire formation with a few clicks.

In addition to different equipment, you can usually also determine here if you want indirect weapons such as guns, howitzers or mortars appear on the map, or be available as off-map support assets only.

The choices made here may affect the point value of the formation that they apply to. This is why the points listed under Activated Troops may differ from the “typical” point values shown under Available Troops for the exact same formations.

■ EQUIPMENT DROPDOWN MENU

You can adjust the equipment selection individually for each unit (this can be tedious, especially if you are making a scenario with a lot of units), as explained above, but you can also use the Equipment Dropdown menu to apply general (randomized) settings to entire formations as you purchase them. The Equipment Dropdown menu is located on the left side of the screen underneath the Formation/Specialist/Vehicle selection menu. You can determine units to be in Poor condition or Excellent condition and several steps in between. Depending on the setting, your formations will be already prepopulated with vehicles and weapons accordingly. One choice includes a “Typical” setting, which uses the historically “correct” values for that unit and that specific time period.

■ REINFORCEMENTS

Up to seven groups of units per side can be designated as Reinforcements from the Available Units list, irrespective of their parent formation. This allows the scenario designer to have units enter the battle at some later and/or (more or less) random point in time. The units of each Group enter the map at the same time, but the entry location is set individually for each unit using the Deploy function. Staggering units can help with early game unit congestion, enhance the plot of the scenario, or simply spice things up.

The first step is to assign units to a Reinforcement Group by highlighting them in the Available Units column and pressing a key on your keyboard (not on the NumPad!) from 1 to 7. This assigns the unit(s) to the respective Reinforcement Group, and a small [R] followed by the number of the assigned Group appears next to its name. For example, [R1] means the unit is assigned to Reinforcement Group #1. To remove a unit from a Group simply highlight it and press the 8 key and you’ll see the designation go away.

Once you have at least one unit assigned to one Group you can specify when it comes into the game. To do this, click on the Group you want in the list on the left side of the screen. For each group, you can set the time of the earliest arrival, and determine a random time span within which the arrival time might deviate.

Note: when deploying units in the 3D Preview of the Editor, Reinforcement units show an R in the Suppression area of their Team Info Panel, followed by the number of the group they belong to (e.g. R:1 indicates Reinforcements Group 1).

■ EARLIEST ARRIVAL TIME

This specifies the soonest a Group appears on the battlefield (for example, 5 minutes after the begin of the battle, or an hour, or more).

■ ARRIVAL SPAN

Can be set to be Exact (no deviation, i.e. the unit will always arrive exactly on the time set above) or a value between 5 and 30 minutes in 5 minute intervals. Specifying a time determines a +/- range modification of Earliest Arrival Time.

Note: be careful of what you do here since there is a chance for significant unintended consequences. For example, if a 60 minute battle has Earliest Arrival Time set to 30 minutes and the Arrival Span to 30 minutes, the reinforcement group might arrive anytime between one second after the beginning of the battle and one second before its end. If you set Earliest Arrival Time to 60 minutes and the Arrival Span to 10 minutes, then the reinforcement group might arrive 10 minutes before the end of the battle, and there is a 50% chance that it will never arrive (because the battle might end before the arrival time).

■ DEPLOY UNITS

This feature switches you from the 2D Unit Editor to the 3D Preview map so you can position the Available Units in the exact spot, orientation, and stance you want. This applies to Reinforcements as well, regardless of when they come into the game. You can do all sorts of things, such as loading units into vehicles, deploying heavy weapons so they can fire immediately, etc.

The Group(s) a unit belongs to (if any), such as Reinforcements, or AI Plans, is shown in the main interface bar at the bottom of the screen, inside the Suppression indicator (e.g. A:5 indicates AI Group 5, R:1 indicates Reinforcement Group 1, and so forth).

If you created Setup Zones they are shown on the map. A unit in a Setup Zone can be moved freely within that particular Zone during a game's Setup phase. Units placed outside of a Setup Zone can not be moved by the player until after the game starts.

Note: pay extra attention to where Reinforcements are placed in order to avoid unrealistic situations, such as units suddenly appearing in the middle of a field or a spot that is likely to be occupied by the other side. It might be a good idea to have Reinforcements appear in a place out of sight of enemy troops in order to allow the other player a chance to move them before getting shot at.

■ DEPLOYMENT COMMANDS

During Deployment mode, a limited number of Commands are available for each unit type, mainly related to administrative tasks.

MOVE, FACE, HIDE, ACQUIRE, DISMOUNT, DEPLOY WEAPON, SPLIT TEAM, ASSAULT TEAM, ANTITANK TEAM

Note: The Commands work the same way they do during a battle. See the Commands section of the manual for more details.

ARTIFICIAL INTELLIGENCE (AI)

■ EDITOR

Most Artificial Intelligence (Computer Player) systems in games are based on highly scripted, reactive behavior. The scenario designers program very specific instructions for even the most basic behavior, often to the point of "if the enemy moves here, attack, otherwise don't do anything". The game play tends to be quite predictable over time and potentially easy to fight against because the designer has to correctly anticipate what the player will do.

Other game AIs, including the one in the previous Combat Mission series, are dynamic AIs that act and react on the fly. Since its behavior patterns are more generic, it is more flexible when playing a specific mission/battle. Unfortunately, the same generic attributes preclude the Computer Player from taking advantages peculiar to the battle being fought. The designer can set up a perfect double pincer envelopment and watch the AI decide to conduct a frontal assault instead.

CM:BN's Computer Player is a sort of hybrid of scripted and dynamic systems. The scenario designer has the ability to customize the higher level, and to some extent lower level, behavior specific to the tactical considerations of the battle. However, the AI can improvise, to some extent, within the designer's parameters. This greatly reduces predictability, but more importantly it allows the AI to conform to the story of the battle. If the battle's story revolves around an ambush or a convoy to move along a certain road, such crucial elements can be "coded" into the scenario to make sure they happen.

The scripting aspect of CM:BN is also critical for coaching the Computer Player on how to win. For example, if the defending Computer Player needs to defend a set of buildings inside a city, the designer can specify which key spots should be manned in order to ensure the success of a more abstract victory condition. No matter how good a dynamic AI may be, practically speaking it will never equal the insight the designer has without some very specific help. Therefore, think of the scripting as the designer helping the AI understand what it needs to do, where, and how.

■ AI ELEMENTS

There are four distinctly different concepts that create a decent Computer Player.

Groups - a collection of units (CM:BN allows up to 8 Groups per side)

Map Zones - areas of the map for Groups to focus on (up to 16 per Plan)

Orders - basic instruction sets for a Group (up to 16 per Plan)

Plans - overall coordination of Groups, Orders, and Zones (up to 5 Plans per side)

Units are assigned to Groups to concentrate on geographical Map Zones using various Orders to direct their behavior. Plans specify which Groups use what Map Zones with which Orders. The Computer Player only ever uses one AI Plan for a scenario, however it can use different Plans (if they exist) each time the scenario is played.

Once a Computer Player's Group reaches an Order's Map Zone, it begins to look at the next Order (and associated Map Zone) if one exists. The computer player decides when to "move on" to the next Order by looking at two time points set by the author, and the condition of its troops.

These concepts are identical for both Allied and Axis sides, however the elements can be used in different ways in order to simulate the different behavior patterns, doctrinal approaches to combat, etc. of each side's simulated force. The importance of each specific element varies from scenario to scenario, side to side. However, generally a good Computer Player comes from equal attention paid to all four elements.

A scenario can have a Computer Player for either or both Axis and Allied sides. However, if the designer did not specifically create a Computer Player for a side the units for that side will simply sit wherever they start out and do nothing. Therefore, the scenario designer should make sure to mention in the briefing that a scenario is supposed to be played from a specific side only.

■ GROUPS

A Group is a collection of units (squads, teams, guns, and vehicles) assigned to perform tasks together. Each Group acts independently of other Groups using Orders it receives from a Plan. Because there is only one Plan in use during a scenario there is no risk of Groups getting contradictory instructions. This means the designer must be quite sure of why various units are in one Group and not another, because if the assignments aren't sensible then the Orders are less likely to produce desirable results.

All units are assigned to Group 1 by default, unless specifically assigned to Groups 2 through 8. To assign a unit to a Group, go to the Unit Editor's Purchase Units option, select the unit or formation by clicking on it, then use F2-F8 keys to set the Group number to 2-8. Units assigned to Groups 2-8 have their Group number appear to the right of their name as [A2] through [A8]. To reassign a unit to a different Group, simply repeat the process with a different numbered F key. To have an assigned unit return to Group 1, highlight it and hit F1.

Note: when deploying units in the 3D Preview of the Editor, units show an A in the Suppression area of their Team

Info Panel, followed by the number of the AI group they belong to (e.g. A:2 indicates AI Group 2).

■ MAP ZONE

Map Zones are “painted” on the map, much like a Setup Zone or a victory Objective area. Each Order can have one, and only one, Map Zone assigned to it. The shape and size can be as regular or irregular, small or large, and you can even generate separate discontinuous areas, but they are still considered part of the same map zone. That doesn’t mean it is necessarily a good idea to make huge, crazy shaped Map Zones, just that it is possible. Generally the more “creative” the Map Zones are, the less likely Groups will behave as desired. Therefore, it is usually better to break up larger concepts into smaller pieces and assign different Groups to each with their own Orders and Map Zones.

Note: Each Order must have a Map Zone assigned to it. Orders without Map Zones are simply ignored by the AI. If you want a unit to remain stationary, simply copy the Map Zone from the previous Order in the Plan. The unit will not move.

The composition of the Current Group should be kept firmly in mind to make sure that the Map Zone isn’t too small or too big for the number of units, the distance too great, the type of terrain unfavorable or even impassable, and so forth.

It is very important to keep in mind that the Map Zone is the desired END ZONE and not the path. The TacAI determines, based on a Plan’s Orders and tactical Commands, how to get from one Map Zone to another. A Group will NOT follow a long and skinny Map Zone; it will simply move all its units onto it and stop before moving onto the next Order’s Map Zone. If you want to influence the path a group of units takes, issue several orders as you would waypoints.

■ ORDERS

Each Order consists of a single instruction for a specific Group to follow. The specified Map Zone is the destination and the Order represents the method to get there. This is an important concept to fully grasp since doing the opposite, treating the Map Zone as the start of the Order, will likely doom a Plan to failure. An order consists of four parts (not including the Map Zone), except for the first Setup Order, which only has three (as explained further below).

■ ORDER TYPE

Dash – basically this is an “everyone run for the hills” option that should be used very rarely. Make sure that the distances are fairly short or the units are vehicle only, otherwise they will likely exhaust themselves before reaching the specified Map Zone. It is also wise to make sure the Group isn’t likely to fight along the way since the units won’t be predisposed to doing that. Use Dash for things like getting units to move quickly from one major source of

cover to another at maximum speed, such as across a dangerously exposed road or field.

Quick – emphasizes speed over combat, but to a lesser extent than dash. Units will attempt to get from A to B as quickly as possible but not at all cost, and not at maximum speed. Units may stop and return fire occasionally, but are generally unlikely to do so. Quick is useful when covering medium distances that you want to cross quickly but without completely tiring out the units, and when enemy contact is unlikely but not impossible.

Advance – this is the “happy medium” between Dash and Max Assault. This is generally the best Order to use when moving from place to place and not specifically anticipating a big fight. Units instructed to Advance decide what they should do, but generally it is to keep moving after taking some shots at spotted enemy units.

Assault – this order emphasizes combat over movement. Units ordered to assault will generally interrupt their movement when facing the opportunity to engage the enemy, but will not remain stationary for too long. This is the best order to use for advancing while in contact with the enemy at medium to longer distances.

Max Assault – the opposite of Dash, Max Assault tells the Group to stop and engage with maximum firepower whenever each unit sees an opportunity to do so. This is generally a poor choice for getting a Group to stay on the move if a lot of enemy is expected in the vicinity. It can also be a bad idea if the area being moved over is a poor place to stop for a firefight. The best use is for short moves where there is good cover and enemy activity is highly expected.

Note: computer infantry units can demo-charge their way through walls and bocage if their “next” movement order (set by the author in the AI editor) is close by (30m or less, generally). It works best to place one movement order destination on the near side of the wall/bocage, and the next just on the other side of the wall/bocage.

■ SETUP ORDERS

The very first order of each plan is a Setup Order. It works exactly as other orders with one big exception: the Map Zone for the Setup Order defines the area where units begin the game, not where they need to move to. As such, the Map Zone is NOT the End Zone as for all other regular orders. Therefore, Setup Orders have no option for “Order Type” since the units do not have to move anywhere.

The AI does not break the rules. If you paint a Map Zone for a Setup Order outside of a valid Axis or Allied Setup Zone (as defined in the Map Editor), the AI will never setup there. Therefore, make sure that your Map Zone for Setup Orders for the AI plan matches a valid Setup Zone in the Map Editor. To make this easier, Setup Zones are always shown on the 2D map when you select a Setup Order in the plan.

Note: landmines assigned to AI groups number 2 and higher move into the AI groups's painted setup zone automatically.

■ OCCUPY BUILDINGS

This option tells the unit which floor to occupy if it enters a building. If a unit is not inside a building, this option has no effect.

■ STANCE

This option defines the basic behavior and combat posture of a unit for a given Order.

Cautious – shoot only when a clear target presents itself and don't get too worked up when one does. This helps conserve ammo and limits how much the Group makes its presence known to the enemy.

Active – shoot early and shoot often. This is generally the best option when the Group is being tasked with assaulting a known enemy position.

Ambush – instructs the units to only open fire if the enemy closes within a specific distance. Several distance options are available, from 75m to 1000m.

Hide – just as it sounds! This instructs the Group to avoid doing anything that might attract attention, such as moving or shooting. Units that get shot may return fire, but other units in the Group will try to remain hidden.

■ PASSENGER STATUS

This option tells infantry carrying vehicles (and bunkers) to Dismount its passengers or keep them Mounted. Keep in mind that this option is activated BEFORE the designated Map zone is reached! If you want to dismount after reaching a map zone, you will need to create one Order for getting there mounted, and then a second order (with or without a Map Zone) to dismount on location.

Note: There is no way to instruct the AI to Mount units once Dismounted due to the complications of coordinating vehicles and infantry (real life military units train for months to get this right!). Practically speaking, it would be rare to see infantry units get into and out of vehicles multiple times within the scope of a Combat Mission battle, so it is less of a limitation than it may initially appear to be.

■ PLANS

Plans are the glue that holds together Groups, Map Zones, and Orders. They act as "scripts" for the AI to follow, but not in the traditional FPS/RTS sense in which tactical behavior is tied to trigger points, patrol routes, etc. Instead, it is a set of behavioral instructions just like in a real military formation. For example, the "script" doesn't say "Tank 231 goes from this point to this

point and then tries to shoot here”, rather it says “Tank 231 will try to move through this area and shoot at any threats it sees”. The actual tactical moves and decisions the unit makes are left up to the TacAI, which means they are context sensitive decisions.

When the player starts to play a scenario, Combat Mission selects one semi-randomly chosen Plan to be used for the duration of the battle. This allows the Computer Player to be unpredictable each time a scenario is replayed, yet still follow specific instructions made by the scenario designer. Or not! The Scenario designer may choose to make only a single Plan for a particular side, thereby guaranteeing that one Plan is always the one used. The designer can also skew the chances a Plan is selected, or not.

To create a Plan, and its components, select one of the five possible Plans from the list in the user interface to the left. The first popup menu controls the chance that the selected Plan is going to be used in a battle. The second popup menu designates which Group is considered the “Current Group”. When selected, existing Orders assigned to that Group can be seen and manipulated, and new ones can be created. The third popup controls the Current Order for the Current Group. The first of the 16 possible Orders is always Setup. New orders can be added by clicking on the Add button, existing orders can be deleted by clicking on Delete.

Note: Plans need to be tested by the designer in order to make sure they work as expected. However, since CM randomly chooses a Plan it is difficult for the designer to be sure of debugging a specific Plan if there is more than one. To overcome this, simply change the chance of the desired Plan happening to “Used Frequently” and the others down to “Not Used”. Just remember to change the values back to whatever it is you want before sending the battle off to be played by others!

■ EXIT AFTER / EXIT BEFORE

The “Exit After” option is telling the Group to stay at the current Map Zone until the specified scenario time is reached. With this setting a Group never moves on to the next Order before the “Exit After” time is reached.

The “Exit Before” option is the opposite, and causes the Group to try very hard to get to the next Order in the plan before the specified scenario time is reached. This does not mean the Group will do it, just that it will try. If it has taken excessive casualties, is immobilized or heavily engaged, it may blow the set “Exit Before” time. It will still attempt to execute the next order in the plan, just not within the time that the scenario designer allotted for it.

These two options allow for some reasonable level of coordination between Groups.

Note: the time set under "Exit Before" and "Exit After" is absolute scenario time and not a duration. "1:00" means "one minute after the beginning of the scenario", and NOT "one minute after the last order".

You can increase the "jumps" for the time settings by holding the SHIFT key while you click on the + or - buttons.

Example: Exit After: 5:00, Exit Before: 10:00

These settings mean: the units in this Group will remain executing the current order (at the current Map Zone) for 5 minutes after the beginning of the battle. They are not allowed to leave sooner. After 5 minutes, the units are free to begin leaving the Map Zone and start executing the next order in the plan. They do not have to leave immediately, however, before 10 minutes scenario time pass they really should be gone.

