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WHAT TO DO IF YOU HAVE A DEFECTIVE DISK

Each of our games undergoes extensive playtesting prior to its release. Through this process we hope to uncover and correct any errors in programming. However, due to the complex nature of our simulations, some program errors may go undetected until after publication. In addition to errors in the program, there are occasionally problems with the disk itself. We experience the industry standard of approximately a 3 to 5% failure rate of duplicated disks. Before assuming that a disk is defective, make sure to check your disk drive. Up to 95% of the disks returned to us as defective will run fine on our computer systems. Often the problem is with a disk drive that needs servicing for alignment, speed, or cleaning.

Should you have a defective disk, please return the disk only (keep all other parts of the game) to our Customer Support Department, along with a note describing the problem you have encountered. A replacement disk will be provided upon our receipt of the defective disk.

Should you uncover an error in the program, return both your game disk and any "save game" disks to our Customer Support Department. Please enclose a description of what was taking place in the game when the error occurred. Upon correction of the program error, we will return an updated disk to you.

Always make sure to include your name, address, and daytime telephone number with any correspondence. We will do our best to see that any problems are corrected as soon as possible.

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IBM COMPATIBLE COMPUTER INFORMATION:

Many of our games will work on IBM compatible computers. If you own an IBM compatible computer we suggest that you consult with our Technical Support Staff at (408) 737-6850 any workday between the hours of 11 a.m. and 5 p.m., Pacific Time, to see if an SSI game you're considering purchasing is compatible with your computer. If we have insufficient data to determine compatibility, you may wish to purchase the game and test for compatibility yourself. If the game proves to be incompatible, you may return it within 14 days with your dated receipt and we will refund your money. Or, if you return the game within 30 days, you may exchange the game for another.

INTRODUCTION

WESTERN FRONT: THE LIBERATION OF EUROPE 1944-45 simulates the titanic clash between the Allies and the last of Hitler's unbroken might.

You may play either the Axis or Allied forces against the computer, or select the two player option against a human opponent. As supreme commander, you direct division or corps-level movement and combat operations, order air missions, and control the production of war materials in your factories.

In *WESTERN FRONT* you issue strategic level orders to division and corps-sized units. Division-sized units are comprised of single divisions or brigades, which in turn are built of smaller support sub-units such as battalions, batteries or companies. Support sub-units have only one type of equipment assigned to them. Other support sub-units may also be assigned to division-sized units. Corps-sized units may have several division-sized units in addition to support sub-units. When you examine units and view combat results, you see your assets and combat results at the level of individual planes, vehicles, guns, and infantry squads.

The *WESTERN FRONT* map is based on an invisible hex-grid system. In the full-map Overlord scenario, the

map spans the entire theater of operations, from England in the west to past Berlin in the east, and spanning the entire front from Hamburg to Italy. In the scenarios, the map is confined to either the Western European or Italian theaters. Each hex is 10 miles across and each turn represents 4 days of real time.

Your Game Box Should Contain

- Disk(s)
- Rule Book
- Data Card

Before You Play

Your game disk has no physical copy protection, so please make a backup copy and put the original away for safekeeping. Use the information that came with your computer to make the backup copy.

To verify that you have a legitimate copy of the game you will be asked to answer a question using information from this rule book. Note: Do not count section headings as part of paragraphs.

Starting the Game

Use the instructions in your Data Card to install and play *WESTERN FRONT*.

README File

Your game disk may come with a README file that contains rules updates and/or errata. Please take a look at this file before playing the game.

TALKING TO THE COMPUTER

Using the Keyboard

Note for IBM Users: Make sure your [Num Lock] and [Caps Lock] are Off before playing.

Use the following keys to move the cursor around the map in large increments:

I
J K
M

Use the following keys on the numeric keypad to move the cursor and to move, transfer or plot units:

7 9
4 6
1 3

Press [Return] to designate movement destinations and air operation targets.

To select options on vertical menus, use the left & right cursor controls or the 4 & 6 keys to change columns (if applicable), the 8 & 2 keys to highlight options, and [Return] to make selections.

Other options can be accessed with hotkey commands. These commands are listed on the back of this rule book, and can be displayed during the game by pressing the '/' key.

Using the Mouse

Use the mouse to move the pointer over menu items and buttons.

To move around the map, click the pointer at the edges of the map. To select hexes or move or transfer units, click the pointer over a destination hex. Use the left mouse button to select items such as destination hexes for movement. If you use the right mouse button you will be given information about the hex, movement cost, etc. For example, if you select a unit to move and select the destination hex with the right button, you will be shown costs for the move. If you simply select with the left button, the unit will move immediately.

To plot movement, click the pointer in the next hex the unit should move to.

All keyboard commands also work if you are using a mouse.

SETTING UP THE GAME

When you start a game, the Setup Menu allows you to load saved games or to set up new ones. You can return to this menu while playing by selecting ESC on the Main Menu then SETUP on the Options menu.

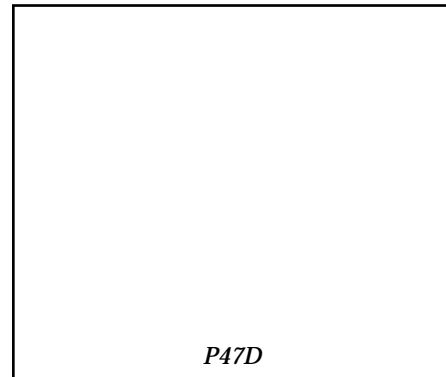
Setup Menu

SCENARIO	PLAYER	BALANCE
Saved Game	Axis Computer	Max Help Axis
Overlord	Allied Computer	Help Axis
Diadem	Both Human	Even
Breakout	Both Computer	Help Allied
Bulge		Max Help Allied
ACCEPT SETUP		

Scenario selections allow you to load a saved game or start one of the scenarios:

Saved Game loads previously saved games. When you load a saved game remember to set the Player and Balance options.

Overlord was the code name for the Allied invasion of Europe that began with D-Day on June 6, 1944. This scenario actually begins on May 17, 1944, shortly after the offensive in Italy. Overlord covers the entire map.



The Allied player needs 4 victory points by the first turn after July 1, 1945 for a victory. The victory cities and points are:

Berlin	3 pts
Hamburg	1pt
Essen	1pt
Cologne	1pt
Nurnberg	1pt
Munich	1pt

Special Rules: On the first turn only, the Allied player may change amphibious and paratroop landing zones at no cost. The Allies have no rail points during the first turn.

Diadem was the code name for the Allied offensive in Italy that began May 11, 1944. This scenario begins May 17, 1944 at the start of the Allied breakout. Diadem covers only the Italian Theater.

The Allied player needs 4 victory points by the first turn after October 1, 1944 for a victory. The victory cities and points are:

Milan	2pts
Venice	2pts
Bologna	1pt
Florence	1pt
Livorno	1pt
Genoa	1pt

Breakout begins with **Operation Cobra**, the breakout of Allied forces following the Normandy Invasion containment. The initial Allied invasion drive had been stalled by mid-July by terrain, weather and tenacious Axis resistance. This scenario begins on July 24, 1944 with Allied forces poised to break through Axis lines. Breakout covers only the Western European Theater.

The Allied player needs 4 victory points by the first turn after November 1, 1944 for a victory. The victory cities and points are:

Essen	3pts
Antwerp	1pt
Arnhem	2pts
Aachen	1pt
Cologne	2pts
Metz	1pt

Bulge is the last gasp of the Axis forces. Allied commanders had sent inexperienced and combat-weary troops to hold the Ardennes region, following the conventional wisdom that Hitler would not attack through the heavily wooded region. Relying on poor weather and the weakness in the Allied lines, Axis commanders stripped all reserves and shortened their lines to muster a last ditch effort to split the British strength to the north and American to the south. This scenario begins on December 16, 1944, and covers only the Western European Theater.

The Allied player needs 5 victory points by the first turn after February 1, 1945* for a victory. The victory cities and points are:

Antwerp	1pt
Namur	1pt
Bastogne	1pt
Liege	1pt
St. Vith	1pt
Luxembourg	1pt

Special Rules: *The scenario ends early if the Axis player has *no* victory cities by the first turn after January 1, 1945. The Allied player starts with *all* of the victory cities, and must defend them.

During the first two turns only, the Allies may not use any transfer commands, and moving Allied units costs political points (plotting still operates normally). Infantry divisions cost 1 point to move, while all other units cost 3 points. The Allied player has 3 political points at the start of the scenario.

Because of added preparation time, Axis supply level (SL) at Essen is 10 for all of December 1944.

The Bulge scenario has special victory conditions — see the Check Victory Conditions section on page 32.

Player Control selections choose whether sides are human or computer controlled. These options may be changed during play by selecting the **CHANGE PLAYER/BALANCE** option. With these options you may play through games commanding the side with the most interesting strategic situation, or replay saved games to see if you can do better than your opponent in an identical situation.

Balance selections allow you to play with both sides on equal footing or to favor one side over the other.

Even means the game will operate with normal rules for both players.

Help gives one side the following bonuses:

- Production of war equipment is doubled.
- Player receives double normal infantry replacements.
- Player receives 1 extra political point per turn.
- Opponent receives 1 less political point per turn.
- Normal readiness loss is cut by 10% per turn.
- Readiness loss for plotting is halved.
- Supply centers (Axis) or ports (Allied) receive 1 point supply level (SL) bonus.
- Allied Help receives 500 bonus amphibious preparation points per turn or 500 less for Axis Help.

Max Help gives one side the following bonuses:

- Production of war equipment is doubled.
- Player receives double normal infantry replacements.
- Player receives 2 extra political points per turn.

- Opponent receives 2 fewer political points per turn.
- Normal readiness loss is cut by 20% per turn.
- Readiness loss for plotting is quartered.
- Supply centers (Axis) or ports (Allied) receive 2 points SL bonus.
- Friendly rail is repaired at the rate of 2 damage points per turn.
- Allied Max Help receives 1000 bonus amphibious preparation points per turn or 1000 less for Axis Max Help.
- Reinforcements delay is halved so units arrive twice as fast.

In addition to the Help and Max Help options, you may change the turn length from 4 days to 3 days by pressing [Shift] ‘\’ any time during General Orders. You may not change the turn length back after switching.

The Options Menu comes up after you make all of your selections on the Setup Menu and is used to end the General Orders Phase every turn.

OPTIONS MENU

ALLIED/AXIS PLAYER

Orders
Combat
Save
Setup
ACCEPT

Orders takes you to General Orders where you issue all orders regarding movement, combat and

production. You may also examine cities and other resources, and evaluate the overall strategic situation. See the General Orders Phase section for more information.

Combat begins the Combat Resolution Phase where plot commands issued during General Orders are executed.

Save allows you to store the current game to disk.

Setup returns you to the Setup Menu described earlier.

ACCEPT puts your choice into action.

