WWII MICRO ARMOUR®: THE GAME

2ND EDITION

JOHN FERNANDES & LEIF EDMONDSON

MICRO ARMOUR®: THE GAME - WWII

SECOND EDITION

JOHN FERNANDES
AND LEIF EDMONDSON

This edition is dedicated to John Fernandes whose patience and determination continue to inspire me. Semper Fi!

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As I write this, I believe it has been 16 years since I began playing with the rules we now know as "Micro Armour: The Game - WWII." GHQ published the first edition in 2001, 12 years ago. Over those years I always knew why I liked these rules, but some things just kept bothering me about them too. So I put fingers to keyboard and some metal on the table.

I had two goals in mind while editing John's WWII rules; first was to make them more easily understood by the reader. I consider myself fortunate; John taught me the rules at the table. However, John liked to write as few words as possible to describe the game mechanics, and that's not always the clearest way to teach someone how to play a game. I've added a number of examples to many of the rules to illustrate how they work. I re-organized bits of the rules to read more logically, and re-wrote passages to make certain aspects of the game more easily understood by someone that only had the rules, charts and tables, and weapons data available to them.

John shared with many folks that he created his rules to simulate battles in his own fictional, alternate timeline of the 30's and 40's. However, he had a larger vision for the rules he was working on. His earliest versions of the rules were called "A Century of Conflict: the Great Crusade." So after they published his WWII rules, when GHQ asked him for a set of modern rules, he had a framework in which to fit them. I know he saw the modern rules as an extension of the WWII rules. He said on a number of occasions that WWII battles should be completely playable with the modern rules set. Thus it is in the "Modern" book that he lays out rules for weather effects, deployments by parachute, and a more comprehensive morale system (unit determination) to name only a few additions.

Therefore my second goal was to bring certain concepts from the "Modern" rule book (and later, George Chrestensen's "Micro Squad" rules) into the WWII (platoon scale) game. The motivation behind this goal was really a selfish one, and that was to have only one book to haul around when I wanted to play games and create scenarios. The side effect of this was to make the game a more complete system as a whole. I think I threw in just about everything; the fire/move posture, more terrain, airborne landings, water and amphibious operations, and lots of engineering detail that may rarely be needed.

First I must thank Gregg and Channing Scott for their enthusiasm and unfailing support for this project. This book would not have come about without them.

I must recognize and thank the following people for help with these rules: George Chrestensen, Nicole Martinez, Maurilio Tamaio, Gary Rhay, DJ Weise, Travis Hardinger, Daryl Nichols, Sven Lugar, Mike Dryden, Kirk Reed, and David Sagirashvili. Without their contributions this update would not have been possible. Finally, I'd like to recognize my family: Tanya, Sergei, and Alex for all of their love, understanding, and patience.

My hope is that you find that my revision of these rules is useful, helpful, and fun.

Regards,
Leif Edmondson

"Life's too short for games that suck!" - John Fernandes

MICRO ARMOUR®: THE GAME - WWII, 2nd Edition

[1.0] INTRODUCTION

Micro Armour: The Game-WWII is a set of rules for use with GHQ's 1/285th scale Micro Armour® miniatures. It covers tactical armoured warfare in the middle of the 20th century. This period, between 1939 and 1945, was the most violent in the history of mankind. It was also the period in which some of the most radical innovations in the art and science of warfare occurred.

Each game is played as a scenario of about eight to twenty turns. Each scenario has its own victory conditions, and perhaps a few special rules that apply only to that scenario. Each game turn represents about 3 minutes of real time; and 1 inch on the playing surface equals approximately 100 meters or yards of distance. Elevations of about 10 meters in height are represented.

[2.0] GENERAL DESCRIPTION OF PLAY

During each game turn players may move and initiate combat with their forces in order to gain conditions for victory. These actions are regulated by a rigid sequence of play that allows the action to progress smoothly.