Note: all of a Plan's Orders are saved into the scenario file even if there are no Groups assigned to it. This allows the designer to move, remove, redo, and otherwise manipulate units and Groups without worrying about wiping out work done on a Plan prior to the changes. Obviously, if no Groups are assigned to an Order none of the Order's actions are carried out in the game, so there isn't any point of creating Orders that have no Groups, though there is also no problem if unassigned Orders are left in the file since the Computer Player simply ignores them.

■ CORRECT TIMING

The AI editor lets you coordinate various orders and groups in a plan to some degree through the use of the Exit After / Exit Before time settings. These can be a little confusing when first working with them.

In short, the Exit After setting instructs the group to keep executing an order until that time in the scenario, while Exit Before instructs it to leave a Map Zone and move on to the next order in the plan before that time is reached. The two main sources of confusion often are:

- the time settings are absolute scenario time, not relative "duration". This means that the time needs to be adjusted accordingly for each order within a group's plan to reflect the time passed in the scenario.

Example: If you want two orders to be executed for about 5 minutes one after the other, then Order 1 is set to Exit After 5:00 and Exit Before 5:30, and Order 2 should be set to Exit After 10:30. Notice that this will not GUARANTEE that the second order is executed for 5 minutes.

- the times are merely guidelines for the AI. The AI will attempt to stick to the time plan, but not at all costs. Combat effects, fatigue, and other factors may make the AI blow the schedule. The AI will still proceed with executing each order within a plan, one after the other, but may disregard the schedule set by the scenario author.

This is more true for the Exit Before setting than Exit After to some extent. After all, it is easier to simply sit in place for a certain time than to move out exactly on time.

Note: the more strictly you set the timing for a plan, the higher the chance that the AI won't be able to remain on schedule. Setting the Exit After and Exit Before times for an order very close together is asking for trouble. While it may work reasonably well early in the plan, as you get to the later stages, you should set the times further and further apart to account for the unavoidable delays and keep at least some level of control. If you don't, then the AI will simply ignore your schedule altogether.

You do not HAVE to use the Exit After / Exit Before settings! Simply leaving them on default will mean that the AI completes one order after the other without delay, as fast as the given order and the combat situation and condition of the troops allows. In fact, for the majority of situations this may be just the right setting!

■ SUPPORT TARGETS (ALLIED OR AXIS)

The scenario designer can specify Support Targets for the Computer Player's artillery and air support to use at the beginning of the scenario. Such artillery strikes represent preplanned bombardments for a side controlled by a Computer Player. If a Human player is in control of a side the designer's assigned Support Targets are simply ignored.

When Support Targets are specified, all Artillery and Air Support Assets allocated to that side's force are considered available for the AI to use. The only requirement is that a valid spotter have line of sight (LOS) to the designated target(s) in order to initiate the strike. All normal support rules apply such as C2 links, delay times, etc. Artillery and Air Support Assets not used against the Support Targets are available for the AI to use during the regular course of the battle.

Up to 20 independent Support Targets can be designated. Simply select a target number and paint the zone to be fired at in the 2D map. Zones can be any size, contiguous or disjointed, though practically speaking it is best to keep in mind the actual amount of assets available. If one target zone covers half of the map, but the side only has a battery of two measly 82mm mortars available that are low on ammo, don't expect an earth shattering map-covering artillery strike. Instead, it is more likely that the AI spotter will randomly

pick one place out of the entire zone and pound it until the mortars are empty.

Each target can be assigned one of three possible missions. These determine the intensity and duration of the strike:

Destroy – heavy intensity, long duration. Issue this type to cause maximum damage. Available assets, ammo, and size of the target area are especially critical here. A couple of 60mm mortars aren't going to level a city block, for example, but 4 batteries of 155mm Howitzers certainly can!

Damage – medium intensity, medium duration. Good for a quick, devastating shock to a particular area. Good balance between ammo conservation and damage.

Suppress – low intensity, short duration. This is best used for harassing fire or to pin an enemy force down to allow friendly on map units take advantage of the situation.

Preplanned strikes arrive at the beginning of a scenario, but not always immediately in the first few seconds. Normal C2 delays apply. Each target is attacked in order, and if multiple assets are available, several targets can be attacked simultaneously.

Any support assets that are not used up for the pre-planned bombardments are available for the AI Player to use dynamically during the battle as long as it has what it needs to call in a strike (e.g. proper spotter, adequate communications links, etc.). In other words, the AI Player is bound by the same rules as the Human Player, as explained in various sections of this manual.

■ 3D PREVIEW

The 3D Preview displays the battlefield in 3D mode, which can be useful for spotting possible issues with terrain, elevations, or the overall look of the map. It is also good for getting a feel for how to set up the AI's Orders and Plans. Additionally, Preview mode allows the direct manipulation and fine-tuning of certain map aspects which cannot be accessed from the 2D Map Editor, such as buildings and Flavor Objects.

■ EDITING BUILDINGS

In 2D mode, you choose the basic building types and determine their placement on the map. The actual look of the building is determined randomly from a number of options specific to each type of building. However, these automatically assigned attributes can be overridden and customized, if desired.

CM:BN features two major types of buildings - *modular buildings* which are more generic building "blocks" that can be up to 8 stories high and are made to be arranged into various shapes and forms, and *independent buildings* that are more specific in their design, and, as the name implies, usually are not combined with other buildings. The two buildings types differ in some details as far as how they work in the editor.

■ MODULAR BUILDINGS

For each side and each floor of each building the texture, number of doors, and number of windows can be set. If the wall is exposed it can have a balcony of one sort or another. The type of roof can be changed as well, provided that alternative roofs are available for the building.

One of the more interesting, and powerful, features is the ability to completely remove walls by toggling through the "window/door layouts" until the wall disappears. This allows adjacent buildings to be combined into larger structures, such as a massive warehouse or L shaped house. Since individual walls on individual floors can be removed, it is possible to have a building complex that is open on some levels and closed on others, or 3 stories in one section and only 2 in another section. The tactical possibilities created by this feature should not be overlooked!

In general, each of the following clicks and key+click combinations toggles through the available options for each building in succession.

■ SINGLE WALL

CTRL-CLICK on a side changes window/door *layout* for wall

CTRL-SHIFT-CLICK on a side adds *balconies* for that wall

Note: for upper levels without balconies, door configurations are skipped except when the camera view is inside the building. This makes it easier to set up "interior" walls between immediately adjacent buildings.

■ SINGLE SIDE

CTRL-SHIFT-CLICK on ground floor adds *balconies* to all floors on that side

■ ENTIRE BUILDING

ALT-CLICK changes window/door *frames* for all four sides

SHIFT-CLICK changes the buildings *texture* for all four sides

CTRL-CLICK on roof changes shape/type of roof (if available)

ALT-CTRL-CLICK changes the windows/door layout for all floors on the same side of a building

ALT-SHIFT-CLICK cycles through stages of major *damage* to building, starting at a blown-out roof, progressing through blown-out upper levels, to complete rubbleing.

■ INDEPENDENT BUILDINGS

Individual buildings largely work like modular buildings, with a few notable differences: the window and door layouts are fixed and cannot be changed, and no balconies can be added. The following key+click combos apply to Independent Buildings:

CTRL-CLICK on a side/roof changes cycles through stages of pre-battle damage for floor/roof

SHIFT-CLICK changes the buildings texture for all four sides

ALT-CTRL-CLICK cycles through stages of major damage to building, starting at a blown-out roof, progressing through blown-out upper levels, to complete rubbleing.

■ EDITING FLAVOR OBJECTS

The placement and rotation of Flavor Objects can be finetuned in 3D Preview mode. After placing a Flavor Object in regular 2D mode in the general area where you would like to have it, you can now “nudge” it into position and also rotate it to achieve realistic placement.

This is done through a combination of keys and mouse clicks, as follows:

LEFT CLICK - rotate object

SHIFT+LEFT CLICK:

- nudge object in the direction the camera is facing

CTRL+LEFT CLICK - delete object

■ MAKING CAMPAIGNS

New Campaigns for Combat Mission are technically quite easy to make, however since they require many custom made battles it can be somewhat time consuming to put together because each individual battle takes a fair amount of effort to make.

A Campaign is a semi-dynamic string of individual battles linked together. Each battle for a Campaign is just like every other scenario made in the Editor, save one major feature: a common pool of units imported from a central “core units” file. This allows Combat Mission to track individual units from battle to battle, which in turn allows the results of a previous battle to have a direct effect on those that come later.

At the heart of a Campaign are two sorts of battles; *primary* and *branches*. Primary battles are those that represent the optimal path from start to finish. If a player wins each battle these are the only ones that are played. Branches are those battles that the player is diverted to after failing to win the previous battle. There is a great deal of flexibility as to how these features are used, enabling campaign designers to customize the structure of a Campaign to conform to a particular “plot”. In fact, the campaign does not have to branch at all if that is what the designer wishes to do.

Note: in theory you can create loops in the branching structure, by directing the player to a scenario he played previously, e.g. after a loss. While this is possible, please keep in mind that any damages and changes to the map from the previous fight are not saved. This means that destroyed buildings from the first time through are magically rebuilt, craters filled in, burning vehicles

removed, etc. Therefore it might be a good idea to avoid such loops for the most part.

It is possible to have units tracked from battle to battle on both sides. However, this is not recommended in general since it means the same two forces face each other battle after battle. That's not very interesting! Plus, with the high casualty rate typical for World War Two frontline engagements, it is unlikely that a significant portion of the Core Units would survive more than a few battles. Still, it's an available feature and players are welcome to experiment with it if they want.

■ CORE UNITS FILE

This is a regular scenario file that does nothing more than provide a common pool of units to draw from and certain elements needed to present the Campaign to the player. It is as simple as purchasing some units and setting up the mission information (briefings, title, etc.). Combat Mission ignores everything else so don't worry about the map, unit placement, etc.

Battles within a Campaign can use units that are not in the Core Units File, therefore it is only important to put units in here that are central to the story. For example, if the Campaign revolves around a single Rifle Company and a Tank Platoon, you don't need to put in an Engineer Platoon or a Cavalry Platoon that are only used once. Such auxiliary units which don't make an appearance in more than one battle can be added into any scenario normally using the Unit Editor as one would for a stand alone battle.

One very important thing to keep in mind is how CM tracks units from battle to battle. When a formation is put into the Activated Units column of the Unit Editor (i.e. purchased) unique identification numbers are assigned to all the units within it. This allows CM to know that Tank 1234 in Battle #1 is the same Tank 1234 in Battle #2. After a unit appears in the Activated Units column it can be manipulated, such as having a unit's Experience changed or deleting a formation so it isn't available, just like in a normal scenario. These changes can be undone or redone as often as desired. However, these changes are not automatically incorporated into existing battles for the Campaign. To have such changes registered each existing scenario file must be "synchronized" with the Core Units File in order to bring those changes into existing battles (see below).

■ SCENARIOS (BATTLES)

There is nothing inherently different between scenarios made for a Campaign and those made for stand alone use. Maps, AIs, Mission Parameters, etc. all have to be created just like any other stand alone battle. The only significant difference is that some (or all) of the units from one (or both) sides can be imported into a scenario so that they carry through from battle to battle. Also, it is not necessary to make the small 170x170 picture that represents the scenario in the Battle selection dialog because it is ignored.

Importing units is quite easy. Create a new scenario in the Editor, choose the Units Editor, and then select the "Import Campaign Units" option. An open

dialog appears so the Core Units File can be located and selected. Once confirmed, all the units in the Core Units File are imported into the current scenario file.

The next step is to whittle down the Core Units to those needed for the current battle only. Often this is a small subset of the total units found in the Core Units File. Select the Purchase Units option and look in the Activated Units column. All Core Units are there with a notation that they are, indeed, Core Units. To remove unwanted units simply do what is done for any other scenario: select the unit, or formation, and select the Delete button in the lower left corner. This toggles the unit "off" so it won't appear in the battle at all. It can be toggled back "on" at any time, like a normal scenario, by repeating these steps. Additional, non-core, units can be purchases at any time as in any other scenario.

From time to time changes may be made to the Core Units File that require synchronization with existing Campaign battles. This is generally an extremely easy and painless thing to do. Just open up the scenario file and Import Campaign Units again. Core Units already in the scenario retain almost all of their customization, such as placement, Group assignments, Orders, etc. Therefore, synchronizing with the Core Units File does not wipe out hard work! What it does do is remove units no longer in the Core Units File, imports newly added units, and updates attributes (such as names, experience, etc.). The latter is probably the only potential drawback of synchronizing since customized settings like that must be redone.

Note: any formations completely removed from the Activated Troops list in the scenario will reappear and must be deleted again (if that is still desired). This is to make sure deleted formations can be brought back in if the designer changes his mind after removing them. It's very important to know this, since reintroduced formations appear in default positions in the 3D environment automatically, which can create a rather "interesting" game experience until it is fixed in the Editor.

■ CAMPAIGN SCRIPT FILE

A group of completed scenarios are just that until you use the *Compile Campaign* feature. In order to do that, though, a Campaign Script File must exist. This is a TXT file which Combat Mission uses to understand which battles are fought when, what the conditions are for going to the next one, and how much the units should be refreshed between battles.

The script is quite simple. The first part is the Campaign Header to help CM set up the Campaign as a whole. The first variable specifies which side the Campaign is played from (Allied or Axis), if a Human Opponent is allowed (No or Yes), the text shown to the Allied player after the last battle (Victory and

Defeat), and the text shown to the Axis player after the last battle (Victory and Defeat).

What follows are a variable number of Battle Entries, one for each Battle in the Campaign. Within the first section of the Battle Entry is the scenario file name, the minimum victory level needed to win, the scenario file name to go to after a win (blank signals end of Campaign), and the scenario file name to go to after a loss (blank signals end of Campaign).

Campaign scripts can specify a minimum and maximum overall campaign victory level based for any battle that ends the campaign. Normally, to signal the end of a campaign, the [NEXT BATTLE IF WIN] and/or the [NEXT BATTLE IF LOSE] fields are left empty. However, any of the following list of keywords can optionally be entered there instead, signalling both the end of the campaign and either a minimum required overall campaign victory (if following [NEXT BATTLE IF WIN]) or a maximum allowed victory (if following [NEXT BATTLE IF LOSE]). This is most useful for "early ends" to campaigns where you want the final score to reflect the fact the early end of the campaign more than the success or failure of each battle along the way. Note that each keyword must start with an underscore.

- _total defeat
- _major defeat
- _tactical defeat
- _minor defeat
- _draw
- _minor victory
- _tactical victory
- _major victory
- _total victory

The next section in the Battle Entry is the percentage chance an individual unit has of being completely replaced if lost, repaired if damaged (vehicle only), topped off with full ammo, and brought back to a fully rested state. If the Campaign contains no Core Units for a particular side, there is no need to fill in that side's variables.

Note: the very beginning of a Campaign starts out with a special one time Campaign Briefing. This is identical to a normal battle's briefing, complete with Operational Order and maps. CM looks for this information in the Core Units File, which should be loaded when the Campaign is compiled (see next section).

Here is a sample of a two battle Campaign Script with dummy values inserted:

*/**
 Note the characters before and after this text. They allow designers to put in comments, or notes, such as why something was done a certain way. Anything between these characters is ignored by Combat Mission. Otherwise an error will occur when the Campaign is compiled.
**/*

// Alternatively two back slashes can be entered to create a comment. There's no functional difference between this method and the previous mentioned method.

/* Campaign Header*/

[PLAYER FORCE] blue // options are: blue/red
[HUMAN OPPONENT ALLOWED] no // no/yes

[BLUE VICTORY TEXT] You won!
[BLUE DEFEAT TEXT] You lost!

[RED VICTORY TEXT] You won!
[RED DEFEAT TEXT] You lost!

/*Battle #1*/

[BATTLE NAME] My First Little Battle // note, do not include ".btt", just the
file name

[WIN THRESHOLD] tactical victory // total defeat, major defeat, tactical
defeat, minor defeat, draw, minor vic-
tory, tactical victory, major victory, to-

tal victory

[NEXT BATTLE IF WIN] My Second Little Battle

[NEXT BATTLE IF LOSE] // a blank signals an end of the cam-
paign

[BLUE REFIT %] 20 //always express this a number be-
tween 0 and 100

[BLUE REPAIR VEHICLE %] 40

[BLUE RESUPPLY %] 70

[BLUE REST %] 80

[RED REFIT %] 10

[RED REPAIR VEHICLE %] 10

[RED RESUPPLY %] 50

[RED REST %] 60

/*Battle #2*/

[BATTLE NAME] My Second Little Battle

[WIN THRESHOLD] minor defeat

[NEXT BATTLE IF WIN] // end campaign

[NEXT BATTLE IF LOSE] // end campaign

[BLUE REFIT %] 20

[BLUE REPAIR VEHICLE %] 40

[BLUE RESUPPLY %] 70

[BLUE REST %] 80

[RED REFIT %] 10

[RED REPAIR VEHICLE %] 10

[RED RESUPPLY %] 50

[RED REST %] 60

■ COMPILING A CAMPAIGN

A Combat Mission Campaign consists of a single file (with the extension .CAM) that contains all the information the game needs to play a Campaign from start to finish. The single file format ensures that it can be transported from person to person without missing pieces. It also ensures that players can't cheat by opening up individual battles in the Editor to peek or alter elements to make it easier to win.

Note: This means the person making the Campaign must keep the individual battles or forever lose the ability to make changes to the Campaign!