DISPLAY/LEVEL MENU

DISPLAY	DELAY
None	None
Low	Low
Medium	Medium
High	High
ACCEPT	

Display determines how much information you will receive during Combat Resolution. The higher the level, the more information you receive and the longer Combat Resolution takes.

Note: Medium display level is the lowest level at which you receive information about computer-directed Allied air operations.

Delay determines how long each message is displayed on the screen. Play with this to find the level that suites you.

Accept sets your selections and exits the menu.

You can change the display/delay levels during General Orders by selecting UTIL then DELAY. You can change the levels during Combat Resolution by pressing [Space].

M4/75 (Sherman)

TURN SEQUENCE

Each game turn consists of the following sequence of phases:

Start of Turn Phase

Axis Player Turn:

Events Phase
Supply Phase
HQ Control Phase
Replacement/Readiness Recovery Phase
General Orders Phase
Combat Resolution Phase

Allied Player Turn:

Events Phase
Supply Phase
HQ Control Phase
Replacement/Readiness Recovery Phase
General Orders Phase
Combat Resolution Phase

Check Victory Conditions

START OF TURN PHASE

During this phase both players receive political points and possible experience increases for combat troops. The Allied player also receives amphibious and paratroop preparation points.

Political Points

Political points represent the political cost of performing certain kinds of actions. Both players spend points when they change HQ commanders. The cost is identical to the political rating of the officer.

The Axis player spends political points to move troops assigned to inactive HQs and to transfer units to other parent HQs.

The Allied player spends political points to use the following air formations: 8th US Air Force (8th AF US), 15th US Air Force (15th AF US) and British Bomber Command (Bomber Cmd Br). The costs vary depending on the mission type:

Allied Air Missions Costs
for 8th & 15th AF US and Bomber Cmd Br

MISSION TYPE	POINT COST
Interdiction	30
Bomb Bridge	2
Bomb Airfield	5
Bomb City	1

The Allied player gains 2 political points per turn. The Axis player gains 3 per turn, and 6 more per turn after Paris falls (total of 9).

Experience

Experience represents the percentage of maximum efficiency or skill a unit fights at. For example a unit with experience of 80 is twice as effective as an identical unit with experience of 40.

Combat units with less than 50 experience (80 for Axis SS units) automatically gain experience every turn. Above these levels, units must engage in combat to gain more experience. This added experience is the difference between well-trained and combat-experienced troops.

Note: Units that take heavy losses gain many inexperienced replacements that will lower overall experience.

Transport Preparation Points (Allies Only)

The Allied player gains preparation points every turn for amphibious and air movement. Select UTIL then ZONES to view current available prep points for each. These points are used to move troops and change amphibious landing zones and paratroop zones. Except for the first turn of the Overlord scenario, changing a zone uses 1/2 of the current prep points for that type of zone.

Amphibious prep points are cumulative to a maximum of 50,000. The number of points gained every turn is determined by the weather as follows:

Amphibious Preparation Points

WEATHER	POINTS GAINED PER TURN
Clear/Overcast	5,000
Cold	3,000
Rain/Snow	2,000

Paratroop prep points are cumulative to a maximum of 3 times the number of transport planes in the transporting HQ (AEAF in Europe and 12th AF US in Italy). The number of points gained every turn is determined by the current number of points:

- If Paratroop points are less than 150, Allies gain 50 per turn.
- If Paratroop points are greater than or equal to 150, Allies gain 250 per turn.

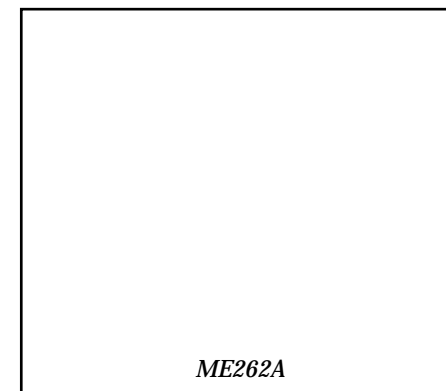
EVENTS PHASE

While you see events unfold in Western Europe and Italy, battles also rage on the Eastern Front. Information about Axis divisions that have been shattered in the eastern campaigns will be displayed during this phase. The effect of these combat results is to draw off valuable replacement men and materials to reform the damaged units.

Also during the Events Phase, HQ commanders may be relieved of command, die, etc.

SUPPLY PHASE

During the Supply Phase the computer will determine whether or not your supply lines are delivering the food, ammunition and other supplies necessary to maintain the effective combat readiness of your troops in the field. Supply lines are the paths materials travel to reach your units. Supply is affected by several factors such as weather and distance from friendly rail lines. When you move the cursor around the map during General Orders, the **Supply Level (SL)** for a hex is displayed on the right half of the bottom display.



Supply Lines

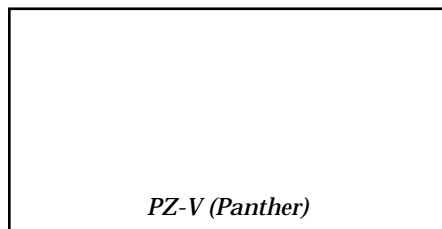
Supply lines start at Axis supply centers or Allied ports or active amphibious landing beaches, and they follow contiguous, friendly-controlled, active rail lines.

Units still receive supplies if they are connected to a supply line by friendly-controlled hexes. This SL drops off as units move away from

a supply/rail line at a rate of -1 SL per hex (-2 SL for mountain hexes). The SL drop off is doubled during rain and snow turns.

RAIL LINES AND DAMAGE

Rail comes under friendly control when it is overrun, and the captured rail automatically sustains a damage level of 2 (regardless of the previous damage). Select the UTIL button then RAIL to see active rail.



Rail can suffer a maximum of 5 points of damage, and every hex of damaged rail a supply line is traced through lowers SL by the damage level, to a minimum of SL 4. For example, if Axis SL at Essen is 6, and it is traced through two rail hexes with damage level 1, the SL would be 4 (6-1-1=4).

Rail is repaired at rate of 1 damage point per turn (2 with Max Help).

CONTROLLING HEXES

Hexes convert to friendly control immediately when friendly units move through them, or at the end of the Supply Phase if there is no enemy in the hex and its friendly

SL is 2 or greater while enemy SL is 0. Hexes that have been overrun will reconvert back to enemy control if enemy SL is 2 or greater while friendly SL is 0.

Supply Centers and Ports

The Axis supply centers are Essen, Berlin, and Milan (for the Italian Theater). The best Axis supply center is Essen; Berlin is one less and Milan is two less. Base SL for Essen is 4 + (Unused Axis Rail Capacity/1000). Rail capacity is (Axis Railway Value) * 10. Many cities have railyards, and each yard has a rating value that indicates its size and capacity. The total starting rail capacity for the Axis is about 3700 points. These points can be used up for a turn by shifting troops with rail movement. Select the UTIL button, INDUSTRY then RAILYARD to see a list of yards and their ratings.

Axis supply centers are still active even if they are off-map in the partial map scenarios. For example, in Diadem where all action takes place in the Italian Peninsula supply lines are still traced to both Essen and Berlin. This is important to remember when working out a bridge bombing strategy.

The Allies receive supply from controlled ports and active landing beaches. The base SL for the Allies is the supply rating for the controlled port that supply is traced from. These ratings are listed on page 33. Allied SL drops 1 point for

every 16 hexes a supply line is distant from its source. The SL at active landing beaches is based on weather:

Weather Effects on Allied Landing Beach SL

WEATHER	SL
Clear or Overcast	7
Rain or Cold	5
Snow	3

Weather Effects

In addition to the basic rules and the effects of the Help selection, weather modifies SL as follows:

Weather Effects on SL

WEATHER	EFFECTIVE SL
Clear or Overcast	100%
Cold	90%
Rain or Snow	50%

These weather effects are never shown on the screen. They are calculated into readiness recovery automatically (see Readiness Recovery on page 13).

Axis Fortified Cities

Axis units in fortified cities always have at least SL 4, even if they have been cut completely from supply lines.

HQ CONTROL PHASE

Except for supreme HQs, all units and HQs are attached to a parent HQ. The parent HQ determines when units receive replacements for combat losses. Parent HQs can be determined during General Orders by examining an HQ and

seeing which units are marked (C), or by placing the cursor over a unit and selecting the HQ button.

HQs

There are two basic deployments of HQs: frontline, and rear echelon. This designation is arbitrary. The frontline HQs are immediately over combat units in the chain of command and directly affect replacement levels and combat reinforcements. The rear echelon HQs are air force HQs, supreme HQs and other HQs that have no subordinate combat units.

All HQs have a **Replacement Level**, which is the percentage of full strength subordinate units must reach before the HQ will send replacements for combat losses. Replacements are described in the Replacements/Readiness Recovery section. Changing replacement levels is described in General Orders under the HQ Menu.

HQs are the only units that can have air formations assigned to them. There are even Air Force HQs, such as Allied Expeditionary Air Force HQ (AEAF), that only control air formations, and have no subordinate combat units.

CHAIN OF COMMAND

All combat units are subordinate to a parent HQ. HQs in turn have a position in the chain of command

running from front line HQs, to area HQs and finally to the supreme commander. The supreme HQ for the Axis is OKW, which in turn controls OKH HQ, the supreme HQ for the Eastern Front. OKW is generally under the command of Hitler. The supreme HQ for the Allies is SHAEF under Eisenhower.

Battles are generally directed by the commander of the immediately superior HQ, but leaders further up the chain of command may step in during any battle to direct the action. This is random and completely under computer control. The officer that is actually directing the battle is the one for whom commander effectiveness checks are made.

HQ REPLACEMENTS AND REINFORCEMENTS

Reinforcements enter the war by being placed in an HQ. Also, when units are shattered, they are reformed and placed in an HQ to rebuild. Units assigned directly to HQs receive replacement men and materials at a higher rate than field units. It's a good idea to place units that have suffered high losses in an HQ for recuperation and replacements.

Commanders

Each HQ is under the command of a different historical officer. Each of these officers has both a commander effectiveness and political

rating ranging from 1 to 9. Both ratings are shown for each commander on page 41.

Commander effectiveness ratings affect several aspects of combat. At the start of every battle commanders may be able to gain additional readiness for that engagement. Commander ratings are checked to see if a retreating unit shatters, and if not, how much readiness is lost. Combat reinforcements are more likely to be issued by better commanders.

Commander political ratings are the cost in political points for replacing an HQ commander. See *Replacing Commanders* for more information.

Axis commanders may be relieved from duty by the computer for reasons such as illness, incompetence or treason. If the leader is alive, he will be returned to the leader pool after a time.

REPLACING COMMANDERS

A commander may be relieved from duty and replaced by another commander from the commander pool. To do this, place the cursor over the HQ and press 'G' (for 'Get') or the right mouse button, then follow the directions on the screen. When a commander is removed from an HQ, he is returned to the pool. Remember: You will be charged the old commander's political rating in political points for making the change! See the Leaders Table on page 41.