Compiling a Campaign is technically quite easy, however mistakes in the Script File are easy to make and that probably means a couple of failed attempts are likely. Not to worry, though, since Combat Mission gives useful feedback about what the mistake is that is preventing a compile from happening.

Before starting, put all the files for the Campaign into a single directory. The Core Units File doesn't have to be in the same directory, though it does help keep things tidy. Once this is done, do the following things in this order:

1. Enter the Editor
2. Load the Core Units File
3. Click on the Editor selection popup menu and choose "Make Campaign"
4. A dialog comes up that gives some reminders of what is about to happen.
5. When you click on Make Campaign, an Open Dialog comes up and asks for the Campaign Script File
6. Select the Campaign Script File and click "Open".
7. If the Script File contains no errors, a new file, with the .CAM, extension appears in the Campaigns directory. The file name is taken from the currently open scenario, which should be the Core Units File.

Note: if there are errors, a dialog pops up and says what the problem is. Simply make the correction needed and repeat the steps above. Since CM stops and reports the very first error it detects, each error requires a fix and another compile attempt.

Once a Campaign is successfully compiled, it must be located in the Campaign directory, in the Game Files folder, in order for Combat Mission to offer it as a choice in the Campaign option within the game. Campaign files received from other people also need to go into the Campaign directory in order to be available for play. The size of a Campaign file is directly related to the size of the combined scenario files that are compiled. Therefore, Campaigns tend to be several megabytes in size.

■ CREATING QUICK BATTLES

Any regular scenario can be turned into a Quick Battle Map. In order to be picked for a Quick Battle, the .btt file needs to be placed in the Quick Battle Maps folder in the game directory. Theoretically you can simply copy an existing scenario into that folder and see what happens. Unused settings or features (such as any units on the map) are simply ignored. Practically, there are a number of additional points to consider when copying maps or when creating them from scratch.

■ SETUP ZONES

Quick Battle Maps **MUST** have valid Setup Zones for Axis and Allied sides. Without valid Setup Zones units of both sides will probably end up right on top of each other. Not fun!

■ AI PLANS

Quick Battle Maps **MUST** have an AI plan for **BOTH** sides. You can use more than one plan and you can use as many groups in each plan as you like. The AI player will randomly assign units into groups.

Note: Since nobody knows which units will be taking part in a given Quick Battle, it makes sense to create AI plans in a much more generic way than for regular scenarios.

■ VICTORY CONDITIONS

Only terrain objectives are considered for determining victory conditions in a QB. All other objective types and parameters are ignored. All terrain objectives are converted to OCCUPY objectives automatically. The code automatically adds an enemy-casualty threshold victory goal for each side, which is lowest for meeting engagements, and highest for assaults.

■ AXIS AND ALLIED

Sides are interchangeable in QBs. An Axis Attack scenario can be picked for an Allied attack QB, and the game will automatically switch sides for the players.

■ UNITS ON THE MAP

Any units placed on a QB map are simply ignored and deleted, and will not appear in the QB.

■ TERRAIN

The type of terrain you set for a map determines when it will be available for a QB. If a player wants to play a city map QB, only maps defined as city maps will be available for him.

■ BATTLE TYPE

Probe, Attack and Assault maps are selected when either of these options is selected for a QB. Meeting Engagement maps are only selected when the player chooses to play a Meeting Engagement scenario.

Note: Assault maps automatically provide a certain level of intel to the attacking player about the defender's positions (as one would realistically expect).

■ MODS

Note: Mod Tools are only available for the PC version at this time.

Two Mod Tools (RezExplode and RezPack) are included in the Mod Tools directory. Both programs work with ".brz" files, which are "packed" data files containing the individual sounds and graphics used by Combat Mission. For simplicity, we'll refer to the contents of a ".brz" file - the sounds and graphics - as "resources". These contents are not normally visible, but can be extracted using RezExplode.

RezExplode takes a ".brz" file and "explodes" it into its individual resources (for example, ".wav" files for sounds and ".bmp" for graphics). These individual resources can then be edited or replaced by you.

RezPack takes the resources that you have modded, and "packs" them back into a single ".brz" file. This is not only convenient, but allows users to (de)activate a "mod pack" easily by moving a single ".brz" file into or out of the CM:BN "Data" folder.

Inside the main Combat Mission Battle for Normandy folder is a folder called "Data". Here is where all the sounds and graphics for the game are stored. You'll see files with names like "Version 100.brz", "Version 101.brz" and possibly others. To mod CM:BN, you'll use RezExplode to access the contents (resources) of the ".brz" files that ship with the game (like "Version 100.brz"), then edit the ones you want, and then use RezPack to recombine your modded versions of the sounds and graphics into a new ".brz" file that you will name.

■ LOADING ORDER

When Combat Mission starts up, it loads all the .brz files it finds in the Data folder. However, it is possible that a given sound or graphic (say, "tank texture.bmp") might be contained in more than one .brz file, and the two files might be different despite having the same name.

Combat Mission has a method to ensure that the "latest" version of a sound or graphic is always the one used by the game: the .brz file name that is LATER in alphabetical order is given priority. For example, if "tank texture.jpg" is contained in both "A.brz" and "B.brz", the version contained in "B.brz" will be used, and the one inside "A.brz" will be ignored. Similarly, "Version 101.brz" takes priority over "Version 100.brz" because it comes later alphabetically.

As you explode the .brz files that come with the game, you'll notice some duplicates of various texture graphics and such. The reverse-alphabetical loading order allows later-version .brz files to take priority over the earlier ones. This is important because you want to make sure that your mods get priority over the sounds and graphics that ship with the game. See below for further details.

■ REZEXPLODE

To access the contents of a .brz file, COPY it into the "input" folder inside the RezExplode folder. Now run RezExplode by double-clicking it.

There is no user interface. Just wait a few moments until an "exploded" folder appears. Inside there you'll find the contents of the .brz file you just exploded. The files inside the "exploded" folder are the ones you'll want to consider modding, and later repacking using RezPack.

■ REPACK

When you have finished modding the sounds or graphics you want, you can package them back up as a new .brz file. Copy your modded files into the "input" folder inside the RezPack folder. It is OK to copy nested folders here - RezPack will dig down into the folder hierarchy to find all your modded files.

Run RezPack. There is no user interface. Wait a few moments until a "packed.brz" file appears. You should rename this file as you wish. It is ready to be moved into Combat Mission's "Data" folder (see section below for details).

RezPack also creates a file called "log.txt" or "log error.txt". Inside this file you'll see some useful information. If the file is called "log error.txt", it means that you accidentally packed two or more resource files with the same name (inside different nested folders) and the log file will list these "conflicts" at the top of the file. You will likely want to remove all but one of the conflicting files and run RezPack again. Also contained in the log.txt file is a list of all the resource files you packed, and the nested folder hierarchy (if any) they came from.

■ MODS IN ACTION

Now that you have created your mods as .brz file(s), it is time to see them work inside Combat Mission. Here is the easiest way to be sure that your mod files get loading priority over the files that ship standard with Combat Mission.

First, note that any enclosing folder names are included with file names in the alphabetical priority comparison for loading. Now go inside the Data folder and create a new folder called "Z". Because "Z" comes after the names of the standard game files ("Version XXX") you are guaranteed that any mods you put into the "Z" folder will be loaded and used by Combat Mission.

Second, note that among the .brz mod files you create and put into this "Z" folder, the alphabetical rule still applies within that folder. So if you have "MyMod1.brz" and "MyMod2.brz" files both inside the "Z" folder, data from "MyMod2.brz" will take priority over "MyMod1.brz" for any duplicate contents.

You may also place single *non-brz* files into the Data folder (such as individual WAV or BMP files). Combat Mission can recognize individual BMP or WAV files even when not packed into a BRZ file. This is not recommended when creating a "mod pack" for use by others because dozens or hundreds of individual files are difficult to manage, but it can be useful while you are creating your mod, and want to test out small edits. Individual files are given loading priority over ALL .brz files regardless of how they are named.

■ IMPORTANT

Don't remove the "Version XXX.brz" files from the Data folder. The loading-priority system will ensure that your mods are used when present.

Don't monkey with the contents of Combat Mission's Data folder while Combat Mission is running. To get a "clean" reload of mods, quit Combat Mission, move the .brz files around as you wish, then restart Combat Mission.

Mods you create and pack as .brz files do NOT have to replace (or include) all the contents of whatever .brz files you originally "exploded". You should RezPack ONLY the resources you modded, and Combat Mission will locate the others in their original .brz files.

Please note that while you are invited and encouraged to make and distribute mods for CM:BN so other players can enjoy them, the selling of mods or including them in compilations which are then sold is prohibited by the End User License Agreement.

A good place to share your mods is our Battlefront.com Repository at www.battlefront.com/repository

ENCYCLOPEDIA

The following section is a quick reference for the main vehicles and weapon systems available in the game. It is by no means exhaustive and should be seen as a starting point for research; interested players will find countless and more detailed materials available in printed and online media.

UNITED STATES ARMY

TANKS

M5A1 LIGHT TANK (w/RHINO)

The M5 Light tank is a derivative of the M3 light tank, an American light tank supplied to British and Commonwealth forces under lend-lease prior to the entry of the USA into the war. The British called this tank the "Stuart".

The M5A1 features Twin Cadillac engines, a welded hull with sloped armor on the front – 20 degrees in from the vertical – a raised engine deck, and a turret with rear overhang to house the radio; this was the major variant in US light tanks by 1943.

Armor 13–51 mm

Rhino attachments available July 1944

| Asst | | Gunner | | Driver | | AMMO | | DAMAGE | | DEFENSES | |
|------------|--|--------------|--|------------------|--|-----------|-----|--------------|--------------------------|----------|--|
| ○○○○ | | ○○○○ | | ○○○○ | | 37mm HE | 103 | 37mm Main | <input type="checkbox"/> | +++++ | |
| | | | | | | 37mm AP | 44 | 7.62mm Coax | <input type="checkbox"/> | ○○○○○ | |
| | | | | | | .30cal M2 | >6k | 7.62mm MG | <input type="checkbox"/> | ×○○×× | |
| | | | | | | | | 7.62mm MG | <input type="checkbox"/> | ○××○ | |
| | | | | | | | | Gyrostab. | <input type="checkbox"/> | ■■■■ | |
| | | | | | | | | Radio | <input type="checkbox"/> | | |
| | | | | | | | | Engine | <input type="checkbox"/> | | |
| | | | | | | | | Wpn Controls | <input type="checkbox"/> | | |
| | | | | | | | | Optics | <input type="checkbox"/> | | |
| Light Tank | | 37mm L/54 MG | | Weight 15.7 tons | | | | | | | |
| | | | | Speed ■■■ | | | | | | | |
| | | | | Power ■■■■ | | | | | | | |
| | | | | Off-Road ■■■ | | | | | | | |
| | | | | Turning ■■■ | | | | | | | |

M4 SHERMAN (Mid)

The M4 Sherman, formally Medium Tank, M4, was the primary tank used by the United States during World War II. The designers stressed mechanical reliability, ease of production and maintenance, durability, standardization of parts and ammunition, and moderate size and weight.

The Sherman's reliability benefited from many features first developed in U.S. light tanks during the 1930s, including vertical volute spring suspension, rubber-bushed tracks, and rear-mounted radial engine with drive sprockets in front. The designated goals were to produce a fast, dependable medium tank able to support infantry, provide breakthrough striking capacity, and defeat any tank then in use by the Axis nations, though it would later fall short against the much larger tanks eventually deployed by Germany.

Roughly 50,000 Sherman tanks were produced during World War Two, in a number of variants which were then modified further during production or even in the field. The main variants do not necessarily indicate linear improvement - the M4A3 is not necessarily meant to be better than the M4A1. These sub-types indicate standardized production variations, with the main difference being the engines or hull. The main features of the M4 mid-production Sherman are:

- 75mm main gun with 97 rounds.
- Power turret traverse.
- Gyrostabilizer.
-50cal AAMG can rotate 360° around commander's hatch.
- 400hp engine.
- 24mph top speed.
- Split hatch for commander.
- No hatch for loader.
- Roof-mounted smoke mortar with 12 smoke bombs.
- Overall manufacturing quality of armor is mediocre.
- Glacis plate (upper front hull armor) is 50.8mm thick, angled at 56°.
- Nose armor (lower front hull) is rounded and 50.8mm thick.



■ M4 SHERMAN (LATE) (w/RHINO)

The M4 late is like the M4 mid except:

- Overall manufacturing quality of armor improves to fair.
- Nose armor (lower front hull) is conventionally sloped.

Rhino attachments available July 1944



■ M4(105) (EARLY) SHERMAN (w/RHINO)

The M4(105) early is like the M4 late except:

- 105mm main gun with 66 rounds.
- Manual turret traverse.
- No gyrostabilizer.
- 460hp engine.
- Has simple loader's hatch.
- Overall manufacturing quality of armor is normal.
- Glacis plate (upper front hull armor) is 63.5mm thick, angled at 47°.
- Nose armor (lower front hull) is up to 101.6mm thick.

Rhino attachments available July 1944



■ M4(105) (MID) SHERMAN

The M4(105) mid is like the M4(105) early except:

-50cal AAMG is moved to a fixed pintle mount at center-rear of turret.
- Commander's cupola replaces simple split-hatch.
- Adds gyrostabilizer for main gun.

Available July 1944

| | | | | | | |
|---|---|--|--|---|---|---|
| Commander Gunner Loader Driver |  Assault Gun 105mm L/23 M4 |  | AMMO 105mm HE 51 105mm HEAT 5 105mm Smoke 10 12.7mm AP 600 .30cal M2 >4k | DAMAGE 105mm Main <input type="checkbox"/> 12.7mm MG <input type="checkbox"/> 7.62mm Coax <input type="checkbox"/> 7.62mm MG <input type="checkbox"/> Gyrostab. <input type="checkbox"/> Smoke Mortar <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> | DEFENSES   | |
| | | | | | | Weight 31.5 tons Speed <input type="checkbox"/> Power <input type="checkbox"/> Off-Road <input type="checkbox"/> Turning <input type="checkbox"/> |

■ M4A1 SHERMAN (MID)

The M4A1 mid is like the M4 mid except:

- 90 rounds of 75mm main gun ammo.
- Distinctive "rounded" look due to cast (not rolled) armor.

| | | | | | | |
|---|--|---|---|--|---|---|
| Commander Gunner Loader Driver |  Medium Tank 75mm L/40 M3 |  | AMMO 75mm HE 49 75mm AP 39 75mm Smoke 9 12.7mm AP 300 .30cal M2 >4k | DAMAGE 75mm Main <input type="checkbox"/> 12.7mm MG <input type="checkbox"/> 7.62mm Coax <input type="checkbox"/> 7.62mm MG <input type="checkbox"/> Gyrostab. <input type="checkbox"/> Smoke Mortar <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> | DEFENSES   | |
| | | | | | | Weight 30.3 tons Speed <input type="checkbox"/> Power <input type="checkbox"/> Off-Road <input type="checkbox"/> Turning <input type="checkbox"/> |

■ M4A1 SHERMAN (LATE) (w/RHINO)

The M4A1 late is like the M4A1 mid except:

- Overall manufacturing quality of armor improves to fair.
- Nose armor (lower front hull) is conventionally sloped.
- Overall manufacturing quality of armor improves to fair.
- Nose armor (lower front hull) is conventionally sloped.

Rhino attachments available July 1944

| | | | | | | |
|------------------------------------|---|--|---|--|---|---|
| Asst Gunner Loader Driver |  Medium Tank 75mm L/40 M3 |  | AMMO 75mm HE 46 75mm AP 36 75mm Smoke 8 12.7mm AP 300 .30cal M2 >4k | DAMAGE 75mm Main <input type="checkbox"/> 12.7mm MG <input type="checkbox"/> 7.62mm Coax <input type="checkbox"/> 7.62mm MG <input type="checkbox"/> Gyrostab. <input type="checkbox"/> Smoke Mortar <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> | DEFENSES   | |
| | | | | | | Weight 30.3 tons Speed <input type="checkbox"/> Power <input type="checkbox"/> Off-Road <input type="checkbox"/> Turning <input type="checkbox"/> |

■ M4A1(76W) (EARLY) SHERMAN

The M4A1(76W) early is like M4A1 late except:

- 76mm main gun with 71 rounds.
- 460 hp engine.
- "Wet" ammo stowage reduces chance of internal fires.
-50cal AAMG mounted around loader's hatch.
- Commander's cupola replaces simple split-hatch.
- Has split loader's hatch.
- Overall manufacturing quality of armor is normal.
- Glacis plate (upper front hull armor) is 63.5mm thick, angled at 47°.
- Nose armor (lower front hull) is up to 101.6mm thick.

| Commander | | Gunner | | Loader | | Driver | | AMMO | | | DAMAGE | | | DEFENSES | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--|----------------|--|------------------|--|--------|--|---------|----|-----------|--------------------------|---------|--|----------|-----------|--------------------------|-------------|--|--------------------------|-----------|--|--------------------------|-----------|--|--------------------------|--------------|--|--------------------------|-------|--|--------------------------|--------|--|--------------------------|--------------|--|--------------------------|
| Medium Tank | | 76mm L/52 M1A2 | | Weight 32.0 tons | | Speed | | 76mm HE | 39 | 76mm Main | <input type="checkbox"/> | 76mm AP | | 28 | 12.7mm MG | <input type="checkbox"/> | 7.62mm Coax | | <input type="checkbox"/> | 7.62mm MG | | <input type="checkbox"/> | Gyrostab. | | <input type="checkbox"/> | Smoke Mortar | | <input type="checkbox"/> | Radio | | <input type="checkbox"/> | Engine | | <input type="checkbox"/> | Wpn Controls | | <input type="checkbox"/> |
| Power | | Off-Road | | Turning | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

■ M4A3 SHERMAN (w/RHINO)

The M4A3 is like the M4 mid except:

- 500hp engine.
- 26mph top speed.

Rhino attachments available July 1944

| Commander | | Gunner | | Loader | | Driver | | AMMO | | | DAMAGE | | | DEFENSES | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--|--------------|--|------------------|--|--------|--|---------|----|-----------|--------------------------|---------|--|----------|-----------|--------------------------|-------------|--|--------------------------|-----------|--|--------------------------|-----------|--|--------------------------|--------------|--|--------------------------|-------|--|--------------------------|--------|--|--------------------------|--------------|--|--------------------------|
| Medium Tank | | 75mm L/40 M3 | | Weight 30.3 tons | | Speed | | 75mm HE | 49 | 75mm Main | <input type="checkbox"/> | 75mm AP | | 39 | 12.7mm MG | <input type="checkbox"/> | 7.62mm Coax | | <input type="checkbox"/> | 7.62mm MG | | <input type="checkbox"/> | Gyrostab. | | <input type="checkbox"/> | Smoke Mortar | | <input type="checkbox"/> | Radio | | <input type="checkbox"/> | Engine | | <input type="checkbox"/> | Wpn Controls | | <input type="checkbox"/> |
| Power | | Off-Road | | Turning | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

■ M4A3(75W) (EARLY) SHERMAN (w/RHINO)

The M4A3(75W) early is like the M4A3 except:

- 104 rounds of 75mm main gun ammo.
- "Wet" ammo stowage reduces chance of internal fires.
- Has simple loader's hatch.
- Overall manufacturing quality of armor is normal.
- Glacis plate (upper front hull armor) is 63.5mm thick, angled at 47°.
- Nose armor (lower front hull) is up to 101.6mm thick.
- 18 smoke bombs.

Rhino attachments available July 1944

| Commander | | Gunner | | Loader | | Driver | | AMMO | | | DAMAGE | | | DEFENSES | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--|--------------|--|------------------|--|--------|--|---------|----|-----------|--------------------------|---------|--|----------|-----------|--------------------------|-------------|--|--------------------------|-----------|--|--------------------------|-----------|--|--------------------------|--------------|--|--------------------------|-------|--|--------------------------|--------|--|--------------------------|--------------|--|--------------------------|
| Medium Tank | | 75mm L/40 M3 | | Weight 31.6 tons | | Speed | | 75mm HE | 53 | 75mm Main | <input type="checkbox"/> | 75mm AP | | 42 | 12.7mm MG | <input type="checkbox"/> | 7.62mm Coax | | <input type="checkbox"/> | 7.62mm MG | | <input type="checkbox"/> | Gyrostab. | | <input type="checkbox"/> | Smoke Mortar | | <input type="checkbox"/> | Radio | | <input type="checkbox"/> | Engine | | <input type="checkbox"/> | Wpn Controls | | <input type="checkbox"/> |
| Power | | Off-Road | | Turning | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

■ M4A3(75W) (MID) SHERMAN

The M4A3(75W) mid is like the M4A3(75W) early except:

-50cal AAMG is moved to a fixed pintle mount at center-rear of turret.
- Commander's cupola replaces simple split-hatch.

Available July 1944



■ M4A3(76W) (EARLY) SHERMAN

The M4A3(76)W early is like M4A1(76)W early except:

- Has standard shape, not the "rounded" look of M4A1 cast armor.
- 500hp engine.
- 26mph top speed.
- 18 smoke bombs.



■ M4A3(105) (EARLY) SHERMAN (w/RHINO)

The M4A3(105) early is like M4(105) early except:

- 500hp engine.
- 26mph top speed.
- 15 smoke bombs.

Rhino attachments available July 1944



■ M4A3(105) (MID) SHERMAN

The M4A3(105) mid is like the M4A3(105) early except:

-50cal AAMG is moved to a fixed pintle mount at center-rear of turret.
- Commander's cupola replaces simple split-hatch.
- Adds gyrostabilizer for main gun.

Available July 1944

| | | | | | |
|---|---|---|--|---|--|
| Commander Gunner Loader Driver |  Assault Gun 105mm L/23 M4 |     | AMMO 105mm HE 51 105mm HEAT 5 105mm Smoke 10 12.7mm AP 600 .30cal M2 >4k | DAMAGE 105mm Main <input type="checkbox"/> 12.7mm MG <input type="checkbox"/> 7.62mm Coax <input type="checkbox"/> 7.62mm MG <input type="checkbox"/> Gyrostab. <input type="checkbox"/> Smoke Mortar <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> | DEFENSES +++++ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | | | | |

■ TANK DESTROYERS

■ M10 GMC TANK DESTROYER (w/RHINO)

The M10 tank destroyer, formally, 3-inch Gun Motor Carriage, M10, is a United States tank destroyer based on the M4 Sherman tank chassis. It was numerically the most important U.S. tank destroyer of World War II and combined a reasonably potent anti-tank weapon with a turreted platform. The M10 turret only had a partial roof over its front third. This allowed better visibility and easier servicing of the weapon at an obvious cost of increased vulnerability.

Despite the introduction of more-powerful replacements, it remained in service until the end of the war.

The British christened it the "Wolverine."

Armor 9 to 57.2 mm (0.3 to 2.3 in)

Rhino attachments available July 1944

| | | | | | |
|---|--|---|--|---|--|
| Commander Gunner Loader Driver |  Tank Destroyer 76mm L/50 M7 |     | AMMO 76mm HE 13 76mm AP 38 76mm Smoke 3 12.7mm AP >1k | DAMAGE 76mm Main <input type="checkbox"/> 12.7mm MG <input type="checkbox"/> Smoke <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> | DEFENSES +++++ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | | | | |

■ M10 GMC TANK DESTROYER (LATE)

In the game, the only difference between this "late" model and the standard version is the ammo load: "late" marks any M10 that is equipped with 2 rounds of hard-to-obtain 76mm M93 HVAP (aka "tungsten") ammunition. This projectile contained a tungsten core penetrator surrounded by a lightweight aluminum body, which gave it a higher velocity and more penetrating power.

Availability August 1944

| | | | | | |
|---|--|---|---|---|--|
| Commander Gunner Loader Driver |  Tank Destroyer 76mm L/50 M7 |     | AMMO 76mm HE 13 76mm AP 36 76mm APCR 2 76mm Smoke 3 12.7mm AP >1k | DAMAGE 76mm Main <input type="checkbox"/> 12.7mm MG <input type="checkbox"/> Smoke <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> | DEFENSES +++++ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | | | | |

■ SELF-PROPELLED ASSAULT GUNS

■ M8 HOWITZER MOTOR CARRIAGE

The 75 mm Howitzer Motor Carriage M8, sometimes known as the M8 Scott, was a self-propelled howitzer vehicle of the United States, developed on the chassis of the Light Tank M5. Its armament consisted of a new open topped turret armed with a 75 mm M2 howitzer (later an 75 mm M3 howitzer) which

were reworks of the M1A1 pack howitzer.

Armor 9.5–44.5 mm (0.37–1.75 in)

| Commander | | Gunner | | Driver | | AMMO | | DAMAGE | | DEFENSES | |
|--------------|--|----------|--|-----------|--|---------------|--|--------------|--|----------|--|
| | | | | | | | | | | | |
| 75mm L/12 M3 | | SPA | | 15.7 tons | | 75mm HE 38 | | 75mm Main | | +++++ | |
| Weight | | Speed | | Power | | 75mm HEAT 4 | | 12.7mm MG | | ○○○○○ | |
| Speed | | Power | | Off-Road | | 75mm WP 4 | | Radio | | ×○○○ | |
| Power | | Off-Road | | Turning | | 12.7mm AP 400 | | Engine | | ○××× | |
| Off-Road | | Turning | | | | | | Wpn Controls | | ■●×× | |
| Turning | | | | | | | | Optics | | ■●×× | |
| | | | | | | | | Tracks | | ■●×× | |

■ M7B1 HMC PRIEST

The 105 mm Howitzer Motor Carriage M7 was an American self-propelled artillery vehicle with the official service name 105 mm Self Propelled Gun. The British Army called it the "Priest" due to the pulpit-like machine gun ring.

The first M7s produced were modified M3 Lee medium tanks, but went through a fairly rapid shift from being based on the M3, to having more commonality with the M4 Sherman. The first major example was an adoption of the M4's three piece housing, single piece casting and suspension. Later, the M7B1 was fully based on the M4A3 Sherman chassis. It was standardized in September 1943.

Armor 51 mm (2 in)

| Gunner | | Ldr | | Loader | | Driver | | AMMO | | DAMAGE | | DEFENSES | |
|-----------------|--|----------|--|-----------|--|----------------|--|--------------|--|--------|--|----------|--|
| | | | | | | | | | | | | | |
| 105mm L/23 M2A1 | | SPA | | 23.0 tons | | 105mm HE 56 | | 105mm Main | | +++++ | | ○○○○○ | |
| Weight | | Speed | | Power | | 105mm HEAT 3 | | 12.7mm MG | | ○○○○○ | | ○○○○○ | |
| Speed | | Power | | Off-Road | | 105mm Smoke 10 | | Engine | | ○○○○○ | | ○○○○○ | |
| Power | | Off-Road | | Turning | | 12.7mm AP 300 | | Wpn Controls | | ○○○○○ | | ○○○○○ | |
| Off-Road | | Turning | | | | | | Optics | | ○○○○○ | | ○○○○○ | |
| Turning | | | | | | | | Tracks | | ○○○○○ | | ○○○○○ | |

■ ARMORED CARS

■ M8 ARMORED CAR (EARLY)

The M8 Light Armored Car is a 6x6 armored car and was produced by the Ford Motor Company during the Second World War. Dubbed the "Greyhound" by the British, the M8 entered service in 1943. It was designed to serve as the primary basic command and communication combat vehicle of the U.S. Cavalry Reconnaissance Troops. The M8 Greyhound could virtually go anywhere, making it a great support element for advancing American and British armored columns.

Armor up to 19 mm[1] (3/4 inch)

| Commander | | Gunner | | Driver | | AMMO | | DAMAGE | | DEFENSES | |
|-------------------|--|--------------|--|----------|--|---------------|--|--------------|--|----------|--|
| | | | | | | | | | | | |
| Light Armored Car | | 37mm L/54 M6 | | 7.9 tons | | 37mm HE 50 | | 37mm Main | | +++++ | |
| Weight | | Speed | | Power | | 37mm AP 30 | | 7.62mm Coax | | ○○○○○ | |
| Speed | | Power | | Off-Road | | .30cal M2 500 | | Smoke | | ○○○○○ | |
| Power | | Off-Road | | Turning | | | | Radio | | ×××× | |
| Off-Road | | Turning | | | | | | Engine | | ○○○○○ | |
| Turning | | | | | | | | Wpn Controls | | ○○○○○ | |
| | | | | | | | | Optics | | ○○○○○ | |
| | | | | | | | | Wheels | | ○○○○○ | |

■ M8 ARMORED CAR (MID)

The later model of the M8 Light Armored Car with modified suspension.

| | | | | |
|--|---|---|--|--|
|  <p>Gunner ASst Driver</p> |  Light Armored Car 37mm L/54 M6 |  AMMO 37mm HE 50 37mm AP 30 12.7mm AP 400 .30cal M2 500 |  DAMAGE 37mm Main 12.7mm MG 7.62mm Coax Smoke Radio Engine Wpn Controls Optics Wheels |  DEFENSES + + + + + ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ × × × × × ■ ○ ○ × |
| | | | | |

■ M20 SCOUT CAR

The M20 Armored Utility Car, also known as the M20 Scout Car, was an M8 Light Armored Car ("Greyhound") with the turret replaced by a low, armored open-topped superstructure and an AA ring mount for a .50 caliber M2 heavy machinegun. The M20 was primarily used as a command vehicle and for forward reconnaissance, but many also served as APCs and cargo carriers. It offered high speed and excellent mobility along with a degree of protection against small arms fire and shrapnel. When employed in the command role, the M20 had additional radio equipment.

Armor up to 19 mm (3/4 inch)

| | | | | |
|---|--|---|---|---|
|  <p>Driver</p> |  Armored Utility Car 12.7mm M2HB |  AMMO 12.7mm AP >1k |  DAMAGE 12.7mm MG Smoke Radio Engine Wpn Controls Optics Wheels |  DEFENSES + + + + + ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ × × × × × ■ ○ ○ × |
| | | | | |

■ HALFTRACKS

■ M2A1 HALFTRACK

A White halftrack with the White 160AX engine. Fitted with a skate rail mount, featuring an M2HB machine gun on an improved M49 machine gun ring mount over the right hand front seat. Up to three fixed pintle mounts for 0.30 machine guns were often fitted in the field.

Armor 6 - 12 mm

| | | | | |
|---|--|--|---|---|
|  <p>Driver</p> |  Halftrack 12.7mm M2HB |  AMMO 12.7mm AP 100 .30cal M2 250 60mm HEAT 4 12.7mm AP 600 .30cal M1 500 .30cal M2 >7k |  DAMAGE 12.7mm MG 7.62mm MG Radio Engine Wheels |  DEFENSES + + + + + ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ × × × × |
| | | | | |

■ M3 HALFTRACK

M3 - White Halftrack with White 386 cu in (6,330 cc) 160AX engine. Fitted with either an M32 anti-aircraft machine gun mount or a pedestal mount. In the game, you will find both M2HB machine guns as well as M1919A4 MGs mounted on these.

Armor 6 - 12 mm



■ M3A1 HALFTRACK

Any vehicle with the improved M49 machine gun ring mount over the right hand front seat was designated as M3A1. Between 1942 and 1943, all M3 Halftracks (standard and A1s) were continually upgraded. These improvements included a number of drive train, engine, and stowage improvements. In the game you will find halftracks with 1 or 2 MGs mounted.

Armor 6 - 12 mm



■ M4A1 MORTAR HALFTRACK

An M2 Halftrack based Motor Mortar Carriage equipped with the M1 mortar (81 mm). The mortar was intended to be fired dismounted from the vehicle, but could be fired to the rear in an emergency from a base inside the vehicle. The A1 allowed the mortar to be fixed facing forward and to be fired from within the vehicle. Features a M1919 .30 caliber Light Machine Gun mounted on a 360° skate rail.

Armor 6 - 12 mm

Note: firing the mortar from within the M4A1 or M21 halftracks is currently not allowed in CM:BN



■ M21 MORTAR HALFTRACK

With the basic dissatisfaction of the M4 series of Mortar Motor Carriages, the Ordnance Department issued a requirement in 1943 to mate the M1, 81mm Mortar to the M3 series of Halftrack personnel carriers that were then currently in production. Finally, a pedestal mounted .50 caliber M2 Heavy Machine Gun replaced the M1919 .30 caliber Light Machine Gun.

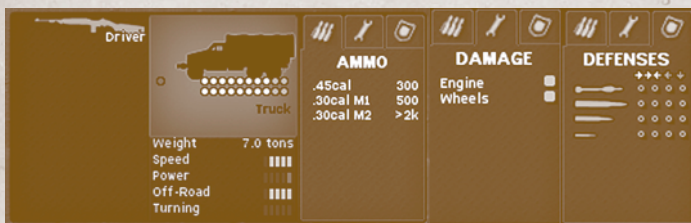
Armor 6 - 12 mm



■ UNARMORED VEHICLES

■ 2.5 TONS 6X6 CARGO TRUCK

This vehicle represents the typical 2½ ton 6X6 U.S. Army cargo truck that saw service in World War II. Often referred to as a "Deuce and a Half", a term which was applied to all 2½ ton cargo trucks during the war. In the game you will find open top versions as well as those fitted with a canvas top and sides.



■ 1/4 TON 4X4 TRUCK "JEEP"

The Willys MB US Army Jeep (formally the Truck, 1/4 ton, 4x4) and the Ford GPW were manufactured from 1941 to 1945. The small four-wheel drive utility vehicles are considered the iconic World War II Jeep, and inspired many similar light utility vehicles.

In the game, you will find several variants, with or without radios, as well as with and without mounted medium machineguns.



■ U.S. AIR ASSETS

■ P-51B MUSTANG FIGHTER BOMBER

The North American Aviation P-51 Mustang was a long-range single-seat fighter aircraft. As well as being economical to produce, the Mustang was a fast, well-made, and highly durable aircraft.

Configurations: *Strafe, Light*

| | |
|---|---|
|  |  |
| P-51B Mustang | P-51B Mustang |
| Fighter Bomber | Fighter Bomber |
| .50cal AP-I | 1260 |
| ANM-64 238kg bomb 2 | |

■ P-51D MUSTANG FIGHTER BOMBER

The definitive version of the P-51, the P-51D, was powered by the Packard V-1650, a two-stage two-speed supercharged version of the legendary Rolls-Royce Merlin engine, and was armed with six .50 caliber (12.7 mm) M2 Browning machine guns.