COMBAT REINFORCEMENTS

HQs will sometimes order subordinate units to reinforce units during Combat Resolution. A message similar to the following will appear when a unit is reinforced:

Kesselring reinforces
47th Pz Korps
with 48th Infantry Div

Generally a battle is directed by the commander of the parent HQ. Sometimes, however, an HQ further up the chain of command will take interest in an area of the theater and take command. The order to reinforce is issued by the HQ commanding the battle, wherever he falls in the chain of command. The reinforcing units can come *only* from the supported unit's parent HQ, regardless of who commands the battle.

HQs with aircraft will sometimes send close air support to subordinate units during Combat Resolution. HQs will only send air support to directly controlled units. This is randomized and always under computer control.

DISORGANIZATION CHECK

Commander ratings determine how effectively they can administer large corps-sized units. Every turn divisions and brigades attached to corps with 3 or more divisions or brigades are checked for **disorganization**. Disorganized troops suffer readiness loss due to ineffective command and control.

The check is made every turn, and is affected by the number of divisions and brigades, and the parent HQ's commander rating — the more excess divisions and brigades, the greater the chance of becoming disorganized and the greater the readiness loss. Mechanized divisions and brigades, except Allied Cavalry units, count as *two* units for the check. See page 35 of the Charts, Tables and Formulae section for more information.

Special Axis HQ Rules

There are two special rules only for Axis HQs.

AXIS HQ ACTIVATION

Not all Axis HQs are active at the start of each scenario. Active HQs are indicated by an 'a' following the air strength rating (see *Examining Units* on page 16). Inactive HQs automatically become active whenever they are within 15 hexes of enemy units or if an HQ lower in the command chain becomes active.

The Axis player may use political points to move units attached to an inactive HQ or to reassign a unit to an active HQ. The cost for each is identical:

Cost for Moving and Reassigning
Axis Units with Inactive Parent HQ

UNIT TYPE	POINT COST
Infantry Divisions	1 pt
Panzer or SS Divisions	3 pt
Normal Korps	3 pt
Panzer or SS Korps	9 pt

Inactive HQs and the units assigned to them may not use transfer commands to give up or receive units or air formations.

AXIS HQs FOR OTHER FRONTS

The Axis player has several HQs on the map for other fronts: OKH, AGN, AGC, AGA, AGS, and AGE. These are the units fighting on the Eastern Front. In game terms, units in these HQs cannot be used by the player but still suffer losses and absorb part of the Axis replacement capacity.

REPLACEMENTS/READINESS RECOVERY PHASE

During this phase, supplied units receive replacement troops and equipment, and regain some or all of the readiness lost during movement and combat from preceding turns.

Replacements

Once a unit is below its parent HQ replacement level, it will automatically receive replacements until it reaches its replacement level again. To change the replacement level see the Headquarters section under General Orders.

Replacements are taken from a **Replacement Pool** of equipment that may be examined during General Orders. The replacement pool is made of new troops and equipment, and repaired armored vehicles that have been damaged

during combat. Recruitment and production levels are set by the computer, but you can control what types of equipment are produced in your factories during General Orders with the UTIL Menu.

Equipment is sometimes upgraded during the Replacements Phase. When a new type of equipment is available in large enough quantities it will automatically be used to replace older equipment in the mechanized formations. New equipment will tend to be issued first to formations that have suffered heavy casualties.

Readiness

Readiness is the percentage of forces in a unit that are actually prepared for combat. Only ready troops count towards combat strength. To determine the readiness of sub-units within a unit, place the cursor over a unit and press 'G' or the right mouse button, then select the letter of the sub-unit to examine.

Units lose readiness for performing actions such as fighting or moving, and from normal attrition and weather.

NORMAL ATTRITION

All divisions and brigades automatically lose 25% of their current readiness from normal attrition at the beginning of each player phase

(twice per turn). Support sub-units (battalions, batteries, companies, etc.) lose 30% per player phase. This readiness loss represents the basic costs in food and other materials to support troops.

MOVING AND TRANSFERRING

Units lose readiness whenever they move or are transferred. As units are moved a message similar to the following appears:

Move Cost: #%
Rail/Ship/Para Cost: #
Rail/Ship/Para Avail: #

The **Move Cost** percentage is the percentage of readiness loss the unit will suffer when it moves. The readiness cost of transferring units is the same as moving them the same distance.

MOVEMENT READINESS COSTS

The following are the costs to unit readiness for each type of movement:

Movement Readiness Costs

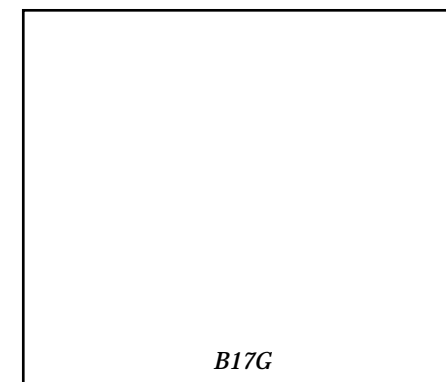
TYPE OF MOVEMENT	COST
Regular Movement (Mechanized Sub-units)*	5%/hex
Regular Movement (Non-mechanized Sub-units)*	10%/hex
Rail Movement	1%/hex
Sea Move	5%/hex
Paradrop	75%

* Units lose an additional 25% for moving during Rain.

PLOTTING MOVEMENT READINESS COSTS

Plot orders are used to move units into enemy-controlled areas and to engage in combat. There are different readiness costs for mechanized and non-mechanized sub-units.

For the purposes of plotting, mechanized sub-units are sub-units like tank brigades or divisions, motorized infantry or cavalry, and all support sub-units such as artillery batteries. Examples of non-mechanized sub-units are infantry and airborne divisions and brigades. See Examining Units on page 16 for more information.



B17G

Plot orders are issued during General Orders, but they do not actually take place until Combat Resolution. Units lose readiness as follows when they plot movement:

Plotted Movement Readiness Costs (% of current readiness)

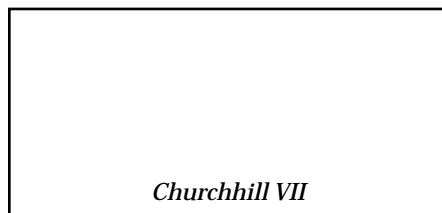
TERRAIN TYPE	MECHANIZED COST	NON-MECHANIZED COST
Mountain	60%/hex	84%/hex
Swamp	40%/hex	64%/hex
Across River	10%/hex	19%/hex
Other Terrain	20%/hex	36%/hex

There are the following additional losses for bad weather:

WEATHER	COST
Clear or Overcast	none
Rain	50%/hex
Cold or Snow	25%/hex

COMBAT READINESS COSTS

Defending units automatically lose 10% of their readiness every time they are attacked. This includes air and ground attacks.



Whenever units are forced to retreat from a battle, they suffer a 10% readiness loss. There is also a random chance, based on the commander rating, that the retreating unit may lose an additional 40%.

AXIS OIL RESERVES

Axis oil supplies can reduce overall readiness if they drop below 100. The farther the oil reserves go below 100, the higher the probability that it will effect readiness of mechanized sub-units. Oil reserves are displayed just before the General Orders phase during the Supply phase or can be viewed

during General Orders. To view reserves select UTIL, then INDUSTRY, then OIL.

Readiness Recovery

Units will automatically recover readiness at a rate based on their hex SL. The amount of readiness recovered is as follows:

$(SL * 10)\% * (100 - \text{Current Readiness}) = \text{Recovered Readiness}$

For example, a unit with 60% readiness in SL 5 would recover $(SL 5 * 10)\% * (40) = 20\%$. The new total readiness would be $60\% + 20\% = 80\%$

GENERAL ORDERS PHASE

During the General Orders Phase, you may move and transfer troops, attack enemy units, direct air operations, and examine troops and cities. The following sections describe the functions of commands and explain your options. For command shortcuts, see the Command Summary on the back of these rules.

Map Options

The following sections describe maps scale options, special displays that show controlled hexes and rail, and how to examine hexes and units.

CHANGING MAP VIEWS

Toggle between strategic and tactical level maps by selecting the MAP button on the Main Game Menu.

Both views allow you to move units and use other options, such as examining rail or plots. Select the CNTRL button to view enemy-controlled hexes, or select RAIL on the Util Menu to examine active friendly rail lines. Press F6 to see where all units on the screen are going to plot movement during Combat Resolution.

To see which units are attached to an HQ, move the cursor over a unit and select the HQ button. The screen will center on that unit's parent HQ, and all subordinate units will be highlighted.

EXAMINING HEXES

When you place the cursor on a hex something similar to the following is displayed on the bottom right of the screen:

Supply: 7	Rail Damage: 2
Location: 72 5	Hamburg

Supply is the Supply Level (SL) for the hex excluding weather adjustments. **Rail Damage** is the damage level that the rail in that hex has received. This is described under Rail Lines and Damage on page 9. **Location** is the X, Y position of the hex on the map. Any city in the hex will be listed in the bottom right corner.

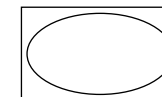
EXAMINING UNITS

The following symbols are used to represent units:

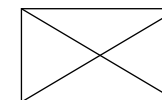
HQ



Mobile Unit



Non-motorized Unit



The symbols are markers, and the mobile and non-motorized symbols determine how many times a unit may plot during combat Resolution. Mobile units may plot 5 times while non-motorized may only plot 2 times. Attached to the units represented by the symbols are sub-units which can be divided into several distinct types:

- **Mechanized divisions and brigades:** These are fairly large sub-units comprised of armored fighting vehicles or motorized infantry. These sub-units can form the core of mobile units and lose less readiness per plotted move than infantry divisions and brigades.

- **Non-mechanized divisions and brigades:** These are fairly large sub-units comprised of foot or airborne troops. These sub-units can form the core of infantry and airborne units and lose more readiness per plotted move than mechanized sub-units. This is important to remember when assigning them to mobile units.

- **Support sub-units:** These are small sub-units, such as artillery batteries or tank battalions, that support the main combat sub-units. All support sub-units are mechanized.

When you place the cursor over an HQ, the following will appear in addition to the basic hex information:

Lufit 7 cv: 2/12a

The first part is the name of the unit or HQ. The cv values are the combat value (CV)/number of air formations. The letter 'a' indicates that the HQ is active. Only Axis HQs may be inactive.

For a regular combat unit, the number of air formations is replaced by the number of ground formations that the unit contains. When you get a unit, each listed sub-unit is a separate ground formation.

The CV for a unit is based on its ready fighting force. When examining enemy units, intelligence is far from perfect. Values for CV may be off by as much as 50%.

Note: The effective CV for a unit drops from readiness loss when a unit moves or plots, but the decrease is not updated on the screen until the next turn.

To examine a unit in detail, highlight it and press 'G' or the right mouse button. A list of sub-units attached to the unit will be displayed as follows:

30th Br Corps	
attached to: 2nd Br Army	
entrench level: 2	
A 7th Br Armoured Div (1195)	
B 8th Armour Br Bde (645)	
C 49th Br Inf Div (494)	
D 50th Br Inf Div (494)	
E 56th Br Bde (204)	
F 11 Royal Br Tank Bn (54)	
(esc) TO EXIT	

The letters are sub-unit ground formations attached to the unit. The numbers in parenthesis next to each formation is the total number of squads, guns and vehicles in that sub-unit. When examining HQs, units followed by '(c)' are controlled by that HQ, not actually attached.

Once you are examining a unit, you may view aircraft or subordinate parts by pressing the appropriate letter. A display similar to the following will appear:

7th Br Armoured Div	
attached to: 30th Br Corps	
experience:	66
readiness:	99
infantry squads:	144
artillery:	48
anti-tank guns:	60
flak guns:	70

recon vehicles:	132
A 1 Royal Br Tank Rgt	57 x M4/75 Sherman
B 5 Royal Br Tank Rgt	57 x M4/75 Sherman
C 5 Drag Gd Br Tank Rgt	57 x M4/75 Sherman
D 1/4 CLYS Br Rec Tank	40 x Cromwell VII
E 2/4 CLYS Br Rec Tank	36 x M5 Stuart
(esc) TO EXIT	

Selecting another letter displays detailed information on the associated subordinate unit. If you examine aircraft, air formations that are not eligible for missions (those that have been used for a mission or transferred) will be marked by a letter in parenthesis — '-u' for 'used,' '-t' for 'transferred.'

Experience represents how battle hardened the troops are. Units that have taken heavy losses, and have received many replacements, will suffer a decrease in experience. Readiness is the percentage of troops that are currently available for combat.

Menus and Shortcuts

The Main Menu can take you to all of the menus required to play *WESTERN FRONT*. Also, many common options also have shortcut Hotkeys to make play faster. You can get a list of hotkeys by pressing '/'. They are also shown in the Command Summary on the back cover of this book.

MAIN MENU

MODE ←→↑↓ CEN MAP CNTL UTIL NEXT HQ CITY ESC

MODE cycles through several options depending on what is in a hex. For example if you select MODE

while the cursor is over a blank hex, you can add a new unit (which is described under the Util Menu). The options that appear for units and HQs are described in the Unit and HQ Menu sections.

DIRECTION ARROWS are used to scroll around the map.

CEN centers the map on the current cursor position.

MAP toggles between the strategic overview and tactical maps.

CNTL displays enemy-controlled hexes.

UTIL brings up the Utility Menu.

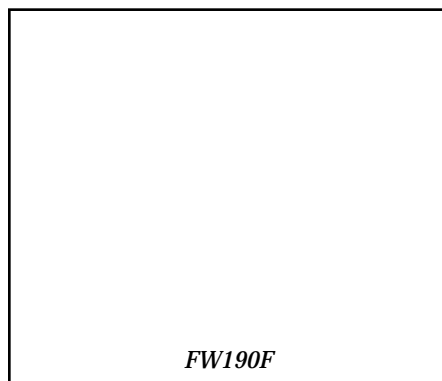
UTILITY MENU

USA
VICTORY
POOLS
ADD
ZONES
INDUSTRY
RAIL
QUIT
EXIT
DELAY
REPEAT
ESC

USA displays a list of U.S. military factories. To change production, select the letter of a factory, and a menu will appear indicating the equipment which that factory can produce. When you change the new equipment to be produced, there is a down time of about a month for that facility as it retools for the new item. Factories that are not actually producing equipment are marked with an '*'.

You may not change the basic type of factories. For example, you cannot produce tanks in an airplane factory.

Generally you may only produce equipment after the date it was historically available, but you may begin to gear up for production before and be in full production when the item does become available. If you assign factories to build equipment that is not yet available according to the historical timelines, there is a small chance every turn that the availability date will be pushed up 1 week.



There is a summary of all available equipment, including the availability dates, starting on page 41.

VICTORY displays the victory cities for the current scenario. Captured cities will be highlighted.

POOLS displays the friendly replacement pools of equipment, aircraft and squads. Vehicles are displayed first, then aircraft.

Squads and guns are displayed at the bottom of the aircraft pool screen. Each display indicates all possible items for that category, even if they are not yet available for production. To examine production facilities for any type of equipment or heavy industry, select the letter for the item you are interested in and all factories producing that type of equipment will be displayed.

ADD allows you to create a new unit on an empty square or to change the size of an unit. Division-sized units may be upgraded to corps-sized if the player has any corps left to build. The Allied player may have up to 29 corps (no mobile corps), the Axis may have 37 (6 mobile corps). Note that only the Axis player may have mobile corps. Corps-sized units may be down sized to division-size if they have only one division or brigade attached.

Note: When you first create a division-sized unit it is always marked with a non-motorized symbol. To create a mobile unit you must transfer mechanized sub-units into the division-sized unit. Only the Axis player has the option of creating mobile corps.

Human players cannot plot a new unit after creating it.

ZONES is used to change Allied amphibious and paratroop landing zones. Note: Changing zones costs one-half of total preparation points for the type of zone moved. To change a zone, select ZONES, move

the cursor to the new zone, and press the left mouse button twice or [Return]. If the new hex is a land hex, you will change the paratroop zone. If the new hex is a coast hex, you will change the amphibious landing zone.

Legal amphibious landing zones are staging hexes (ocean hexes marked with a dot). The actual active landing beach is any of the three contiguous staging hexes on either side of the selected zone.

Paratroops can be made within five hexes of the active landing zone hex.

INDUSTRY displays the following menu:

INDUSTRY MENU

HVY INDUST
ARTILLERY
ARMOR CAR
OIL
RESOURCES
RAILYARD
MANPOWER
ESC

HVY INDUST displays a list of friendly cities and their heavy industry capacity. The total Heavy Industry number for all factories is a factor in the growth of individual facilities. Each location has a chance of increasing in size until it reaches a value of 20. This is checked each turn, and small plants are more likely to grow than large ones.

ARTILLERY displays a list of friendly cities and their artillery production capacities.

ARMOR CAR displays a list of friendly cities and their armored car production capacities.

OIL displays a list of cities and their oil production ratings. Oil supplies the fuel and lubricants needed to keep an army moving, and may lower the readiness of Axis vehicles if it drops below 100.

RESOURCES displays a list of cities and their resources rating. Resources are used in factories to produce war materials. If resources drop below 100, production will drop proportionally. For example, if resources drop to 85, all production levels drop to 85% of maximum.

RAILYARD displays a list of cities and their rail yard ratings.

MANPOWER displays a list of cities and their manpower reserves rating.

ESC exits to the Main Game Screen.

RAIL changes the map to display friendly-controlled, active rail lines.

QUIT displays the Player Menu and allows you to end the turn.

EXIT allows you to exit the game.

DELAY displays the Delay/Display Menu.

REPEAT duplicates the last air mission flown, from the same HQ to the same target. This is very useful for Bridge Bomb operations.

ESC displays the Player Menu and allows you to end the turn.

NEXT moves the cursor to the next unit. The 'next' unit is determined by how units are listed in the computer and not where they are on the map.

HQ shows the parent HQ for the current unit and highlights all units also subordinate to that HQ.

CITY (city hexes only) displays information about a city, including rail-yards, resources and factories. You can change the type of aircraft and armored fighting vehicles that are produced in factories (if applicable) the same as in the USA option.

ESC exits to the Main Game Screen.

UNIT MENU

MOVE
TRANSFER
PLOT
RAIL
RAIL TRAN
CHANGE HQ
REMOVE
NEXT
HQ
CHANGE
ESC

MOVE puts the highlighted unit into Move Mode. Move mode can be used to march troops within friendly-controlled areas, to make amphibious landings and to make paradrop moves.

To march a unit, place the cursor over the unit, select MOVE, move the cursor to the unit's destination and place the unit. While you move the cursor with the keyboard, you will see the following on the right side of the bottom of the screen:

MOVE COST: #%

The value displayed is the percentage of total available readiness that will be lost moving the unit to the destination hex. Note: This is *not* displayed if you simply select a destination hex with the mouse pointer. If you move the cursor to the destination hex and press the right mouse button, the move cost will be displayed. Then press the left button to actually move.

To make an amphibious landing, place the cursor over a unit, select MOVE, and then move the cursor to a staging hex in a landing beach. After landing units, plot immediately to get them clear of the beach. The landing beach includes the landing zone hex and the adjacent 3 staging hexes on either side. There can be only one active amphibious landing and one active paradrop zone at a time. Use the ZONES command on the Util Menu to see where the zones are and to change them.

To make a paradrop move, place the cursor over an airborne unit, select MOVE, and then move the cursor to a paradrop hex. Paradrops can be made anywhere within 5

hexes of the paradrop zone hex. Paradrops can only be made by airborne divisions and brigades, and they can move up to 40 hexes. No support sub-units may be attached to the parachuting unit. Paradrops are transported by aircraft in the AEAF HQ in Europe and 12th AF US in Italy. Any losses that HQ suffers will lower air capacity.

Units cannot use Move Mode into or from enemy-controlled hexes or hexes with SL less than 4. These hexes may only be plotted into or from. Exception: Paradrops may be made into unoccupied enemy-controlled hexes. Normally, units cannot plot after they have moved or received a transfer, although units that have made an amphibious landing *can* plot two spaces if they have done nothing else in the turn. HQs cannot launch air operations after moving.

Amphibious and paradrop move costs are based on the size and composition of units and the distance moved. The number of points used to move is calculated as follows:

$(1 * \text{Number of Squads}) + (2 * \text{Number of Guns}) + (3 * \text{Number of Armored Fighting Vehicles})$

Amphibious costs are doubled if the move is over 20 hexes, and doubled again after 40 hexes.

TRANSFER allows men and equipment to be transferred to the selected unit. To transfer, place the

cursor over the receiving unit, select TRANSFER, then select a unit or HQ to lose men or equipment. The transferred units lose readiness as they would for a normal move.

Division-sized units may only receive support sub-units, such as battalions, batteries or companies, in addition to the main division or brigade. Airborne divisions cannot have additional anti-tank or artillery equipment assigned to them if they are to be parachuted. Corps-sized units are limited to 8 divisions, battalions, brigades, etc.

PZ-VIb (King Tiger)

Units cannot transfer into or from enemy-controlled hexes or hexes with SL less than 4. These hexes may only be plotted into or from. Units cannot plot after transferring units but they can move.

PLOT puts the highlighted unit into Plot Mode. Plotting is used to move troops into enemy-controlled hexes and to engage enemy troops. Each plot command takes place during a different segment, or pulse of Combat Resolution. When

you enter Plot Mode, the Main Menu is replaced with the following Plot Menu:

PLOT MENU

MODE CLR END STOP WAIT MAP CEN NEXT CNTL
BOMB SHOW ESC

MODE is identical to the Main Menu option.

CLR erase all existing plots for the selected unit.