Configurations: *Strafe, Light, Heavy, Light Rockets;*

..... *available in July 1944: Maximum, Rockets*

| | | | |
|---|---|---|---|
|  |  |  |  |
| P-51D Mustang | P-51D Mustang | P-51D Mustang | P-51D Mustang |
| Fighter Bomber | Fighter Bomber | Fighter Bomber | Fighter Bomber |
| .50cal AP-I | 1880 | .50cal AP-I | 1880 |
| ANM-64 238kg bomb | | 2 ANM-44 439kg bomb 2 | |
| .50cal AP-I | | 1880 | |
| 5 in. rocket HVAR | | 10 | |

■ P-47D THUNDERBOLT FIGHTER BOMBER

Republic Aviation's P-47 Thunderbolt, also known as the "Jug", was the largest, heaviest, and most expensive single reciprocating engine fighter aircraft in history. It was one of the main United States Army Air Forces (USAAF) fighters of World War II. The P-47 was very effective in air combat but proved especially adept at ground attack. It had eight .50-caliber machine guns, four per wing. When fully loaded the P-47 could weigh up to eight tons.

Configurations: *Strafe, Light, Heavy, Rockets (available July 1944)*

| | | | |
|---|---|---|---|
|  |  |  |  |
| P-47D Thunderbolt | P-47D Thunderbolt | P-47D Thunderbolt | P-47D Thunderbolt |
| Fighter Bomber | Fighter Bomber | Fighter Bomber | Fighter Bomber |
| .50cal AP-I | 3400 | .50cal AP-I | 2400 |
| ANM-64 238kg bomb | | 2 ANM-44 439kg bomb | |
| .50cal AP-I | | 3400 | |
| 24.5 in. rocket M8 HE | | 6 | |

| | |
|---|---|
|  |  |
| P-47D Thunderbolt | P-47D Thunderbolt |
| Fighter Bomber | Fighter Bomber |
| .50cal AP-I | 2400 |
| ANM-64 238kg bomb | 15 in. rocket HVAR 10 |
| ANM-44 439kg bomb | 2 |

■ U.S. ARTILLERY ASSETS

Note: the 60mm M2 and 81mm M1 mortars are explained under "Heavy Weapons"

M2 4.2 INCH MORTAR

The M2 4.2 inch Mortar was a U.S. rifled 4.2-inch (107-mm) mortar used during the Second World War and the Korean War. It entered service in 1943.

Rate of fire 5 rpm for 20 minutes

..... 1 rpm indefinitely



M1A1 75MM PACK HOWITZER

The 75mm Pack Howitzer M1 was designed in the United States in 1920s to meet a need for an artillery piece that could be moved across difficult terrain. The gun and carriage was designed so that it could be broken down into several pieces to be carried by pack animals.

Rate of fire 3-6 rounds per minute



M2A1 105MM HOWITZER

The 105 mm M2A1 howitzer was the standard light field howitzer for the United States in WWII.

M3 105MM HOWITZER

The 105 mm Howitzer M3 was a U.S. light howitzer designed for use by airborne troops. The gun utilized the barrel of the 105 mm Howitzer M2, shortened and fitted to a slightly modified split trail carriage of the 75 mm pack howitzer.

Rate of fire 4 rounds per minute burst

..... 2 rounds per minute sustained



M1 4.5 INCH GUN

The 4.5 inch Gun M1 was a field gun developed in the United States in the beginning of World War II. It shared the same carriage with the 155mm Howitzer M1 and fired the same ammunition as the British BL 4.5 inch Medium Field Gun.

Rate of fire burst: 4 rounds per minute

..... sustained: 1 round per minute



M1 155MM HOWITZER

The 155 mm Howitzer M1 was a towed howitzer used by the United States Army. It was first produced in 1942 as a medium artillery piece.

Rate of fire burst: 4 rounds per minute

..... sustained: 40 rounds per hour

M1A1 155MM GUN "LONG TOM"

The 155 mm Gun M1, widely known as Long Tom, was a 155 millimeter calibre field gun used by the United States armed forces during World War II and the Korean War.

The M1A1 (1941) variant featured a modified breech ring.

Rate of fire 40 rounds per hour



M1 8 INCH GUN

The 8 inch Gun M-1 was a 203 mm towed heavy gun developed in the United States.

M1 8 INCH HOWITZER

The M1 203 mm howitzer was a towed howitzer used by the United States Army.

Originally designated the 8 inch Howitzer M1, it was designed during the buildup to World War II as a counterpart to the German 17 cm K 18 gun.

Rate of fire 30 rounds/hour



M1 240MM HOWITZER

The 240 mm howitzer M1, popularly nicknamed the "Black Dragon", was a towed howitzer used by the United States Army. The 240 mm M1 was designed to replace the World War One era 240 mm Howitzer M1918 which was outdated by World War Two. The 240 mm howitzer was the most powerful weapon deployed by US field artillery units during World War II, able to fire a 360 lb (160 kg) high explosive projectile 25,225 yards (23 km). It was the largest field piece used by the US Army during the war except for naval ordnance adapted into railway guns. The weapon addressed the requirement for super heavy field artillery capable of attacking heavily reinforced targets.

Rate of fire 30 rounds/hour



T27 XYLOPHONE ROCKET

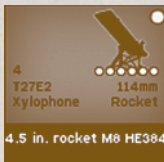
The T27 was the first multiple rocket launcher used in combat by the US Army.

It consisted of eight launching tubes for 4.5-Inch M8 rockets, assembled side by side. It was intended to be installed behind a heavy 2.5 ton truck.



T27E2 XYLOPHONE ROCKET

Development of the Xylophone with 24 rocket-launching tubes instead of eight. Surnamed "Honeycomb", it replaced the original T27 towards the end of the war



T34 CALLIOPE

The Rocket Launcher T34 (Calliope) was a tank-mounted multiple rocket launcher used by the United States Army during World War II. The launcher was placed atop an M4 Sherman Medium Tank, and fired a barrage of 4.5 in (114 mm) rockets from 60 launch tubes. It was developed in 1943; small numbers were produced and were used by various US armor units in 1944-45. It adopts its name from the musical instrument "Calliope".

Availability August 1944



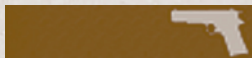
■ NAVAL GUNS

A number of heavy naval guns are available for support of the US forces in the game, representing various ships close to the coast: 5 inch Destroyer, 6 inch Light Cruiser, 8 inch Heavy Cruiser, 12 inch Battleship; available only in June 1944: 14 inch Battleship



■ U.S. WEAPONS

■ M1911A1 .45 CAL



The Automatic Pistol, Caliber .45, M1911A1 is a single-action, semi-automatic, magazine-fed, and recoil-operated handgun chambered for the .45 ACP cartridge. John M. Browning designed the firearm which was the standard-issue side arm for the United States armed forces during WWII. The M1911A1 features a few minor changes over the original M1911 model of WWI.

Cartridge *.45 ACP*

Feed system *7-round standard detachable box magazine*

■ M1 CARBINE



The United States Carbine, Caliber .30, M1 is a lightweight semi-automatic carbine. With its reduced-power .30 cartridge, it was not originally intended to serve as a primary weapon for combat infantrymen, nor was it comparable to more powerful assault rifles developed late in the war. Nevertheless, the carbine was soon widely issued to infantry officers, and the American paratroopers, NCOs, ammunition bearers, forward artillery observers, and other frontline troops. Its reputation in front-line combat was mixed. Some soldiers and Marines, especially those unable to use a full-size rifle as their primary weapon, preferred the carbine due to its small size and light weight.

Cartridge *.30 Carbine*

Feed system *15 or 30-round detachable box magazine*

■ M1A1 CARBINE



This is the Paratrooper model of the M1 Carbine with a folding stock and 15-round magazine.

■ M1 GARAND



The United States Rifle, Caliber .30, M1 was the first semi-automatic rifle to be generally issued to the infantry of any nation. The M1 rifle is a gas-operated, semi-automatic, clip-fed rifle. The M1's semiautomatic operation gave United States forces a significant advantage in firepower and shot-to-shot recovery time over individual enemy infantrymen in battle.

Cartridge *.30-06 Springfield (7.62x63mm)*

Effective range *440 yd (402 m)*

Feed system *8-round "en bloc" clip internal magazine*

■ M1 GARAND (w/ M7)



The Rifle Grenade Launcher, M7 was a 22 mm rifle grenade launcher attachment for the M1 Garand rifle.

The M7 was a tube-shaped device, one end slotting over the barrel of the rifle, the other end holding the grenade in place. Blank cartridges were loaded into the rifle prior to firing. When fired, the expanding gases generated by the cartridges propelled the grenade forward with considerable force. The M7 could fire grenades up to 350 metres (375 yards).

Fragmentation, anti-armour and smoke grenades were available for the M7.

■ M1903A1 SPRINGFIELD



The United States Rifle, Caliber .30-06, Model 1903, is an American clip-fed, 5-shot, bolt-action service rifle. It was officially adopted as a United States military bolt-action rifle on June 21, 1905, and saw service in World War I. In 1937, the M1 Garand replaced the Springfield as the standard U.S. infantry rifle; however, due to limited supplies of the M1, the Springfield remained in service throughout World War II as both a standard infantry and a specialized sniper rifle.

M1903A1 (1930-1939)— changed from a straight stock to a pistol grip type stock (Type C stock)

Cartridge *.30-03 Springfield; .30-06 Springfield*

Action *Bolt-action*

Feed system *5-round,*

■ M1A1 THOMPSON

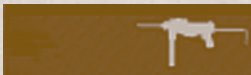


The Thompson is an American submachine gun invented by John T. Thompson. The Thompson was also known informally as the "Tommy Gun". The Thompson was favored by soldiers, criminals, and police alike for its ergonomics, compactness, large .45 ACP cartridge, reliability, and high volume of automatic fire.

In 1938, the U.S. military adopted the Thompson submachine gun. The United States Submachine Gun, Cal. .45, M1A1, could be produced in half the time of the earlier models, and at a much lower cost.

| | |
|------------------------------|------------------------------------|
| <i>Cartridge</i> | <i>.45 ACP (11.43 × 23 mm)</i> |
| <i>Effective range</i> | <i>50 metres (160 ft)</i> |
| <i>Feed system</i> | <i>20-round stick/box magazine</i> |
| ..... | <i>30-round stick/box magazine</i> |
| ..... | <i>50-round drum magazine</i> |

■ M3 GREASE GUN



The M3 was an American .45-caliber submachine gun that entered U.S. Army service on Dec. 12, 1942, as the United States Submachine Gun, Cal. .45, M3 and began to replace the .45-caliber Thompson series submachine guns. The M3 was designed as a more cost-effective alternative to the Thompson, optimized for mass production. The M3 is commonly referred to as the "grease gun", owing to its visual similarity to the common mechanic's tool.

| | |
|------------------------------|--|
| <i>Cartridge</i> | <i>.45 ACP, 9x19mm Parabellum</i> |
| <i>Effective range</i> | <i>Sights set to 100 yards (91 m) (9mm), 50 m[4] (.45 ACP)</i> |
| <i>Feed system</i> | <i>30-round detachable box magazine</i> |

■ M1918 B.A.R.



The Browning Automatic Rifle (BAR) was a family of US automatic rifles (or machine rifles) and light machine guns used by the United States and numerous other countries during the 20th century. The primary variant of the BAR series was the M1918, chambered for the .30-06 Springfield rifle cartridge and designed by John Browning in 1917 for the U.S.

The BAR was designed to be carried by advancing infantrymen, slung over the shoulder and fired from the hip, a concept called "walking fire"—thought to be necessary for the individual soldier during trench warfare. In practice, soldiers often used the BAR as a light machine gun and fired from a bipod (introduced in later models). The original M1918 version was and remains the lightest machine gun to fire the .30-06 Springfield cartridge, though the limited capacity of its standard 20-round magazine tended to hamper its utility in that role.

| | |
|------------------------------|--|
| <i>Cartridge</i> | <i>.30-06 Springfield (7.62x63mm) (M1918, M1922, M1918A1, M1918A2)</i> |
| <i>Effective range</i> | <i>100–1,500 yd sight adjustments</i> |
| <i>Feed system</i> | <i>20-round detachable box magazine</i> |

■ M1919A6 LMG



The M1919A6 was an attempt to make the M1919A4 heavy machinegun into a light machine gun by attaching a buttstock and lighter barrel — 4 lb (1.8 kg) instead of 7 lb (3.2 kg). The A6 version was in fact heavier than the A4 without its tripod, at 32 lb (15 kg), though its bipod made for faster deployment and enabled the machine gun team to dispense with one man (the tripod bearer).

| | |
|------------------------------|---|
| <i>Cartridge</i> | <i>.30-06 Springfield (U.S.)</i> |
| <i>Effective range</i> | <i>1,500 yd (1,370 m) (maximum effective range)</i> |
| <i>Feed system</i> | <i>250-round belt</i> |

■ U.S. HEAVY WEAPONS

■ M1A1 BAZOOKA

"Bazooka" is the common name for the man-portable recoilless rocket antitank weapon widely fielded by the US Army. The bazooka was amongst the first-generation of rocket propelled anti-tank weapons used in infantry combat. Featuring a solid rocket motor for propulsion, it allowed for high explosive (HE) and high-explosive anti-tank (HEAT) warheads to be delivered against armored vehicles, machine gun nests, and fortified bunkers at ranges beyond that of a standard thrown grenade or mine. The M1A1 model featured an improved electrical system and simplified design over the original M1 Bazooka. It had the forward hand grip deleted and used the M6A1 rocket.

Note: in the game, Bazookas cannot be fired from within buildings as the backblast would be dangerous for the crew and any other units inside the building



■ M9A1 BAZOOKA

The M9A1 model replaced the earlier M1, M1A1 and M9 variants by 1944, and featured an optical sight, reinforced launch tube, could be disassembled into two halves for easier carrying, and had the battery ignition replaced by trigger magneto.



■ M1919A4 MEDIUM MACHINEGUN

The M1919 Browning is a .30 caliber medium machine gun that was used as a light infantry, coaxial, mounted, aircraft, and anti-aircraft machine gun by the U.S. and many other countries. The M1919 is an air-cooled development of the standard US machine gun of World War I, the Browning M1917, as designed by John M. Browning.

As a company or battalion support weapon, the M1919 required at least a two-man machine gun team. But in practice, four men were normally involved: the gunner (who fired the gun and when advancing carried the tripod and box of ammo), the assistant gunner (who helped feed the gun and carried the gun, and box of spare parts and tools), and two ammunition carriers.

Note: in the game, the M1919A4 Browning can be fired in "deployed" and "semi-deployed" configurations.

The M1919A4 variant weighed about 31 lb (14 kg), and was ordinarily mounted on a lightweight, low-slung tripod for infantry use. Fixed vehicle mounts were also employed. It saw wide use in World War II mounted on jeeps, armored personnel carriers, tanks, and amphibious vehicles. The M1919A4 played a key role in the firepower of the World War II US Army infantry company, which unlike other armies,

normally had a weapons platoon in addition to its other organic units. The presence of M1919A4 weapons in the weapons platoon gave company commanders additional automatic fire support at the company level, whether in the assault or on defense.



■ M1917A1 BROWNING HEAVY MACHINEGUN

The M1917 Browning heavy machine gun is a belt-fed water-cooled machine gun that served alongside the much lighter air-cooled Browning M1919. It was used at the battalion level, and often mounted on vehicles (such as a jeep). The M1917A1 model is a reconfiguration of the original World War One design, with various improvements and adapted for use with modern WW2 ammunition.



■ M2HB BROWNING HEAVY MACHINEGUN

The M2 Machine Gun, Browning .50 Caliber Machine Gun, is a heavy machine gun designed towards the end of World War I by John Browning. It is very similar in design to John Browning's earlier M1919 Browning machine gun, which was chambered for the .30-06 cartridge. The M2 uses the larger and more powerful .50 BMG cartridge, which was named for the gun itself (BMG standing for Browning Machine Gun). The M2 has been referred to as "Ma Deuce", or "the fifty" in reference to its caliber. You will find the M2HB in the game mounted on many US vehicles, and it is also available on a tripod (ground) mount within the heavy weapon companies of the US Infantry battalion.



■ 57MM L/50 M1 ANTI-TANK GUN

The United States Army adopted the Ordnance Quick-Firing 6-pounder 7 cwt, or just 6 pounder, the primary British anti-tank gun during the middle of World War II, primarily for lend lease production. The U.S. version, designated 57 mm Gun M1, was based on the 6 pounder Mk 2 but used the longer L/50 barrel. Production started early in 1942 and continued until 1945. American shell designs and production lagged behind the introduction of the gun once it was accepted for service and so at first only AP shot was available. The HE shell was not available until after the Normandy landings.



■ 76MM L/50 M5 ANTI-TANK GUN

The 3 inch Gun M5 combined the 3-inch (76.2 mm) barrel of the anti-aircraft gun T9 and elements of the 105 mm howitzer M2. The M5 was issued exclusively to the US Army tank destroyer battalions starting in 1943. While the M5 outperformed earlier anti-tank guns in the US service, its effective employment was hindered by its heavy weight and ammunition-related issues.



■ 60MM MORTAR M2

The M2 Mortar is a smoothbore, muzzle loading, high-angle-of-fire weapon used by U.S. forces in World War II. The U.S. M2 60 mm mortar was developed from the heavier 81 mm M1 Mortar to provide a lighter-weight alternative to company-level fire support. It consists of a smoothbore metal tube on a rectangular baseplate, supported by a simple bipod with the elevation and traverse mechanisms. The firing pin was fixed in the base cap of the tube, and the bomb was fired automatically when it dropped down the barrel. Though classified as a light mortar, the M2 had considerable range compared to the 50 mm and 60 mm mortars of most other nations, and its fixed-firing pin design allowed a high rate of fire by trained crews.