END terminates plotting commands for the selected unit.

STOP plots a static attack where the attacking unit attacks normally, but will not move into the enemy hex after the battle. This is often used to coordinate attacks and to conserve readiness. Stops can also be indicated by pressing 'S' after a direction (using 2 keystrokes).

WAIT orders the unit to not move for one pulse. This can be ordered with the mouse by selecting the hex in which the unit should sit, or by selecting '0'.

MAP is identical to the Main Menu option.

CEN is identical to the Main Menu option.

NEXT is identical to the Main Menu option.

CNTL is identical to the Main Menu option.

BOMB orders an artillery bombardment attack. This is useful to soften up defenders in preparation for a coordinated attack. Bombardments can be ordered by pressing 'B' after a direction (using 2 keystrokes).

SHOW displays direction plots for all units on the screen.

ESC exits to the Main Menu.

To plot movement, place the cursor over a unit and select **PLOT**. Use the cursor controls to designate each plot the unit is to perform. Follow the instructions displayed on the screen to end plotting for the current unit. Both mobile and non-motorized units may enter 5 keystrokes of plot instructions. These key strokes may include movement, waits, static attacks, or bombardments.

Mobile units may plot 5 moves per turn if they are in SL 1 or greater. They may only plot 2 moves per turn if they are in SL 0 or the current weather is Rain. Non-motorized units may plot 2 moves per turn regardless of weather or SL.

As you indicate your plots, they will be displayed on the left side of the bottom display for you to verify. To cancel existing plots press 'C'.

RAIL puts the highlighted unit in Rail Move Mode. This is similar to Move Mode, except that moving units suffer less readiness loss, and each move uses rail points. To use rail, units must move between friendly-controlled rail hexes and have sufficient rail movement available.

To move a unit, place the cursor over the unit, select **RAIL**, move the cursor to the destination and place the unit. While you move the cursor with the keyboard, you will see the following on the right side of the bottom of the screen:

MOVE COST: #%
RAIL COST: #
RAIL AVAIL: #

RAIL COST indicates how much of the available rail points will be consumed in the move. **RAIL AVAIL** shows the number of rail points available to carry units. Per hex, each tank uses 3 rail points, guns use 2 and infantry uses 1.

Units may use Move Mode after rail movement if they have sufficient readiness remaining, but they may not plot.

RAIL TRAN is identical to Transfer Mode, except that units are moved by rail.

CHANGE HQ is used to assign a unit to a new parent HQ. To change HQ, select a unit, select **CHANGE HQ**, then choose a new parent HQ.

REMOVE removes an empty unit from the map.

NEXT is identical to the Main Menu option.

HQ is identical to the Main Menu option.

CHANGE allows you to change the size of units between division and corps-size. Changing units is subject to the restrictions described for the **ADD** command on the **UTIL** menu.

ESC exits to the Main Game Menu.

HQ MENU

MOVE
TRANSFER
AIR TRANSFER
RAIL
REPLACE
NEXT
HQ
INTERDICT
BOMB AF
BOMB CITY
BOMB BRIDGE
AIRLIFT
ESC

MOVE is identical to the Unit Menu option.

TRANSFER is identical to the Unit Menu option.

RAIL TRANSFER is identical to the Unit Menu option.

AIR TRANSFER is similar to the Transfer options, except that aircraft are transferred between HQs.

REPLACE is used to set the replacement level of an HQ. After selecting REPLACE, press the '+' or '-' keys or buttons to change the level.

FLAK18/36 (88FLAK)

NEXT goes to the next unit.

HQ shows the next HQ up the chain of command (if any).

INTERDICT orders an air attack on enemy combat troops. Select INTERDICT, then choose a target unit. An interdiction attack is the same as the Bombardment and Anti-tank phases of a normal attack. This is useful for softening up troops that will be attacked during Combat Resolution. See the section on Air Operations on page 31 for more details.

When you select INTERDICT or any other air operation, the Main Menu is replaced by the Air Operation Menu that includes two new buttons:

BOMB directs the air mission on the highlighted hex.

REPT is identical to the REPEAT command on the Util Menu.

Interdiction missions cost 30 political points if performed by the Allied Bomber Cmd Br, 8th AF US or 15th AF US. All but transport aircraft may participate.

BOMB AF orders an air attack on an enemy airfield. Select BOMB AF, then choose an enemy HQ with attached air formations. See the section on Air Operations on page 31 for more details.

Airfield attacks cost 5 political points if performed by the Allied Bomber Cmd Br, 8th AF US or 15th AF US. The following types of aircraft participate: fighters, fighter-bombers, dive-bombers and level-bombers.

BOMB CITY orders a strategic bombardment of a city. Select BOMB CITY, then choose a target city. The attack will be directed at a randomly determined type of target within the city, such as railyards, factories or oil facilities. If the attacking force is large enough, the raid may be split into several waves that will each attack a separate type of target. See the section on Air Operations on page 31 for more details.

Bombing cities costs 1 political point if performed by the Allied Bomber Cmd Br, 8th AF US or 15th AF US. Only level-bomber type aircraft participate. This is the only kind of mission that can be flown during non-clear weather.

BOMB BRIDGE orders an air attack on rail bridges. Select BOMB BRIDGE, then select a river rail crossing hex. The damage level for the hex will be displayed after the attack. See the section on Air Operations on page 31 for more details.

In some cases bridge hexes will be on both sides of a river, in others just one. When you place the cursor over a bridge hex, the bridge will be visible. It is best to bomb just one side in order to do the greatest possible damage.

Unlike other missions, only one bomber group is assigned to each bridge mission, plus the regular escort compliment.

Bombing bridges costs 2 political points if performed by the Allied Bomber Cmd Br, 8th AF US or 15th AF US. All except transport aircraft may participate.

AIRLIFT orders transport planes to airlift supplies to friendly units. Airlifts can get supplies to units that have been cut out of supply. Select AIRLIFT, then choose a unit to receive supplies.

The success of an air lift is determined by the number of pounds of supplies that are parachuted to the unit. Every 100 lbs. of materials delivered is 1 supply point. The number of supply points required to raise a unit's readiness is determined by the size of the unit.

For Example: If the unit size is 1000, then 1000 supply points (100,000 lbs.) will raise readiness 1%, 2000 supply points (200,000 lbs) will raise readiness 2%, and so on.

If the delivered supply points are less than the unit size, then there is still a chance that readiness will be raised 1%.

To determine the size of a unit, add the number of infantry squads, artillery and flak guns to 3 times the number of tanks.

Unit Size = Squads + Artillery + Flak + (3 * Tanks)

Airlift missions cost no political points, and only transport aircraft participate.

ESC exits to the Main Game Screen.

COMBAT RESOLUTION PHASE

After General Orders, plotted moves and battles are performed during the Combat Resolution phase. Combat Resolution is divided into 5 segments, or **Pulses**. All plots and combat occurring in a pulse are resolved for all units before moving to the next pulse. Readiness losses for movement and combat losses are calculated each pulse.

Combat occurs as part of any pulse whenever a unit attempts to plot into an enemy occupied hex (including static and bombardment attacks).

Units are charged movement costs after they have entered a hex. If a unit attacks an adjacent hex, but does not displace the enemy unit, it will not be charged movement costs.

Combat Sequence

The sequence of events for each battle is as follows:

1. Bombard/Artillery Fire
Attacker Bombardment
Defender Bombardment
2. Anti-Tank Fire
Defender Anti-Tank Fire
Attacker Anti-Tank Fire
3. Assault Fire
Defender Combat Fire
Attacker Combat Fire

Losses are determined and combat strengths are reduced at each stage of the sequence before going to the next. Unit readiness is updated and odds are calculated to determine the final combat result. The formulas used for Combat Resolution are located in the Charts, Tables and Formulae section on page 34.

BOMBARD/ARTILLERY FIRE

During the initial bombardment fire, units attack with their artillery strength plus the cannon and bomb strength of any air support they receive. Only the following parts of a unit are subject to damage during this segment:

- Infantry Squads
- Artillery
- Anti-Tank Guns
- Flak Guns (Axis only)

ANTI-TANK FIRE

During anti-tank fire, units attack with their anti-tank strength plus the cannon and bomb strength of any air support they receive. Only the following parts of a unit are subject to damage during this segment:

- Tanks
- Recon Vehicles (Attacker only)

ASSAULT FIRE

During assault fire, both sides attack with remaining tank and infantry strength. The attacker also adds recon vehicle strength, and the defender adds anti-tank strength. See Combat Odds on page 34 for more detail. Only the following parts of a unit are subject to damage during this segment:

- Infantry
- Anti-Tank Guns (Defender only)

Types of Attacks

There are three types of attacks: Overrun, Static and Bombardment.

OVERRUN ATTACKS

A full overrun attack occurs whenever a unit attempts to plot into an enemy held hex without specifying either a static or bombardment attack. If the attacking unit is successful, it will generally advance into the hex at the end of combat.

STATIC ATTACKS

If the plot order that carries an attacking unit into an enemy held hex is followed by an 'S', the attacker will not advance into the hex in the event of a victory. Static attacks are like overruns in all other regards.

BOMBARDMENT ATTACKS

If the plot order that carries an attacking unit into an enemy held hex is followed by a 'B', the attack will be an artillery bombardment. Bombardments are abbreviated attacks designed to whittle down enemy forces. This type of attack is identical to the Bombardment/Artillery fire segment of a normal battle. While both sides suffer only light losses, the defender still suffers 10% battle readiness loss.

Combat Air Support

During battles HQs may reinforce ground troops with air support. Air support is calculated into combat with artillery during Bombard/Artillery fire, the exception is that tank-killer type aircraft count as anti-tank fire. Combat air sup-

port missions may be scrubbed if they suffer high losses from enemy fighters. Combat air support is always under computer control.

Combat Odds

During Combat Resolution you will see odds displayed for engagements. The odds display will be a single number representing the attacker strength relative to the defender during the assault fire segment of the battle.

For example: ODDS: 2 indicates the attacker has a 2:1 advantage, ODDS:1 indicates even forces and ODDS:0 indicates that the attacker is at a disadvantage. Unfavorable odds for the attacker will never be displayed as less than 0.

Odds are calculated differently for the attacker and defender using the following formulas:

Attacker Value (AV) = (4 * tanks) + (2 * recon vehicles) + (number of infantry squads)

Defender Value (DV) = (2 * tanks) + (number of infantry squads and AT guns)

The results of the battle are determined by the AV:DV odds.

Defensive Factors

Combat is directly affected by the terrain where battles take place and whether defending units have had time to prepare defensive positions.