Rate of fire 18 rounds/minute



■ 81MM MORTAR M1

The M1 is the standard United States 81 millimeter caliber mortar. It is based on the French Brandt mortar. The M1 is capable of firing WP (White Phosphorus) ammunition, designed to lay down screening smoke, but with definite anti-personnel and incendiary applications.

Note: in the game, units close to a WP shell impact are subject to possible damage

Rate of fire 18 round / min sustained
 30-35 round / min maximum



■ GERMAN WEHRMACHT

■ TANKS

■ PANZER IVG (LATE)

The Panzerkampfwagen IV (Pz.Kpfw. IV), commonly known as the Panzer IV, was a medium tank developed in the late 1930s and used extensively during World War Two. Its ordnance inventory designation was Sd.Kfz. 161. Designed as an infantry-support tank, the Panzer IV soon assumed the tank-fighting role of its increasingly obsolescent cousin, the Panzer III. The most widely manufactured and deployed German tank of the Second World War, the Panzer IV was used as the base for many other fighting vehicles, including tank destroyers and self-propelled anti-aircraft guns. Robust and reliable, it saw service in all combat theaters involving Germany, and has the distinction of being the only German tank to remain in continuous production throughout the war, with over 8,800 produced between 1936 and 1945. Upgrades and design modifications, often made in response to the appearance of new Allied tanks, extended its service life. Generally these involved increasing the Panzer IV's armor protection or upgrading its weapons, although during the last months of the war with Germany's pressing need for rapid replacement of losses, design changes also included retrograde measures to simplify and speed manufacture.

The Ausf. F tanks that received the new, longer, KwK 40 L/43 gun were named Ausf. F2 (with the designation Sd.Kfz. 161/1). The tank increased in weight to 23.6 tonnes (26.0 short tons). Three months after beginning production, the Panzer IV. Ausf. F2 was renamed Ausf. G. There was little to no difference between the F2 and early G models.

The Ausf. G featured a power turret traverse and the 80mm front armor was in fact a 50mm base with 30mm additional applique bolted on. Imperfect welding of the hull front to the hull sides caused occasional armor failures.

Armor 10-80 mm (0.39-3.1 in)



■ PANZER IVG (LATEST)

In April 1943, the KwK 40 L/43 was replaced by the longer 75-millimetre (2.95 in) KwK 40 L/48 gun, with a redesigned multi-baffle muzzle brake with improved recoil efficiency.

| | | | | |
|---|---|---|--|---|
| Commander Gunner Loader Driver |  Medium Tank 75mm L/48 KwK40 |  |  |  |
| Weight 25.0 tons Speed  Power  Off-Road  Turning  | AMMO 75mm HE 42 75mm AP 42 75mm Smoke 3 7.92mm >3k | DAMAGE 75mm Main <input type="checkbox"/> 7.92mm Coax <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> | DEFENSES  | |

■ PANZER IVH (EARLY)

The next version, the Ausf. H, began production in April 1943 and received the designation Sd. Kfz. 161/2. This variant saw the integrity of the glacis armor improved by manufacturing it as a single 80-millimetre (3.15 in) plate. To prevent adhesion of magnetic anti-tank mines, which the Germans feared would be used in large numbers by the Allies, Zimmerit paste was added to all the vertical surfaces of the tank's armor.

The vehicle's side and turret were further protected by the addition of 5-millimetre (0.20 in) side-skirts and 8-millimetre (0.31 in) turret skirts. The top turret armor was strengthened to 16mm.

| | | | | |
|---|---|---|--|---|
| Commander Gunner Loader Driver |  Medium Tank 75mm L/48 KwK40 |  |  |  |
| Weight 25.0 tons Speed  Power  Off-Road  Turning  | AMMO 75mm HE 42 75mm AP 42 75mm Smoke 3 7.92mm >3k | DAMAGE 75mm Main <input type="checkbox"/> 7.92mm Coax <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> | DEFENSES  | |

■ PANZER IVH (LATE)

The PzIVH late is like the PzIVH early except that the hull front was finally interlocked with the hull sides, correcting the earlier flaw.

| | | | | |
|---|---|---|--|---|
| Commander Gunner Loader Driver |  Medium Tank 75mm L/48 KwK40 |  |  |  |
| Weight 25.0 tons Speed  Power  Off-Road  Turning  | AMMO 75mm HE 42 75mm AP 42 75mm Smoke 3 7.92mm >3k | DAMAGE 75mm Main <input type="checkbox"/> 7.92mm Coax <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> | DEFENSES  | |

■ PANZER IVJ (EARLY)

Despite addressing the mobility problems introduced by the previous model, the final production version of the Panzer IV—the Ausf. J—was considered a retrograde from the Ausf. H. Born of German necessity to replace heavy losses, it was greatly simplified to speed production. The electric generator that powered the tank's turret traverse was removed, so the turret had to be rotated manually. However, the engine was upgraded and the hull and turret top armor were strengthened.



■ PANZER VD PANTHER (LATE)

Panther is the common name of a medium tank fielded by Germany in World War II that served from mid-1943 to the end of the war. The Panther's excellent combination of firepower, mobility, and protection served as a benchmark for other nations' late war and immediate post-war tank designs, and it is frequently regarded as one of the best tank designs of World War II.

Until 1944, it was designated as the Panzerkampfwagen V Panther and had the ordnance inventory designation of Sd.Kfz. 171. On 27 February 1944, Hitler ordered that the Roman numeral V be deleted from the designation.

The Panther tank was a compromise of various requirements. While sharing essentially the same engine as the Tiger I tank, it had better frontal armor, better gun penetration, was lighter overall and thus faster, and could handle rough terrain better than the Tigers. The tradeoff was weaker side armor; the Panther proved to be deadly in open country and shooting from long range, but vulnerable to close-quarters combat. Also, the 75 mm gun fired a slightly smaller shell than the Tiger's 88 mm gun, providing less high explosive firepower against infantry. The Panther was also far cheaper to produce than the Tiger, and only slightly more expensive than the Panzer IV.

The Panther VD late has these features which vary in other models:

- 79 main gun rounds
- 100mm turret front armor
- Face-hardened glacis (upper-front hull) armor
- 63mm face-hardened nose (lower-front hull) armor
- Upper side hull armor 40mm @40°
- Hull sides are face-hardened
- 16mm hull top armor
- 30mm hull bottom armor
- Bow MG is "letterbox" style
- 55kph maximum speed
- 690hp engine



■ PANZER VA PANTHER (EARLY)

The Panther VA early is like the Panther VD late except:

- Improved turret traverse speed
- Improved commander's cupola
- Adds periscope for loader
- 110mm turret front armor
- Glacis plate is no longer face-hardened
- Armor 15-120 mm (0.59-4.7 in)



■ PANZER VA PANTHER (MID)

The Panther VA mid is like the Panther VA early except:

- Bow MG is "ball mount" style
- 46kph maximum speed, 600hp engine (governed)
- Turret traverse speed drops slightly due to engine being governed



■ PANZER VA PANTHER (LATE)

The Panther VA late is like the Panther VA mid except:

- Slight improvement to gunner's optics
- Adds Nahverteidigungswaffe close-defense system



■ PANZER VG PANTHER (EARLY)

The Panther VG early is like the Panther VA late except:

- 82 main gun rounds
- Glacis armor has occasional manufacturing flaws
- 50mm nose (lower-front hull) armor, no longer face-hardened
- Upper side hull armor 50mm @30°
- Hull sides are no longer face-hardened
- 40mm hull top armor, 25mm hull bottom armor



■ PANZER VIE TIGER (MID)

The Tiger I, officially designated the Panzerkampfwagen Tiger Ausf. E, was developed in 1942 in response to the unexpectedly formidable Soviet armor encountered in the initial months of Operation Barbarossa. The Tiger I design gave the Wehrmacht its first tank mounting the 88 mm gun, which had previously demonstrated its effectiveness against both air and ground targets.

While the Tiger I was feared by many of its opponents, it was over-engineered, used expensive and labour intensive materials and production methods, and was time-consuming to produce. Only 1,347 were built between August 1942 and August 1944. The Tiger was prone to certain types of track failures and immobilisations, it was however, generally mechanically reliable but expensive to maintain and complicated to transport due to its interlocking wheels.

The Tiger mid has these features which vary in other models:

Armor 25-120 mm (0.98-4.7 in)



■ PANZER VIE TIGER (LATE)

The late production model added the "Nahverteidigungswaffe" close-defense system and increased top armor protection; however, many armor plates had a lower standard of "hardness" due to production shortcuts.



■ TANK DESTROYERS

■ MARDER III

The Marder III is the name for a series of World War II German tank destroyers built on the chassis of the Panzer 38(t). The German word "Marder" means "marten" (an agile, slender forest animal) in English.

They were in production from 1942 to 1944 and served until the end of the war.

The last variant, Marder III Ausf.M, Sd.Kfz. 138, was based on the Panzer 38(t) Ausf. M, armed with the 75 mm PaK 40 anti-tank gun. In this variant, the engine was moved from the rear to the middle

between driver and the rest of the crew. Because there was no engine in the rear, the gun and the crew did not have to sit on top of the engine deck as in previous models, decreasing crew exposure as well as visibility.

| | | | | |
|--|--|--|--|--|
|  Commander Gunner Loader Driver |  Tank Destroyer 75mm L/45 PaK40 |  AMMO |  DAMAGE |  DEFENSES |
| | | | | |

■ JAGDPANZER IV (EARLY)

The Jagdpanzer IV, Sd.Kfz. 162, was a tank destroyer based on the Panzer IV chassis. Minor modifications and improvements were made throughout the production runs of all variants, as well as several field improvements, the most common being the addition of armor sideskirts. The early production version features 60mm upper front hull armor, and 30mm upper side hull armor. The bow MG42 is operated by the loader (or an extra crewman in the "HQ" version).

Armor 10-80 mm (.39-3.14 in)

| | | | | |
|--|--|--|--|--|
|  Commander Gunner Loader Driver |  Tank Destroyer 75mm L/48 KwK40 |  AMMO |  DAMAGE |  DEFENSES |
| | | | | |

■ JAGDPANZER IV (MID)

In the mid production version of the Jpz IV, the firing port for the driver's MP44 was removed.

| | | | | |
|---|---|---|---|---|
|  Commander Gunner Loader Driver |  Tank Destroyer 75mm L/48 KwK40 |  AMMO |  DAMAGE |  DEFENSES |
| | | | | |

■ JAGDPANZER IV (LATE)

The late production version was uparmored to 80mm upper front hull armor and 40mm upper side hull armor, and added the "Nahverteidigungswaffe" close-defense system. The thicker armor made it slightly nose-heavy, slightly limiting maneuverability.

| | | | | | | | | | |
|---|---|--|---|--|---|--|---|--|---|
| Commander Gunner Loader Driver |  | Tank Destroyer 75mm L/48 KwK40 | Weight 24.0 tons Speed  Power  Off-Road  Turning  |    | AMMO 75mm HE 37 75mm AP 37 75mm Smoke 5 7.92mm >1k |    | DAMAGE 75mm Main <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Nahverteidigung <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> |    | DEFENSES ++++++  X  O  O  X  O  O |
|---|---|--|---|--|---|--|---|--|---|

■ SELF-PROPELLED ASSAULT GUNS

■ STUG III G (EARLY)

The Sturmgeschütz III (StuG III) assault gun was built on the Panzer III chassis and was Germany's most produced armored fighting vehicle during World War II. Initially intended as a mobile, armored light gun for infantry support, the StuG was continually modified and was widely employed as a tank destroyer. The final and by far the most common of the StuG series was the StuG III Ausf. G (Sd.Kfz. 142/1). The Ausf. G used the hull of the Pz.Kpfw. III Ausf. M, with a new superstructure design.

The early production version featured a "box" shaped gun mantlet of varying thickness (between 45mm and 50mm), and a shielded top-mounted MG34 operated by the loader. The frontal armor is face-hardened, and the overall armor manufacturing quality is normal.

Armor 16–80 mm (.623.14 in)

| | | | | | | | | | |
|---|---|---------------------------------------|---|---|---|---|---|---|---|
| Commander Gunner Loader Driver |  | Assault Gun 75mm L/48 KwK40 | Weight 23.9 tons Speed  Power  Off-Road  Turning  |    | AMMO 75mm HE 27 75mm AP 22 75mm Smoke 5 7.92mm 600 |    | DAMAGE 75mm Main <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> |    | DEFENSES ++++++  X  O  O  X  O  O |
|---|---|---------------------------------------|---|---|---|---|---|---|---|

■ STUG III G (MID)

Later G versions from November 1943, were fitted with the Topblende (pot mantlet) (often called a Saukopf (pig's head)) gun mantlet without coaxial mount. This cast mantlet with organic shape was more effective at deflecting shots than the "box" mantlet.

| | | | | | | | | | |
|---|---|---------------------------------------|---|---|---|---|---|---|---|
| Commander Gunner Loader Driver |  | Assault Gun 75mm L/48 KwK40 | Weight 23.9 tons Speed  Power  Off-Road  Turning  |    | AMMO 75mm HE 27 75mm AP 22 75mm Smoke 5 7.92mm 600 |    | DAMAGE 75mm Main <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> |    | DEFENSES ++++++  X  O  O  X  O  O |
|---|---|---------------------------------------|---|---|---|---|---|---|---|

■ STUG III G (LATE)

The late production versions feature the "box" shaped gun mantlet again (the two mantlet types were in co-production for a time). A coaxial machine gun was added to boxy mantlets from June 1944. The top-mounted MG34 was replaced with a remote-control MG42. The frontal armor is no longer face-hardened, and the overall armor manufacturing quality is fair.

Availability August 1944

| | | | | |
|---|--|---|---|---|
| Commander Gunner Loader Driver |  Assault Gun 75mm L/48 KwK40 |  AMMO 75mm HE 27 75mm AP 22 75mm Smoke 5 7.92mm >2k |  DAMAGE 75mm Main <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> |  DEFENSES +++++  |
| | | | | |

■ STUH 42 (EARLY)

In 1942, a variant of the StuG III Ausf. F was designed with a 105 mm (4.1 inch) howitzer instead of the 7.5 cm StuK 40 L/43 cannon. These new vehicles, designated StuH 42 (Sturmhaubitze 42, Sd.Kfz 142/2), were designed to provide infantry support since an increasing number of StuG III Ausf. F/8 and Ausf. Gs were being used in an anti-tank role. The StuH 42 mounted a variant of the 10.5 cm leFH 18 howitzer, modified to be electrically fired and fitted with a muzzle brake.

The early model is equivalent to the StuGIII (early) and uses a "box" mantlet.

| | | | | |
|---|--|--|---|--|
| Commander Gunner Loader Driver |  Assault Howitzer 105mm L/26 leFH18M |  AMMO 105mm HE 31 105mm HEAT 2 105mm Smoke 3 7.92mm 600 |  DAMAGE 105mm Main <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> |  DEFENSES +++++  |
| | | | | |

■ STUH 42 (MID)

Later models were built from StuG III Ausf. G chassis as well as StuG III Ausf. F and Ausf. F/8 chassis.

The mid production model is equivalent to the StuG III (mid) and uses the rounded "Saukopf" gun mantlet

Armor 16-80 mm (.623.14 in)

| | | | | |
|---|--|---|--|---|
| Commander Gunner Loader Driver |  Assault Howitzer 105mm L/26 leFH18M |  AMMO 105mm HE 31 105mm HEAT 2 105mm Smoke 3 7.92mm 600 |  DAMAGE 105mm Main <input type="checkbox"/> 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Tracks <input type="checkbox"/> |  DEFENSES +++++  |
| | | | | |

ARMORED CARS

PSW 222

The Leichter Panzerspähwagen light armored reconnaissance vehicles were a series of light four-wheel drive armored cars produced from 1935 to 1944. They used the standard sPkw I Horch 801 (heavy car) chassis with an angled armored body and turret.

The SdKfz. 222 variant was armed with a 2 cm KwK 30 L/55 autocannon and a 7.92 mm MG34 machine gun. The third crew member was the gunner.

Armor 5 - 14.5 mm

| | | | | |
|-------------------------------|---|--|--|---|
| Commander Gunner Driver |  | AMMO 20mm HE 60 20mm AP-I 120 7.92mm >1k | DAMAGE 20mm Main <input type="checkbox"/> 7.92mm Coax <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Wheels <input type="checkbox"/> | DEFENSES +++++  |
| | | | | |

PSW 223

The SdKfz 223 Panzerfunkwagen is a radio car version, armed with a 7.92 mm MG34 machine gun. It includes additional radio equipment, and has a large "bed-frame" antenna over the vehicle.

Armor 5 - 14.5 mm

| | | | | |
|-------------------------------|---|---------------------------|---|---|
| Commander Gunner Driver |  | AMMO 7.92mm >1k | DAMAGE 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wheels <input type="checkbox"/> | DEFENSES +++++  |
| | | | | |

PSW 234/1

The term Schwere Panzerspähwagen (heavy armored reconnaissance vehicle), covers the 6 and 8 wheeled armored cars Germany used during the Second World War. The SdKfz 234 (Sonderkraftfahrzeug 234, or special purpose vehicle 234) was an eight-wheeled armored car. The 234/1 features an open-topped turret. Around 200 were produced.