TERRAIN EFFECTS ON COMBAT STRENGTH

The effective number of attacker vehicles and infantry squads are modified by terrain as follows:

TERRAIN	EFFECTIVE SQUADS	EFFECTIVE VEHICLES
Across River	50%	25%
Out of Mountain	50%	25%
Out of Heavy Forest	50%	50%
Out of Swamp	50%	50%

ENTRENCHMENT AND FORT VALUES

Defending units have a fort value based on their entrenchment level and terrain type. Every turn units do not move they will automatically increase their entrenchment level by 1, up to a level of 2. After units have entrenchment level 2, there is a chance every turn of entrenching another level up to a maximum based on the terrain type. A unit's entrenchment level will decline when attacked at odds of at least 1. The decline will be equal to the odds of the attack.

The total fort level is the entrenchment level plus terrain fortification levels.

TERRAIN FORTIFICATION LEVELS

TERRAIN TYPE	TERRAIN FORTIFICATION LEVEL	MAXIMUM ENTRENCHMENT LEVEL
West Wall	6	9
Fortified City	6	9
Major City	3	7
Minor City	1	5
Mountain	5	9
Swamp	1	5
Heavy Forest	3	7
Light Forest	1	6
Other	0	5

FORT LEVEL AND LOSSES

Total losses incurred by a unit with fortification are divided by the fort level.

Total Losses = Calculated Losses / Fort Level (to a maximum of 5)

Combat Results

Battles may have one of four results depending on the final odds: the attacker may bounce off the defending forces, the defender may retreat, the defender may be shattered or the defender may surrender.

BOUNCE

When units bounce neither side gives ground, and the attacking units will end all plotted moves at that pulse.

RETREAT

When a defender retreats, the attacker automatically advances into the vacated hex as part of the combat pulse unless a static attack was ordered. If the attacker's next

pulse moves him into contact with the enemy, combat will occur again.

The total fort level of defending units and the final combat odds will determine whether or not units will retreat. The higher the fort level, the greater the odds required to push the unit out of the hex. The attacker must have odds of greater than 4 times the defender's total (+1) fort level to get a retreat result.

For example, if a defender has fort level of 4 the attacker needs odds greater than $(4 * 4) + 1$ or 18+:1.

There is an exception to the normal retreat rules: Corps-size units that 1) contain more than 1 division or brigade, and 2) are in supply will not retreat if odds are less than 100:1. If a retreat would normally result, the retreating unit's best sub-unit will be shattered, but the remainder of the unit will stand.

SHATTER

When a retreating unit is reduced to a DV of 50 or less there is a chance that it will be shattered, or destroyed as a fighting force. The commander level of the retreating unit's HQ will strongly affect whether or not it shatters. Strong leaders will tend to hold the unit together to a much larger extent.

Units automatically shatter, regardless of their DV, if they are forced to retreat from a hex with SL of 1 or greater into a 0 SL hex.

When a unit is shattered, the components of the unit are sent to the HQ to which the original parent HQ was assigned for reassignment. All unready strength is lost permanently.

Division and brigades attached to corps-sized units may shatter as described previously under Retreat.

M8-AC (Greyhound)

SURRENDER

Units will surrender if they are forced to retreat from a 0 SL hex to another 0 SL hex. When units surrender all men and equipment are lost. The lost units will be reconstructed and begin rebuilding in the HQ to which the original parent HQ was assigned. This process draws off replacements that would otherwise be sent to front line units.

Casualties

At the end of Combat Resolution, all losses for that turn are displayed.

Some portion of tanks and aircraft that are listed as 'destroyed' in an engagement are in fact only damaged. This equipment is repaired and placed into the Replacement Pool for redisbursement.

Changing Combat Display & Delay Levels

You may change the display and delay levels during combat by pressing [Space] during Combat Resolution. This displays the Options Menu.

Air Operations

Whenever aircraft fly a mission they are subject to attack by enemy air formations they pass and any flak guns at the target sight. Air operations may be scrubbed if losses are too high.

The total number of aircraft that will actually fly a given mission is based on the unit readiness, the range to the target, and the range rating of the aircraft involved.

Fighter and fighter-bomber aircraft fly 1 bombing mission *and* unlimited missions in escort capacity. All other aircraft fly only 1 mission per turn. Fighters will only fly missions if they have other types of planes to escort.

In the case of larger air formations you may be able to fly multiple missions per turn, with the planes that missed an early mission flying later. Missions subsequent to the first will tend to be fairly small.

FIGHTER ESCORTS

Fighter aircraft will, in most cases, have shorter range than the planes they escort. It is very easy to overfly your escort support and risk getting mauled by enemy fighters at the target sight. Be careful to examine the ranges of aircraft on the tables beginning on page 39, and try to move air units close enough to the front to maximize escort coverage.

The HQ USSTAF (Fighter Command) can never be used by the player. It's sole mission is to escort operations flown by 8th AF US, 9th AF US and Bomber Cmd Br.

STRATEGIC BOMBING MISSION RESULTS

Strategic bombing missions both put enemy facilities out of operation temporarily and do permanent damage. The following shows the results for each level of damage:

DISPLAYED LEVEL	PERMANENT DAMAGE	OUT OF OPERATION
Light	10%	1 turn
Moderate	20%	2 turns
Heavy	30%	3 turns
Massive	40%	4 turns

COMPUTER CONTROLLED AIR OPERATIONS (ALLIED ONLY)

Any air strength that the Allied player has not used during the General Orders Phase will be directed by the computer at the start of Combat Resolution. Most of these computer-controlled missions will be either strategic bombing, to damage Axis rail and production, or bridge bombing to cut supply lines.

CHECK VICTORY CONDITIONS

Except for the Bulge scenario, the game ends at the designated date or when the Allies have 4 victory points. In the Bulge scenario, there may be two checks (see the scenario description for details).

The possible results are:

- **Axis Victory:** This means that the Allied player has no victory cities at the end of the scenario. Exception: In the Bulge Scenario, the Axis player wins if the Allies hold only 1 or 2 cities.

- **Tie:** This means that the Allied player has some victory cities, but does not have 4 points. Exception: In the Bulge Scenario, the Axis player ties if the Allies hold 3 or 4 cities.
- **Allied Victory:** This means that the Allied player holds at least 4 points worth of victory cities at the end of the scenario. Exception: In the Bulge Scenario, Allies must hold 5.

Important Note: Control of victory cities is only updated once per turn and this occurs immediately after the victory conditions have been checked.

CHARTS, TABLES AND FORMULAE

Allied Port Supply Levels

PORT	BASE SL
Antwerp	9*
Marseille	9
Cherbourg	8
Le Harve	7
Calais	6
Ostende	6
Boulogne	6
Brest	7
Quimper	6
Vannes	6
Nantes	7
La Rochelle	7
Bayonne	7
Toulon	6
Nice	7
Venice	7
Ancona	5
Rimini	5
Pescara	5
Genoa	8
Livorno	6
Grosseto	5
Anzio	5
South Edge	7
Adaccia (Corsica)	5

*Antwerp will not function as a supply port until the Allies control hexes 46 22, 46 23, 46 24 and 47 24.

Weather Effects on Allied Landing Beach SL

WEATHER	SL
Clear or Overcast	7
Rain or Cold	5
Snow	3

Weather Effects on SL

WEATHER	EFFECTIVE SL
Clear or Overcast	100%
Cold	90%
Rain or Snow	50%

Readiness Recovery Formula

$(SL * 10\%) * (100 - \text{Current Readiness}) = \text{Recovered Readiness}$
 For example, a unit with 60% readiness in SL 5 would recover $(SL 5 * 10\%) * (40) = 20\%$. The new total readiness would be $60\% + 20\% = 80\%$

Allied Air Mission Political Point Costs*

MISSION TYPE	POLITICAL POINT COST
Interdict	30
Bomb Bridge	2
Bomb Airfield	5
Bomb City	1
Airlift	0

*These costs are only for player-directed missions performed by any of the following air formations: 8th AF US, 15th AF US or Bomber Cmd Br.

Cost for Moving and Reassigning Axis Units with Inactive Parent HQ

UNIT TYPE	POINT COST
Infantry Divisions	1 pt
Panzer or SS Divisions	3 pt
Normal Korps	3 pt
Panzer or SS Korps	9 pt

Allied Amphibious Preparation Points

WEATHER	POINT GAINED PER TURN
Clear/Overcast	5,000
Cold	3,000
Rain/Snow	2,000

Allied Paradrop Preparation Points

- If Paradrop points are less than 150, Allies gain 50 per turn.
- If Paradrop points are greater than or equal to 150, Allies gain 250 per turn.

Movement Readiness Costs

TYPE OF MOVEMENT	COST
Regular Movement	
(Mechanized Sub-units)*	5%/hex
Regular Movement	
(Non-mechanized Sub-units)*	10%/hex
Rail Movement	1%/hex
Sea Move	5%/hex
Paradrop	75%

* Units lose an additional 25% for moving during Rain.

Plotted Movement Readiness Costs

TERRAIN TYPE	MECHANIZED COST	NON-MECHANIZED COST
Mountain	60%/hex	84%/hex
Swamp	40%/hex	64%/hex
Across River	10%/hex	19%/hex
Other Terrain	20%/hex	36%/hex

There are the following additional losses for bad weather:

WEATHER	COST
Clear or Overcast	none
Rain	50%/hex
Cold or Snow	25%/hex

Unit Size Formula for Calculating Movement Costs*

$(1 * \text{Number of Squads}) + (2 * \text{Number of Guns}) + (3 * \text{Number of Armored Fighting Vehicles})$

Amphibious costs are doubled if the move is over 20 hexes, and doubled again after 40 hexes.

*Used for rail, amphibious and paradrop costs.

Combat Sequence

1. Bombard/Artillery
Attacker Bombardment
Defender Bombardment
2. Anti-Tank Fire
Defender Anti-Tank Fire
Attacker Anti-Tank Fire
3. Assault Fire
Defender Combat Fire
Attacker Combat Fire

Combat Odds Formulae

Odds are calculated differently for the attacker and defender with the following formulas:

Attacker Value (AV) = $(4 * \text{tanks}) + (2 * \text{recon vehicles}) + (\text{number of infantry squads})$

Defender Value (DV) = $(2 * \text{tanks}) + (\text{number of infantry squads and AT guns})$

Terrain Effects on Combat Strength

TERRAIN	EFFECTIVE SQUADS	EFFECTIVE VEHICLES
Across River	50%	25%
Out of Mountain	50%	25%
Out of Heavy Forest	50%	50%
Out of Swamp	50%	50%

Terrain Fortification Levels

TERRAIN TYPE	TERRAIN FORTIFICATION LEVEL	MAXIMUM ENTRENCHMENT LEVEL
West Wall	6	9
Fortified City	6	9
Major City	3	7
Minor City	1	5
Mountain	5	9
Swamp	1	5
Heavy Forest	3	7
Light Forest	1	6
Other	0	5

Fort Level and Losses

Total losses incurred by a unit with fortification are divided by the fort level. Fort level is terrain fortification plus entrenchment.

Total Losses = Calculated Losses/Fort Level (to a maximum of 5)

Strategic Bombing Mission Results

DISPLAYED LEVEL	PERMANENT DAMAGE	OUT OF OPERATION
Light	10%	1 turn
Moderate	20%	2 turns
Heavy	30%	3 turns
Massive	40%	4 turns

Disorganization Check Formula

Sub-unit fails if $\text{Rnd}(\text{Parent HQ Command Rating})^2 < \text{Rnd}((\text{Total Divisions or Brigades} - 2) * 10)$

Check made for EACH division or brigade in a corps with 3+ divisions or brigades.

Readiness Loss for Disorganized Sub-Units

NUMBER OF UNITS	READINESS LOSS
3	5%
4	15%
5	30%
6	50%
7+	75%

Mechanized divisions and brigades (not cavalry groups) count double.

Cities

NAME	OIL	RESOURCES	FACTORIES	XPOS	YPOS
Aachen	0	3	Yes	55	27
Abbeville	0	0	No	33	35
Ajaccio	0	0	No	75	94
Amiens	0	0	Yes	37	36
Amsterdam	0	0	No	51	17
Ancona	0	0	No	96	81
Angers	0	0	No	22	54
Antwerp	0	0	No	48	24
Anzio	0	0	No	94	95
Argentan	0	0	No	26	44
Arnhem	0	0	No	54	20
Augsburg	0	0	Yes	81	45
Avignon	0	0	No	48	82
Avranches	0	0	No	17	43
Bastia	0	0	No	76	90
Bastogne	0	0	No	53	34
Bayonne	0	0	No	15	84
Berlin	0	0	Yes	90	11
Biancon	0	0	No	60	73
Bielefeld	5	0	Yes	65	18
Birmingham	0	0	Yes	18	15
Bochum	0	9	Yes	61	24
Bologna	0	0	Yes	86	76
Bolzano	0	0	Yes	82	60
Bordeaux	0	0	No	20	74
Boulogne	0	0	No	34	30
Bremen	5	0	Yes	66	10
Bremerhaven	0	0	Yes	65	7
Brescia	0	0	No	79	68
Brest	0	0	No	3	44
Brighton	0	0	Yes	25	29
Bristol	0	0	Yes	14	22
Brussels	0	0	Yes	47	27
Caen	0	0	No	24	41
Calais	0	0	No	36	28
Calvi	0	0	No	74	92
Cassino	0	0	No	101	94
Charleroi	0	4	Yes	48	30
Cherbourg	0	0	No	17	36
Cologne	0	7	Yes	60	27

NAME	OIL	RESOURCES	FACTORIES	XPOS	YPOS
Dijon	0	2	Yes	52	55
Dortmund	0	6	Yes	61	23
Dover	0	0	No	32	25
Dresden	0	0	Yes	93	24
Duisberg	0	5	Yes	59	23
Duren	0	0	No	58	27
Dusseldorf	5	3	Yes	60	25
Eindhoven	0	0	No	52	23
Emden	0	0	No	61	8
Essen	10	0	Yes	60	23
Exeter	0	0	Yes	9	27
Florence	0	0	No	86	80
Frankfurt	0	0	Yes	69	32
Genoa	0	0	Yes	73	76
Ghent	0	0	No	43	27
Graz	0	6	No	102	51
Grosseto	0	0	No	84	89
Hamburg	5	0	Yes	72	5
Hannover	5	5	Yes	70	15
Hull	0	0	Yes	27	5
Innsbruck	0	0	Yes	83	53
Karlsruhe	0	0	Yes	67	40
Kassel	0	6	Yes	69	26
Kiel	0	0	No	74	0
Koblenz	0	0	No	63	29
La Rochelle	0	0	No	20	63
Le Harve	0	0	No	28	38
Le Mans	0	0	No	26	49
Leeds	0	0	Yes	19	5
Leipzig	15	4	Yes	86	22
Liege	0	0	Yes	52	28
Lille	0	2	Yes	41	30
Linz	5	0	Yes	98	43
Liverpool	0	0	Yes	13	7
Livorno	0	0	No	81	81
London	0	0	Yes	27	20
Luxembourg	0	0	No	55	37
Lyon	0	3	Yes	49	67
Magdeburg	15	0	Yes	81	15
Mainz	0	0	Yes	65	33
Manchester	0	0	Yes	16	7

NAME	OIL	RESOURCES	FACTORIES	XPOS	YPOS
Mannheim	0	0	Yes	68	37
Marseille	0	0	Yes	53	86
Metz	0	0	No	55	41
Milan	0	0	Yes	72	68
Mulhouse	0	3	Yes	61	53
Munich	0	0	Yes	84	47
Namur	0	0	No	50	30
Nancy	0	3	No	55	43
Nantes	0	0	No	17	54
Nice	0	0	No	62	83
Norwich	0	0	No	33	16
Nurnburg	0	2	Yes	81	36
Oberhausen	0	0	Yes	60	22
Orleans	0	0	Yes	35	50
Ostende	0	0	No	41	25
Paris	0	0	Yes	38	43
Pescara	0	0	No	102	87
Plymouth	0	0	Yes	4	29
Plzen	15	4	No	90	31
Portland	0	0	No	15	28
Portsmouth	0	0	Yes	22	28
Poznan	0	0	Yes	105	11
Prague	0	6	Yes	95	30
Quimper	0	0	No	5	48
Reims	0	0	Yes	46	40
Rennes	0	0	No	14	47
Rimini	0	0	No	94	78
Rome	0	0	Yes	92	91
Rostock	0	0	Yes	83	0
Rotterdam	0	0	No	48	19
Rouen	0	0	Yes	32	38
Saarbrücken	0	0	Yes	58	39
Salzburg	0	0	No	91	50
Sedan	0	0	No	50	37
Sheffield	0	0	Yes	20	8
St.Lo	0	0	No	19	41
St.Malo	0	0	No	14	44
St.Vith	0	0	No	55	31
Strasbourg	0	6	No	64	44
Stuttgart	0	0	Yes	71	42
Toulon	0	4	No	57	87

NAME	OIL	RESOURCES	FACTORIES	XPOS	YPOS
Toulouse	0	4	Yes	30	82
Tours	0	0	No	29	55
Trento	0	0	No	80	63
Trieste	5	3	Yes	98	67
Troyes	0	0	Yes	45	47
Turin	0	2	Yes	63	71
U.S.A.	0	0	Yes	1	1
Ulm	0	2	No	76	45
Utrecht	0	0	No	51	19
Vannes	0	0	No	11	51
Venice	0	0	No	90	70
Verona	0	0	No	83	70
Vienna	0	0	Yes	108	42
Weisbaden	0	0	Yes	66	31
Wilhelmshavn	0	0	No	63	7
Wurzburg	0	0	Yes	76	34

Aircraft

Axis

NAME	TYPE	DOGFT	CAN	LOAD	RNG	DUR	COST	AVAIL
Ju-52	transport	1	0	50	30	18	5	1/41
Bf-109f	fighter	22	5	2	13	18	3	12/41
Bf-109g	fighter	20	16	2	13	31	4	5/43
Fw-190a	fighter	21	20	4	13	33	5	5/42
Fw-190d	fighter	24	12	2	14	33	5	11/44
Fw-190f	fighter-bomber	14	28	16	12	37	5	4/44
Bf-110g	night-fighter	17	30	4	33	37	7	1/41
Bf-110e	fighter-bomber	13	32	4	33	37	6	12/42
Me-262a	fighter-bomber	38	32	16	18	30	9	10/44
Ju-87 Stuka	tactical-bomber	7	3	22	12	19	4	1/41
Ju-87 Pzjag	tank-destroyer	5	10	40	9	22	5	11/43
Hs-129	tank-destroyer	4	18	4	10	60	7	11/43
He-111h	bomber	4	6	44	32	43	6	1/41
Do-217n	night-fighter	14	14	10	36	39	7	1/41
Ju-88a	bomber	5	3	44	28	43	6	1/41
Me-410a	fighter-bomber	12	28	4	26	39	6	4/44
He-177	bomber	3	8	53	19	44	8	12/42
He-219	night-fighter	16	50	0	31	40	8	1/41
Ju-88c	night-fighter	17	20	4	35	43	7	1/41
Ju-188	bomber	4	6	66	30	48	8	1/41

Allied

NAME	TYPE	DOGFT	CAN	LOAD	RNG	DUR	COST	AVAIL
Mosquito IV	bomber	20	0	40	30	36	5	1/41
P39 Aircobra	fighter-bomber	17	13	4	20	33	4	1/41
Spitfire IX	fighter	24	12	4	11	31	5	12/42
Tempest	fighter-bomber	23	16	8	18	37	5	5/43
Typhoon	fighter-bomber	21	16	8	9	39	5	11/43
Wellington	bomber	3	8	45	38	45	6	1/41
Halifax	bomber	2	6	130	46	56	7	11/42
Sterling	transport	1	8	140	50	55	7	1/41
Lancaster	bomber	2	10	180	60	60	8	5/43
Mosquito FB	fighter-bomber	19	20	20	30	37	5	12/42
C47 Dakota	transport	5	0	50	40	20	5	10/41
P-40 Warhawk	fighter-bomber	20	12	10	18	22	4	11/42
P47 Thundrbt	fighter-bomber	22	16	25	45	39	4	11/43
P51 Mustang	fighter-bomber	23	12	20	65	33	5	12/43
P38 Lightng	fighter-bomber	21	12	40	55	37	6	11/43
A20 Havoc	bomber	6	12	40	27	36	6	12/41
A26 Invader	bomber	6	16	60	35	64	7	11/44
B25 Mitchell	bomber	3	12	52	36	67	6	12/42
B26 Marauder	bomber	5	8	52	28	67	6	12/41
B17 Fortress	bomber	1	13	90	85	90	7	12/41
B24 Liberatr	bomber	1	10	128	71	60	7	12/42
B-17	bomber	1	16	70	99	60	99	1/41

Dogft=Dogfight capability, Can=Cannon rating, Load=transport/bomb capacity, Rng=Flight range in hexes, Dur=Durability rating, Cost=Production cost, Avail= Availability date

Equipment

Axis

NAME	ATTACK	DEFENSE	COST	AVAIL
Pz-II	4	4	99	1/41
R-35	4	6	99	1/41
Pz-III	9	8	3	7/42
Pz-IVh	13	8	5	1/42
Pz-IVj	13	9	6	8/44
Panther	19	12	8	10/42
Brumbar	12	10	99	1/41
Tiger	16	14	7	5/42
King Tiger	23	19	9	6/44
Stug-IIIg	12	8	5	12/41
Elefant	22	18	99	7/42
Marder II	13	3	4	7/41
Marder III	12	3	4	11/41
Nashorn	22	3	8	1/43
Hetzer	12	9	6	4/44
Jpz-IV	18	9	6	9/43
Jagdpanther	22	14	8	4/44
Jagdtiger	23	21	9	9/44