Armor 9-30 mm (.35-1.18 in)

| | | | | |
|---|---|---|---|---|
| Commander Gunner Loader Driver |  | AMMO 20mm HE 160 20mm AP-I 320 7.92mm >2k | DAMAGE 20mm Main <input type="checkbox"/> 7.92mm Coax <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Wheels <input type="checkbox"/> | DEFENSES +++++  |
| | | | | |

PSW 234/2 PUMA

The 234/2 "Puma" employs a fully enclosed turret. The turret front was protected by 30 mm armor set at an angle of 20° from the vertical. The sides and rear had 10 mm armor set at 25°, and the top plate was 10 mm armor. The gun mantlet was rounded and was 40 to 100 mm thick. 101 were produced between September 1943 and September 1944.

Armor 9-30 mm (.35-1.18 in)

| | | | | |
|---|---|---|---|---|
| Commander Gunner Loader Driver |  Heavy Armored Car 50mm L/60 KwK39 |  |  |  |
| | | | | |

■ HALFTRACKS

■ SPW 250/1

The Sd.Kfz. 250 is a light armored halftrack built by DEMAG. Compared to U.S. halftracks, the SdKfz 250 series was less mobile, with unpowered front wheels. However, its tracks made it far more mobile than the armoured cars it replaced, and it was a popular vehicle. Most variants were open-topped and had a single access door in the rear. The Sd. Kfz 250 was adopted in 1939 but production delays meant the first 250 did not appear until mid-1941. The Sd.Kfz. 250/1 leichter Schützenpanzerwagen (SPW) was the standard troop carrier.

Armor 5.5–14.5 mm (0.22–0.57 in)

| | | | | |
|------------------|---|---|---|---|
| Gunner Driver |  Halftrack 7.92mm MG42 |  |  |  |
| | | | | |

■ SPW 250/3

The Sd.Kfz. 250/3 leichter Funkpanzerwagen is the command variant of the 250, equipped with radio equipment and "bedstead" aerial frame.

| | | | | |
|------------------|---|---|---|---|
| Gunner Driver |  Halftrack 7.92mm MG42 |  |  |  |
| | | | | |

■ SPW 250/9

The Sd.Kfz. 250/9 leichter Schützenpanzerwagen (2 cm) is a reconnaissance variant with a 2 cm KwK 38 autocannon coaxial with an MG34 or MG42 in a low, open topped turret identical to the SdkFz-222 armored car (early version) and the Sdkfz-234/1 armored car (late version).

| | | | | |
|---|---|--|---|---|
|  Commander Gunner Driver |  Halftrack 20mm L/55 KwK38 Weight 6.0 tons Speed  Power  Off-Road  Turning  |  AMMO 20mm HE 25 20mm AP-I 75 7.92mm >1k 7.92mm AP >2k |  DAMAGE 20mm Main <input type="checkbox"/> 7.92mm Coax <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wpn Controls <input type="checkbox"/> Optics <input type="checkbox"/> Wheels <input type="checkbox"/> |  DEFENSES +++++ ○○○○○ ○○○○○ ○○○○○ ○○○○○ ××××× |
|---|---|--|---|---|

■ SPW 250/10

The Sd.Kfz. 250/10 leichter Schützenpanzerwagen (3.7 cm PaK) is the recon platoon leader's variant with a 3.7 cm PaK 35/36. This was the same antitank gun used in a towed mode early in the war.










| | | | | |
|---|---|---|---|---|
|  Gunner Gunner Driver |  Support Halftrack 37mm L/45 PaK36 Weight 5.7 tons Speed  Power  Off-Road  Turning  |  AMMO 37mm HE 126 37mm AP 90 9mm 500 7.92mm AP >1k |  DAMAGE 37mm Main <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Optics <input type="checkbox"/> Wheels <input type="checkbox"/> |  DAMAGE 37mm Main <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Optics <input type="checkbox"/> Wheels <input type="checkbox"/> |
|---|---|---|---|---|

■ SPW 251/1 (AUSF. D)

The Sd.Kfz. 251 (Sonderkraftfahrzeug 251) half-track was an armored fighting vehicle designed and first built by Hanomag company. The largest, most common, and best armored of the wartime half-tracks, the Sd.Kfz. 251 was designed to transport the panzergrenadiers of the German mechanized infantry corps. Widely known simply as "Hanomags" by both German and Allied forces, they were widely produced throughout the war, with over 15,252 vehicles and variants produced in total by various manufacturers.














The Sdkfz 251/1 - Schützenpanzerwagen is the standard personnel carrier.

Armor 6-14.5 mm (0.24-0.57 in)

| | | | | |
|--|--|--|---|---|
|  Driver |  Halftrack 7.92mm MG42 Weight 8.0 tons Speed  Power  Off-Road  Turning  |  AMMO 7.92mm AP 250 149mm HEAT 1 9mm >1k 7.92mm AP >1k |  DAMAGE 7.92mm MG <input type="checkbox"/> Radio <input type="checkbox"/> Engine <input type="checkbox"/> Wheels <input type="checkbox"/> |  DEFENSES +++++ ○○○○○ ○○○○○ ○○○○○ ○○○○○ ××××× |
|--|--|--|---|---|

■ SPW 251/3 (AUSF. D)

The Sdkfz 251/3 - mittlerer Kommandopanzerwagen (Funkpanzerwagen) is a communications vehicle, fitted with extra radio equipment for command use.

| | | | | |
|---|---|--|---|--|
|  Gunner Driver |  Halftrack 7.92mm MG42 Weight 8.5 tons Speed  Power  Off-Road  Turning  |  AMMO 7.92mm AP 250 149mm HEAT 1 9mm >1k 7.92mm AP >1k |  DAMAGE 7.92mm MG  Radio  Engine  Wheels  |  DEFENSES           |
| | |  AMMO 7.92mm AP 250 PzF 30 HEAT 1 9mm >1k 7.92mm AP >3k |  |  | DAMAGE 7.92mm MG Radio Engine Wheels |






















■ SPW 251/7 (AUSF. D)

The Sdkfz 251/7-I - Pionierpanzerwagen is an assault engineer vehicle with fittings to carry assault bridge ramps on the sides.

| | | | | |
|---|---|--|--|---|
|  Gunner Driver |  Halftrack 7.92mm MG42 Weight 8.1 tons Speed  Power  Off-Road  Turning  |  AMMO 7.92mm AP 250 PzF 30 HEAT 1 9mm >1k 7.92mm AP >3k |  DAMAGE 7.92mm MG  Radio  Engine  Wheels  |  DEFENSES           |
| | |  AMMO 7.92mm AP 250 PzF 30 HEAT 1 9mm >1k 7.92mm AP >3k |  |  | DAMAGE 7.92mm MG Radio Engine Wheels |


■ SPW 251/9 (AUSF. D) STUMMEL

The Sdkfz 251/9 - Schützenpanzerwagen (7.5 cm KwK37) is equipped with a 75 mm L/24 low velocity gun, nicknamed "Stummel" ("stump").

| | | | | |
|--|--|---|---|---|
|  Commander Gunner Loader Driver |  Support Halftrack 75mm L/24 KwK37 Weight 8.5 tons Speed  Power  Off-Road  Turning  |  AMMO 75mm HE 38 75mm HEAT 5 75mm AP 5 75mm Smoke 4 7.92mm AP >2k |  DAMAGE 75mm Main  Radio  Engine  Optics  Wheels  |  DEFENSES           |
| | |  AMMO 37mm HE 98 37mm AP 70 149mm HEAT 1 9mm 500 7.92mm AP >1k |  |  | DAMAGE 7.92mm MG Radio Engine Wheels |

■ SPW 251/10 (AUSF. D)

The Sdkfz 251/10 - Schützenpanzerwagen is equipped with a 37 mm Pak 36 anti-tank gun mount.

| | | | | |
|---|---|--|--|--|
|  Gunner Gunner Gunner Driver |  Support Halftrack 37mm L/45 Pak36 Weight 8.0 tons Speed  Power  Off-Road  Turning  |  AMMO 37mm HE 98 37mm AP 70 149mm HEAT 1 9mm 500 7.92mm AP >1k |  DAMAGE 7.92mm MG  Radio  Engine  Wheels  |  DEFENSES         |
| | |  AMMO 37mm HE 98 37mm AP 70 149mm HEAT 1 9mm 500 7.92mm AP >1k |  |  | DAMAGE 7.92mm MG Radio Engine Wheels |

■ UNARMORED VEHICLES

■ KÜBELWAGEN UTILITY VEHICLE

The Volkswagen Kübelwagen (short for Kübelsitzwagen, meaning "bucket seat car") was a military vehicle designed by Ferdinand Porsche and built by Volkswagen for use by the German military. Based heavily on the Volkswagen Beetle, the Kübelwagen was for the Germans what the jeep was for the Allies.

| | | | |
|---|---|--|---|
|  Driver  Multipurpose Vehicle |  AMMO 9mm 250 7.92mm 500 |  DAMAGE Engine <input type="checkbox"/> Wheels <input type="checkbox"/> |  DEFENSES + + + + + <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | | |

■ OPEL BLITZ TRUCK

Opel Blitz was the name given to various German light and middle-weight trucks built by Opel from 1930 on. During the years preceding the Second World War, Opel was Germany's largest truck producer. The Blitz name was first applied to an Opel truck in 1930 and by 1934 there were four base versions offered of the 1 tonne model along with fourteen versions of the larger 2½ tonne trucks. A three ton version was introduced in 1939 and used throughout the war.

| | | | |
|--|---|--|---|
|  Driver  Truck |  AMMO 9mm >1k 7.92mm >2k |  DAMAGE Engine <input type="checkbox"/> Wheels <input type="checkbox"/> |  DEFENSES + + + + + <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | | |

■ GERMAN AIR ASSETS

■ FOCKE-WULF 190A8

The Focke-Wulf Fw 190 Würger (Shrike) was a German single-seat, single radial engine fighter aircraft designed by Kurt Tank in the late 1930s. It was used by the Luftwaffe during the Second World War in a variety of roles. Like the Messerschmitt Bf 109, the Fw 190 was employed as a "workhorse", and proved suitable for a wide variety of roles, including air superiority fighter, strike fighter, ground-attack aircraft, and also operated to a lesser degree as a night fighter.

The Fw 190 A-8 entered production in February 1944. In the game, two ammo loadouts are available: *strafe* and *light*.

| Fw 190A8 Focke-Wulf | | Fw 190A8 Focke-Wulf | |
|------------------------|----------------|------------------------|----------------|
| Fighter | Fighter Bomber | Fighter | Fighter Bomber |
| 13mm AP-I | 950 | 13mm AP-I | 950 |
| 20mm AP | 780 | 20mm AP | 780 |
| | | SC250 249kg bomb | 1 |

■ FOCKE-WULF 190F8

The Fw 190 F-8 differed from the A-8 model with a slightly modified injector on the compressor which allowed for increased performance at lower altitudes for several minutes. The F-8 was also outfitted with the improved FuG 16 ZS radio unit which provided much better communication with ground combat units. Armament on the Fw 190 F-8 was two 20 mm MG 151/20 cannon in the wing roots and two 13 mm (.51 in) MG 131 machine guns above the engine.

In the game, three loadouts are available: *light*, *heavy*, and *maximum*.

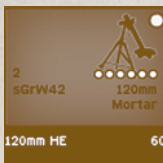
| Fw 190F8 Focke-Wulf | | Fw 190F8 Focke-Wulf | | Fw 190F8 Focke-Wulf | |
|------------------------|-----|------------------------|-----|------------------------|-----|
| Ground Attack | | Ground Attack | | Ground Attack | |
| 13mm AP-I | 950 | 13mm AP-I | 950 | 13mm AP-I | 950 |
| 20mm AP | 500 | 20mm AP | 500 | 20mm AP | 500 |
| SC250 249kg bomb | 1 | SC50 55kg bomb | 4 | SC50 55kg bomb | 4 |
| | | SC250 249kg bomb | 1 | SC500 500kg bomb | 1 |

GERMAN ARTILLERY ASSETS

Note: the sGrW34 medium mortar, leIG18 gun and Flak36 gun are available on-map and off-map, and explained under "heavy weapons"

sGrW42 120MM MORTAR

The Granatwerfer 42 (literally, "grenade thrower Model 42"; official designation: 12cm GrW 42) was developed in 1941. It was an attempt to give German infantry units a close support weapon with a heavier performance than the mortars used in general service at the time. The weapon was a copy of the PM 38 mortar used by Soviet forces on the Eastern Front.



Rate of fire 8-10 rpm

FK38 75MM HOWITZER

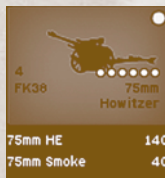
The 7.5 cm Feldkanone 38 was a field gun built by Krupp.



leFH18M 105MM HOWITZER

The 10.5 cm leFH 18M (leichte Feldhaubitze, or "light field howitzer") replaced the 10.5 cm leFH 18 as the standard German divisional field howitzer used during the Second World War. It was designed and developed by Rheinmetall after the war broke out in an effort to get more range from the basic leFH 18 design. A muzzle brake was fitted and the recoil system adjusted to allow the use of a more powerful charge and new long-range shell.

Rate of fire 4-6 rpm



sFH18 150MM HOWITZER

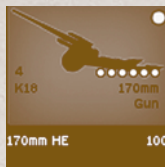
The 15 cm schwere Feldhaubitze 18 ("heavy field howitzer, model 18"), was the basic German division-level heavy howitzer during World War Two.

Rate of fire 4 rpm



K18 170MM GUN

The 17 cm Kanone 18 in Mörserlafette was a German heavy gun, intended to be employed at the Corps level in order to provide very long-range counterbattery support. Although it was technically an excellent weapon, it was expensive, difficult to maneuver, very slow to set up and

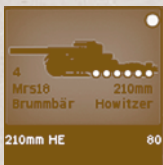


tear down; many were lost when their crew abandoned them to avoid capture by advancing Allied forces.

Mrs18 210MM HOWITZER

"BRUMMBÄR"

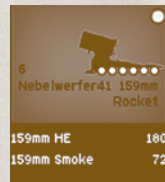
The 21 cm Mörser 18 (heavy howitzer) was a German heavy howitzer used by independent artillery battalions and batteries. It was one of the first weapons that used a unique dual-recoil system. The barrel recoiled normally in its cradle, but, in addition, the whole top carriage, which carried the barrel and its cradle, recoiled across the main part of the carriage. This system damped out the recoil forces and made for a very steady firing platform.



15CM NEBELWERFER 41

The Nebelwerfer ("Smoke Mortar", literally "Fog thrower") were initially developed by and assigned to the Wehrmacht's so-called Chemical Troops (Nebeltruppen). Although the name seems to indicate a primary use as a smoke mortar, a high-explosive shell was developed from the beginning.

The first weapon delivered to the troops was the 15 cm Nebelwerfer 41 in 1940, a purpose-designed rocket with gas, smoke and high-explosive warheads. It, like



virtually all German rocket designs, was spin-stabilized to increase accuracy. It was fired from a six-tube launcher mounted on a towed carriage adapted from that used by the 3.7 cm PaK 36 to a range of 6,900 metres (7,500 yd)

21CM NEBELWERFER 42

The 21 cm Nebelwerfer 42 rocket was introduced in 1942 with a longer range (7,850 metres (8,580 yd)) and a simpler design than the smaller 15 cm rocket. It only had a high-explosive warhead. It was fired from a five-tube launcher that used the same carriage as the smaller weapon.



28 CM NEBELWERFER 41

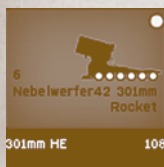
The 28 cm Nebelwerfer 41 rockets were introduced in 1941. The maximum range for either rocket was only 2,200 metres (2,400 yd), a severe tactical drawback.

It could be fired from their wooden packing cases or special wooden or tubular metal frames. Later, a towed launcher was developed that could take six rockets.



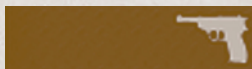
30 CM NEBELWERFER 42

The last German-designed rocket to be introduced was the 30 cm Nebelwerfer 42 in 1943. This was intended to replace the 28 and 32 cm rockets which proved to have too short a range. Advances in propellant chemistry also reduced its smoke signature. It could be fired from all of the same platforms as the older rockets and many of the older launchers were converted to be used by the newer rocket by installing adapter rails although it had its own purpose-designed launcher, the 30 cm Raketenerwerfer 56, as well.



GERMAN WEAPONS

P38



The Walther P38 is a 9 mm pistol that was developed by Walther as the service pistol of the Wehrmacht at the beginning of World War II. It was intended to replace the costly Luger P08.

Cartridge 9x19mm Parabellum
Effective range Sights set for 50 m (164 ft)
Feed system 8-round detachable single-stack magazine

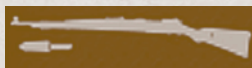
KARABINER 98K



The Karabiner 98 Kurz (often abbreviated Kar98k, K98, or K98k) was adopted as the standard service rifle in 1935 by the German Wehrmacht. Although supplemented by semi- and fully automatic rifles during World War II, it remained the German service rifle until the end of the war.

Cartridge 8x57mm IS
Action Bolt-action
Effective range 500 m (547 yd) (with iron sights)
..... 800+ m (875 yd) (with optics)
Feed system 5-round stripper clip, internal magazine

KAR98K SCHIESSBECHER



In 1942, the 30 mm Schießbecher cup-type rifle grenade launcher was introduced. It could be mounted on any Karabiner 98k. The rifle grenade launcher could be used against infantry, fortifications and light armored vehicles up to a range of 280 m (306 yd). For these differing tasks several specialized grenades with accompanying special propelling cartridges were developed for the 1,450,113 produced Schießbecher rifle grenade launchers. The rifle grenade propelling cartridges fired a wooden projectile through the barrel to the rifle grenade that upon impact automatically primed the rifle grenade.