Allied

NAME	ATTACK	DEFENSE	COST	AVAIL
Cromwell VII	9	9	6	1/41
Matilda	6	11	6	1/41
Valentine X	11	9	6	1/41
Churchill	10	12	7	11/43
M3 Stuart	6	5	3	1/41
M5 Stuart	6	6	4	1/41
M24 Chaffee	9	5	4	9/44
M3 Lee	9	8	6	1/41
M4/75 Sherman	9	9	5	1/41
M4/76 Sherman	12	9	6	1/41
Firefly	17	10	7	1/41
M10 Wolverine	14	7	5	1/41
M18 Hellcat	14	3	5	7/44
M36 Jackson	20	8	6	9/44
Archer	16	5	7	9/44
Flak	1	1	1	1/41

NAME	ATTACK	DEFENSE	COST	AVAIL
Recon	1	1	2	1/41
Artillery	1	1	1	1/41
Anti-Tank	6	1	1	1/41

Leaders

Axis

NAME	COMMAND RATING	POLITICAL RATING
Balck	8	6
Blaskowitz	5	6
Blumentritt	5	5
Brandenberger	4	6
Busch	6	6
Chevalerie	5	6
Dietrich	4	8
Dollmann	4	4
Eberbach	5	4
Felber	3	7
Foertsh	4	6
Hansen	4	6
Harpe	5	6
Hausser	7	7
Heinrich	6	5
Herr	6	5
Himmler	1	9
Hitler	1	10
Hitzfeld	4	7
Jodl	4	6
Keitel	5	6
Kesselring	8	6
Kluge	6	5
Knobelsdorff	5	6
Lemelsen	5	6
Lindemann	5	6
Loch	4	6
Lucht	5	6
Mackensen	6	6
Manteuffel	7	6
Model	7	6

NAME	COMMAND RATING	POLITICAL RATING
Obstfelder	5	6
Rasp	5	6
Reinhardt	5	5
Rommel	8	3
Rundstedt	7	6
Salmuth	4	5
Schlemm	4	6
Schorner	4	6
Schultz	4	6
Schweppenber	5	5
Sodenstern	4	5
Speidel	6	6
Student	7	7
Vietinghoff	6	5
Vormann	4	6
Weichs	4	6
Wenck	5	6
Wiese	4	6
Zangen	4	6

Allied

NAME	COMMAND RATING	POLITICAL RATING
Alexander	5	8
Anderson	5	5
Bennett	6	5
Bethouart	5	5
Bradley	7	8
Brereton	5	7
Brooks	4	4
Cannon	6	6
Carr	5	4
Clark	3	7
Cochrane	4	5
Collins	5	5
Coningham	6	6

NAME	COMMAND RATING	POLITICAL RATING
Crerar	5	8
Crocker	5	5
De Lattre	6	8
Dempsey	5	7
Devers	6	7
Doolittle	7	7
Eaker	5	7
Eddy	6	4
Eisenhower	8	9
Gerow	5	7
Hansell	5	4
Harris	6	5
Hodges	4	7
Horrocks	6	4
Leese	4	6
Leigh-Mallory	6	7
Middleton	5	5
Millikin	6	5
Montgomery	4	8
O'Connor	7	4
Patch	6	7
Patton	8	5
Rice	5	5
Ridgway	7	5
Ritchie	3	4
Saville	5	6
Simonds	5	6
Simpson	6	7
Slessor	5	6
Spaatz	6	7
Tedder	6	8
Truscott	6	7
Twining	5	7
Walker	6	6
Williams	5	5
Wilson	5	7

COMMAND SUMMARY

Q	Quit Orders	Alt/T	Transfer Mode
G	Get Unit	Alt/T+R	Rail Transfer
N	Next Unit	Alt/F	Bomb Airfield
C	Examine City	Alt/S	Bomb City
R	Remove Unit	Alt/I	Interdiction
P	Plot Mode	Alt/L	Airlift
H	Find Parent HQ	Alt/B	Bridge Bomb
+ or -	HQ Replace Level	Alt/O	Victory Cities
F1	Strat/Tac Map	F6	Show Plots
F5	Add New Unit	Alt/K	Political Points
F9	View Enemy Hexes	F7	Amphib/Drop Zone
F8	Erase Units	Alt/Q	Exit to DOS
F10	View Active Rail	T	Delay/Display Level
Alt/A	Air Trans Mode	F2	Center Cursor
Alt/P	Replace Pools	[Space]	Is similar to the Mode command on the Main Menu
Alt/C	USA Factories	[Shift] '2'	Repeat bridge bombing mission from same HQ
Alt/V	Move Mode	[Shift] 'v'	Toggle Turn Length (4/3 days per turn)
Alt/H	Change HQ		
Alt/V+R	Rail Mode		

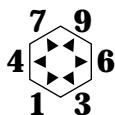
Large Increment Cursor Control Keys:

I
J K
M

Plot Commands:

C Clear Plots O Wait
B Bombard Attack S Static Attack

Large Increment Cursor and Plot Keys:



CREDITS

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COMMAND SUMMARY

Q	Quit Orders	Alt/T	Transfer Mode
G	Get Unit	Alt/T+R	Rail Transfer
N	Next Unit	Alt/F	Bomb Airfield
C	Examine City	Alt/S	Bomb City
R	Remove Unit	Alt/I	Interdiction
P	Plot Mode	Alt/L	Airlift
H	Find Parent HQ	Alt/B	Bridge Bomb
+ or -	HQ Replace Level	Alt/O	Victory Cities
F1	Strat/Tac Map	F6	Show Plots
F5	Add New Unit	Alt/K	Political Points
F9	View Enemy Hexes	F7	Amphib/Drop Zone
F8	Erase Units	Alt/Q	Exit to DOS
F10	View Active Rail	T	Delay/Display Level
Alt/A	Air Trans Mode	F2	Center Cursor
Alt/P	Replace Pools	[Space]	Is similar to the Mode command on the Main Menu
Alt/C	USA Factories	[Shift] '2'	Repeat bridge bombing mission from same HQ
Alt/V	Move Mode	[Shift] '1'	Toggle Turn Length (4/3 days per turn)
Alt/H	Change HQ		
Alt/V+R	Rail Mode		

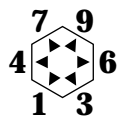
Large Increment Cursor Control Keys:

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Large Increment Cursor and Plot Keys:



QUESTIONS OR PROBLEMS?

Our main business number is (408) 737-6800. If you encounter disk or system related problems you can call our Technical Support Staff at (408) 737-6850 between 11 a.m. and 5 p.m., Pacific Time, Monday through Friday, holidays excluded. NO GAME PLAYING HINTS WILL BE GIVEN THROUGH THIS NUMBER. If you need hints, please write to us at Hints, Strategic Simulations, Inc., 675 Almanor Avenue, Suite 201, Sunnyvale, CA 94086 (include a stamped self-addressed envelope for reply).

System Requirements: To play this game you must have an IBM or compatible computer with at least 560K of system memory available, dual floppy drives named A: and B: or a hard drive, and a graphics adapter capable of supporting VGA or EGA graphic modes. If you are installing to the hard drive, you must have at least 940K of disk space available. You must have the CAPS LOCK key set at OFF at all times.

You must install the game from drive A:. If you purchased disks that are not compatible with drive A: but are compatible with drive B:, insert the Game Disk into drive B: and insert a blank, formatted disk into drive A:. At any DOS prompt, type COPY B:*. * A: and press <ENTER>. You may now proceed to install the game.

Installing the game to the Hard Drive: At the A: prompt, type INSTALL and press <ENTER>. Select the appropriate letter which will allow you to install to the hard drive. Follow the on-screen prompts to determine the proper path and directory name that you wish the game to be installed to. When the install is complete, type WF and press <ENTER> to begin play.

Installing the Game to Floppy Drives: At the A: prompt, type INSTALL and press <ENTER>. Choose the configuration of floppy drives which best matches your system. Remember to choose the drive configuration for which you have floppy disks available. If your drive A: is 1.2M 5.25", but you only have 360K 5.25" disks available, you must select drive A: as a 360K 5.25" drive. Floppy drive users with drive A: being either a 1.2M 5.25" or a 1.44M 3.5" drive, be aware that you will need to have a blank, formatted disk available for drive B: to save your games onto.

Starting the Game from the Hard Drive: Boot your computer with DOS 3.2 or higher. At your hard drive disk prompt, type CD\WF (NOTE: If you created a directory name other than WF, please substitute it here) and press <ENTER>, now type WF and press <ENTER>. The game will now begin. To answer the copy protection question at the beginning of the game, type the number corresponding to the indicated word in the manual.

Starting the Game from Floppy Drives: Boot your computer with DOS 3.2 or higher. To start the game, insert the Game Disk into Drive A:, type A: at any DOS prompt and press <ENTER>. Type WF and press <ENTER>. The game will now begin. You will never remove the Game Disk from drive A:. Depending upon your floppy drive configuration, you may be required to switch between Disk 1, Disk 2, and the Save Game Disk in drive B:. On-screen prompts will notify you when to make these changes if they are necessary. To answer the copy protection question at the beginning of the game, type the number corresponding to the indicated word in the manual.

Giving Commands: You can play the game using the keyboard or mouse. The joystick is NOT supported. Both the keyboard and mouse are active to make choices throughout the game. To select a command using the keyboard, use the numeric keypad to highlight your choice and press <ENTER> to select it. To give commands with the mouse, drag the mouse pointer in the appropriate direction to highlight your choice. Click on the left mouse button to select your choice.

Rule Changes and Clarifications: Units may not be shipped into (moved) into a port until the rail damage drops to 0.

A unit moving to a staging hex pays double amphibious preparation points (it takes less shipping to move troops into a port than onto a beach).

Contrary to the special rule on page 3 in the manual, the Allied player does have rail capacity on the first turn of Overlord.

The rail cost to move a unit is per rail move, not per hex.

Both sides will receive reinforcements during each game. These reinforcements appear automatically in HQ.

Certain events during the game will trigger the arrival of new Allied HQ.

Political points will be expended even if an attempted illegal air mission is not flown.

To change a unit type with the keyboard, place the cursor over the unit and press F5. A unit cannot change its type if it is in a hex with supply level 3 or less.

During the first General Orders phase of each game, some hexes will have inaccurate supply levels. This will correct itself during the next two supply phases as each player's supply network is updated.

During the Overlord, Diadem and Breakout scenarios, the first Axis player turn is skipped.

When creating a new unit, if no corps is available the computer will automatically shift into building a division.

Certain Allied commanders are limited to commanding AF HQ units, while the others are limited to commanding army HQ units.

Commanders will influence the bombing effectiveness of air units under their control (each mission there is a percentage chance of doubling the number of bombs dropped equal to 10 times the commander's command rating).

West Wall and all city hexes are treated as rail hexes for supply and rail movement purposes.

Experienced players should note that the computer playing the attacking side (German player in Bulge, Allied player in all other scenarios) does not play as challenging a game as when defending. Players should use the help Allied/Axis options to help balance the game or shift to three day turns.

Axis HQ units are activated at a range of 11 (not 15 as stated in the rules).