■ KAR98K ZF/4



For snipers, Karabiner 98k rifles selected for being exceptionally accurate during factory tests were fitted with a telescopic sight as sniper rifles. Karabiner 98k sniper rifles had an effective range up to 1000 meters (1094 yards) when used by a skilled sniper. The German Zeiss Zielvier 4x (ZF39) telescopic sight had bullet drop compensation in 50 m increments for ranges from 100 m up to 800 m or in some variations from 100 m up to 1000 m.

Effective range 800+ m (875 yd) (with optics)

■ GEWEHR 43



The Gewehr 43 or Karabiner 43 (G43, K43, Gew 43, Kar 43) is a semi-automatic rifle. It was never mass produced and never saw general issue. Despite being a more effective combat rifle than slower bolt-action rifles, the Gewehr 43 was never as reliable or as robust and simple as Allied rifles such as the American M1 Garand.

Cartridge 8x57mm IS

Effective range 500 m, 800 m with scope

Feed system 10-round detachable box magazine

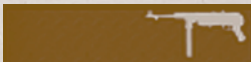
■ GEWEHR 43 ZF/4



The G43/K43 was used as a designated marksman/sniper weapon, fitted with the Zielfernrohr 43 (ZF 4) telescopic sight with 4x magnification.

Effective range 500 m, 800 m with scope

■ MP40



The MP 40 was a submachine gun used extensively by paratroopers, tank crews, platoon and squad leaders, and other troops during World War II.

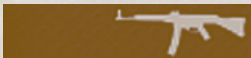
The MP 40 was often called the "Schmeisser" by the Allies, after weapons designer Hugo Schmeisser; however, Schmeisser did not design the MP 40, although he held a patent on the magazine.

Cartridge 9x19mm Parabellum

Effective range 100 m

Feed system 32-round detachable box magazine

■ MP44



The StG 44 (Sturmgewehr 44 or "storm(assault) rifle 44(model of 1944)") was the first modern assault rifle to see major deployment, considered by many historians to be the first modern assault rifle to be deployed by a major military power.

The rifle was chambered for the 7.92x33 Kurz cartridge, a shorter version of the German standard rifle round. The combination of this round and the StG 44's selective fire design provided a compromise between the controllable firepower of a submachinegun at close range with the accuracy and power of a Kar98 at intermediate ranges.

Cartridge 7.92x33 Kurz

Effective range 300m

Feed system 30-round detachable box magazine

■ MG34



The Maschinengewehr 34, or MG 34, was a German machine gun first produced and accepted into service in 1934. It was an air-cooled machine gun firing the 7.92x57mm Mauser cartridge. In the light-machine gun role, it was intended to be equipped with a bipod and 50-round ammunition belt contained in a drum-shaped magazine attached to the receiver.

Cartridge 7.92x57mm Mauser

Feed system 50-round belts, 50-round drum

■ MG42



The MG 42 weighed 11.6 kg in the light role with the bipod, lighter than the MG 34 and easily portable.

The bipod, the same one used on the MG 34, could be mounted to the front or the center of the gun depending on where it was being used.

Cartridge 8x57mm IS

Feed system 50 or 250-round belt

■ PANZERFAUST 30K



The Panzerfaust (literally "armor fist" or "tank fist") was an inexpensive, recoilless German anti-tank weapon. It consisted of a small, disposable preloaded launch tube firing a high explosive anti-tank warhead, operated by a single soldier.

The Panzerfaust 30 klein ("small") or Faustpatrone was the original version, first delivered in August 1943 with a total weight of 3.2 kilograms (7.1 lb) and overall length of 98.5 cm (38.8 in). The "30" was indicative of the nominal maximum range of 30 m (33 yd). It had a 3.3 cm (1.3 in) diameter tube containing 54 grams (1.9 oz) of black powder propellant launching a 10 cm (3.9 in) warhead carrying 400 g (14 oz) of explosive. The projectile traveled at just 30 m (98 ft) per second and could penetrate 140 mm (5.5 in) of armor.

■ PANZERFAUST 30



An improved version appeared in August 1943, with a larger warhead for improved armor penetration, 200 mm (7.9 in), but the same range of 30 meters.

Note: rocket AT weapons like the Panzerfaust or Panzerschreck cannot be fired from within enclosed spaces (such as buildings or bunkers)!

■ GERMAN HEAVY WEAPONS

■ PANZERSCHRECK

Panzerschreck was the popular name for the Raketenpanzerbüchse (abbreviated to RPzB), an 88 mm calibre reusable anti-tank rocket launcher. Another popular nickname was Ofenrohr ("stove pipe"). The Panzerschreck was designed as a lightweight infantry anti-tank weapon. The weapon was shoulder-launched and fired a rocket-propelled, fin-stabilized grenade with a shaped charge warhead. It was made in much smaller numbers than the Panzerfaust.

Effective range 150 m (RPzB 54)



■ MG34 HEAVY MACHINEGUN

The Maschinengewehr 34 was first produced and accepted into service in 1934. It was an air-cooled machine gun firing the 7.92x57mm Mauser cartridge. It was also designed to perform both as a light machine gun and in heavier roles. In the latter, it was mounted on a larger tripod and was belt-fed. In the medium-machine gun role, it could be mounted on one of two tripods, a smaller one weighing 6.75 kg (14.9 lb), the larger 23.6 kg (52 lb). The larger MG 34 Lafette, included a number of features, such as a telescopic sight and special sighting equipment for indirect fire.

Cartridge 7.92x57mm Mauser

Feed system 50/250-round belts, 50-round drum, or 75-round "double drum" magazine with modification



■ MG42 HEAVY MACHINEGUN

The Maschinengewehr 42 entered service with the Wehrmacht in 1942. It supplemented and in some instances, replaced the MG 34 general purpose machine gun in the German Armed Forces, though both weapons were manufactured and used until the end of the war. The MG 42 has a proven record of reliability, durability, simplicity, and ease of operation, but is most notable for being able to produce a stunning volume of suppressive fire with one of the highest average rates of fire of any single-barreled man-portable machine gun, between 1,200 and 1,500 rpm, resulting in a distinctive muzzle report. The MG 42's belt-feed and quick-change barrel system also allowed for more prolonged firing in comparison to similar weapons of other nations.

For sustained fire use, it was matched to the newly-developed Lafette 42 tripod, which weighed 20.5 kg on its own. The optimum operating crew of an MG 42 for sustained fire operation was six men: the gun commander, the No.1 who fired the gun, the No.2 who carried the tripod, and Nos.3, 4, and 5 who carried ammunition, spare barrels, entrenching tools, and other items.

Cartridge 7.92x57mm Mauser

Effective range 1000 m

Feed system 50 or 250-round belt



■ sGrW34 8CM MORTAR

The 8 cm Granatwerfer 34 (8 cm GrW 34) was the standard German medium mortar throughout World War II. It gained a reputation for extreme accuracy and rapid rate of fire, although much of the credit should go to the training of the crews. The design of the weapon was conventional and it broke down into three loads (barrel, bipod, baseplate) for transport. The barrel was smooth bore. A panoramic sight was mounted on the traversing mechanism yoke for fine adjustments. A line on the tube could be used for rough laying.

Rate of fire 15-25 rpm



■ LEIG 18 (7.5 CM)

The 7.5 cm leichtes Infanteriegeschütz 18 (7.5 cm le.IG 18) was an infantry support gun of the German Wehrmacht. Mountain infantry and airborne infantry versions existed as well, which could be broken down quickly into easy to transport parts.

Rate of fire 8-12 rpm



■ sIG 22 (15 CM)

The 15 cm sIG 33 (schweres Infanterie Geschütz 33) was the standard German heavy infantry gun used in WW2. It was the largest weapon ever classified as an infantry gun by any nation.

Rate of fire 2-3 rounds per minute



■ 5 CM PAK 38

The 5 cm Panzerabwehrkanone 38 (L/60) was a German anti-tank gun of 50 mm calibre. It was developed in 1938 by Rheinmetall-Borsig AG as a successor to the 37 mm PaK 36.



■ 7.5 CM PAK 40

The 7.5 cm Panzerabwehrkanone 40 was a German 75mm anti-tank gun developed in 1939-1941 by Rheinmetall. PaK 40s formed the backbone of German anti-tank guns for the latter part of World War II. The weapon was effective against almost every Allied tank until the end of the war. The PaK 40 was much heavier than the PaK 38, decreasing its mobility to the point where it was difficult or impossible to move without an artillery tractor on boggy ground.



■ 7.62 CM PAK 36(R)

The 7.62 cm Panzerabwehrkanone 36(russisch) was a conversion of the Soviet 76-mm divisional gun M1936 (F-22). In the early stage of the war, Germans captured a large number of these. Developed with anti-aircraft abilities in mind, the Soviet gun had powerful ballistics. In late 1941, German engineers modernized the gun, rechambering it for a more powerful round, and improving the recoil mechanism. The carriage was equipped with a new, lower shield, and many (but not all) guns were fitted with muzzle brakes.



■ 8.8CM FLAK 36

The 88 mm gun is one of the most recognizable German weapons of the war. FlaK is a German contraction of Flugzeugabwehr-Kanone or Flugabwehr-Kanone (hence the capital K) meaning anti-aircraft cannon, the original purpose of the eighty-eight. In informal German use, the guns were universally known as the Acht-acht (8-8), a contraction of Acht-komma-acht Zentimeter.

8.8 cm FlaK 36 entered service in 1936–37. It used the redesigned trailer Sonderanhänger 202 enabling faster time to action from the move. The SdAnh 202 had twin wheels on two similar carriages and could engage ground targets from its traveling position.



■ 8.8CM PAK 43

The Panzerabwehrkanone 43 was a German 88 mm anti-tank gun developed by Krupp in competition to the Rheinmetall FlaK 41 88 mm anti-aircraft gun. It was the most powerful anti-tank gun of the Wehrmacht to see service in significant numbers. The Pak 43 was an excellent weapon, able to penetrate the heaviest Allied tanks at combat ranges

The main version of the Pak 43 was based on a highly efficient cruciform mount, which offered a full 360 degree traverse and a much lower profile than the anti-aircraft version of the 88 mm. However, the manufacture of this version was slow initially, and, to speed up production, some guns were mounted on a two-wheel, split-trail carriage from a conventional howitzer, resulting in a version known as Pak 43/41.



■ 8.8CM PAK 43/41

The 8.8 cm PaK 43/41 was mounted on single axle split-trail field gun carriage and produced as a stop-gap measure due to scarcity of materials. Weight 4.9 tonnes.



■ FORTIFICATIONS

■ BUNKER

Bunkers in the game are available in two flavors, wooden bunkers made out of wooden logs, and reinforced concrete. The latter would be typically found around permanent defensive lines, while the former are semi-permanent field installations.

Moreover, when purchasing bunkers, players have the choice between unarmed shelters, or bunkers equipped with M34 or M42 heavy machinegun positions. Most bunkers also provide an ammunition cache that can be used by infantry units to replenish/acquire ammo.

Bunkers provide excellent cover against both direct and indirect fire. Some heavy weapons such as machineguns may be deployed within a bunker, and infantry units may enter and exit freely; but no vehicles are allowed in bunkers.



■ TRENCH

Trenches are usually part of larger defensive works and semi-permanent defensive lines. They allow for covered movement for units and formations and provide good protection against most enemy fire, and fair protection against indirect fire. Trenches “snap” together to form a line automatically when placed close together in the editor or Setup Phase.

■ FOXHOLE

Foxholes are makeshift defensive improvements usually dug hastily by infantry units. Unlike trenches, a foxhole unit usually only provides enough cover for a team of infantry. Foxholes offer fair cover against enemy fire.

■ “HEDGEHOG” OBSTACLES

Hedgehogs are anti-vehicle defenses, primarily intended to stop tanks and other vehicles as they cannot easily be crushed or pushed aside, and provide an extremely high risk of immobilization. In the game, hedgehogs are impassable.

■ SANDBAG WALL

Sandbag walls are makeshift defensive fortifications to provide fair cover against enemy fire. Sandbag walls offer limited protection for both infantry and vehicles positioned behind them.

■ BARBED WIRE

Barbed wire consists of a barbed wire fence on a wooden structure, and is meant to slow down (not stop)

infantry units. Barbed wire “snaps” together to form a line automatically when placed in vicinity in the editor or Setup Phase.

■ MINES

There are three “flavors” of minefields in the game: anti-personnel, anti-tank, and mixed (meaning: a mix of both anti-personnel and anti-tank mines in the same field). Obviously, anti-personnel mines are meant to harm infantry primarily, while anti-tank mines are usually bigger and pack more punch, and are intended to disable or at least immobilize vehicles and tanks.

Note: Anti-tank mines cannot be set off by infantry on foot, but anti-personnel mines can be set off by vehicles.

Troops moving through minefields have some ability to notice the mines without exploding them. This is much more likely when:

- - The soldiers are crawling or walking (and to a lesser extent, “hunting”)
- - The soldiers are engineers
- - The soldiers are experienced
- - The minefield has already been discovered (e.g. by setting off a mine)

Engineers have the ability to mark known minefields. After a minefield is marked by an engineer unit, other units may safely (but slowly) move through it without running the risk of setting off additional mines. See the Mark Mines command in the Command chapter for more details.

■ ICONS

CM:BN is making extensive use of various Icons to allow the player to spot vital information in the game user interface at a glance. Below is a list of the most important icons used in the game and their description.

■ THREAT



- Anti-tank rocket (e.g. Bazooka, Panzerfaust)
- Large caliber (e.g. 88mm anti-tank gun)
- Medium caliber (e.g. 50mm anti-tank gun)
- Small caliber (e.g. small arms such as rifle or light MG)

DEFENSIVE EQUIPMENT



Smoke Launcher

COMMS



Radio



Visual (Close)



Visual (Distant)



Voice

U.S. BRANCHES

Infantry



Armored Infantry



Airborne



Armored



SPECIAL EQUIPMENT



Binoculars



Radio



Demolition Charge



Panzerfaust 30K



Panzerfaust 30



Anti-tank rifle grenade



Bazooka



Anti-tank rocket

GERMAN WEHRMACHT

Infantry



Panzergranadier



Panzer



■ TROUBLESHOOTING

While we're taking utmost care in preparation of this software to avoid bugs, today's myriad of available systems, software and hardware configurations makes it impossible to guarantee 100% compatibility.

Below you will find a few known issues as well as a list of contacts available to help out.

An up-to-date Troubleshooting Guide is also available at our webpage:

..... <http://www.battlefront.com/helpdesk>

■ MULTI-GPU

On certain systems with multiple video cards a known bug prevents players to select units occasionally.

Turn off the additional video card(s) to solve this problem.

■ MULTIPLE VIDEO CARDS (SLI) VERY SLOW

If you are running multiple nVidia video cards running in SLI mode, download the latest Forceware drivers (169.21 at least).

■ UNITS DISAPPEAR WITH SHADOWS ON

This problem seems to affect people with certain combination of newer (8000 series) GeForce cards and various OS and video driver combinations. Until Nvidia releases a new set of Forceware drivers that specifically address this problem, simply play the game with shadows disabled (use Alt-W to toggle shadows on or off).

■ LEVEL OF DETAIL

CM:BN tries hard to keep up framerates and will automatically downsample textures, and adjust model quality, and level of detail calculations if it detects performance limits (VRAM used up etc.) This may lead to a subpar graphics quality during gameplay. Often it is a better idea to manually adjust the model and textures quality downward in the Game Options Menu, leading to better overall look and faster framerates.

■ INTRO VIDEO

If you would like to disable the intro video playing at game launch, hold down the "V" key at game startup.

This is a toggle and remembered for future launches. If you want to bring the video back, simply keep "V" pressed again during the next launch.

■ TECH SUPPORT

■ BUGS

If you run into a bug, or have problems in running or installing the game, please visit our Tech Support forum at:

..... <http://www.battlefront.com/community>

If you do not find a solution to your problem there, please post a support ticket at

..... <http://www.battlefront.com/helpdesk>

■ PATCHES

Please also do not forget to check regularly for the latest patches to the game at:

..... <http://www.battlefront.com/patches>

You can also do an auto-check to find out if your version of the game is up to date. In your Start>Program Group you will find a link within the Combat Mission Battle for Normandy sub-group called "Check for latest version". Clicking the link will automatically compare your currently installed version of the game with the latest version available for download, and the results will be displayed in your browser.

■ LICENSING

For problems with licensing or unlicensing the game, please refer first to the Knowledge Base at:

..... <http://www.battlefront.com/helpdesk>

If you do not find a solution to your problem there, please "Submit a support ticket" there.

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Jean-Vincent Roy

German Ranks

| | |
|--|----------------|
|  | Soldat |
|  | Obersoldat |
|  | Gefreiter |
|  | Obergefreiter |
|  | Unteroffizier |
|  | Unterfeldwebel |
|  | Feldwebel |
|  | Oberfeldwebel |
|  | Stabsfeldwebel |
|  | Leutnant |
|  | Oberleutnant |
|  | Hauptmann |
|  | Major |
|  | Oberstleutnant |

US Ranks

| | |
|---|---------------------|
|  | Private First Class |
|  | Corporal |
|  | Sergeant |
|  | Staff Sergeant |
|  | Technical Sergeant |
|  | Master Sergeant |
|  | Second Lieutenant |
|  | First Lieutenant |
|  | Captain |
|  | Major |
|  | Lieutenant Colonel |



KILROY WAS HERE