[3.0] EQUIPMENT

[3.1] Playing Surface

Unlike a board game, where the playing surface is provided, you create the gaming surface in a miniatures game. This surface (board) may be as elaborate or as simple as you desire. Keep in mind that terrain features must be distinct, clearly delineated, and unambiguous. They should never interfere with the smooth flow of play. It is important to place the "Artillery Deviation" compass-style template provided on the board (an uncontested corner is best).

[3.2] Playing Pieces

Your vehicles, infantry, cavalry, artillery, and weapons models should be mounted on 1"x 1" stands. Each stand will represent: a platoon of 30–50 individual infantry or cavalry; 3–6 machine guns or light mortars; batteries of artillery pieces deployed in one, two, or three sections; 3–4 armoured vehicles; a platoon or battery of anti-aircraft and or anti-tank guns; or 3–5 unarmed transport or support vehicles. These models should be mounted so that they clearly face one side of the stand. Each stand should also be marked in some way for easy identification.

In addition to your models, you will need markers to play the game. Printable paper markers are available at the end of this rule set or downloadable from GHQ's website. Use them to indicate combat effects such as suppression or disorganization; and terrain effects or features such as wrecks, artillery impacts, mines, improved positions, etc. Their use is described in the appropriate sections below. Many, including the game designer, replace some of the paper markers with small plastic beads. The colors used are noted in the rules below for those who wish to follow suit.

[3.3] Charts and Tables

The various charts and tables included with the rules are explained in their appropriate rules sections. Please examine them thoroughly before beginning play.

[3.4] Dice and Poker Cards

Three kinds of dice are required to play the game: One 20-sided die (1D20), one 8-sided die (1D8), and two 6-sided dice (2D6). One set of such dice per player is recommended. If you wish to use the optional Unit Determination rule, a poker card deck is required for each GHQ.

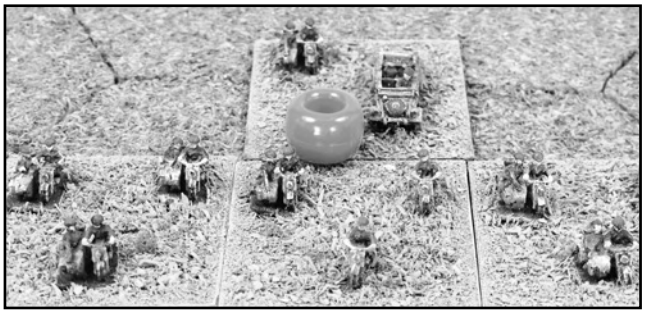
Note: *Anytime a die is described with "/2" (e.g. 1D8/2), divide the roll result by 2, and round up. For example: 1/2 = .5, round up to 1.*

[4.0] SEQUENCE OF PLAY

During each turn players may move and attack with all, some, or none of their stands. These actions are performed in the following prescribed sequence:

1. Initiative Phase – Each player rolls 1D6 and adds the result to his "force cohesion level" in the specific scenario. The player with the higher total has the initiative this turn. In the case of a tie, roll again.

2. Posture Determination Phase – There are three possible "postures." A stand may be in the "firing" posture, "movement" posture, or "fire/move" posture. Players alternate marking movement groups of multiple stands, and then movement groups of only one stand that they wish to move later, during the Movement Phase. Each movement group is marked to show that it is in movement or fire/move posture by placing the appropriate marker on, or next to, the group of stands or stand. Any stand not in the movement or fire/move posture is automatically in the firing posture, and no marker is needed. See [8.0] "Movement" for more details.



The four stands of a motorcycle infantry company, in base to base contact have been declared a movement group and assigned the movement posture.

3. Artillery Fire / Air Strike Phase – Players alternate direct artillery fire attacks, infantry close support vehicle attacks, previously plotted indirect artillery fire and air strikes. Stands attempting to fire in this phase are marked with a red bead.

4. Standard Fire Phase – Players alternate standard fire attacks. Stands attempting to fire in this phase are marked with a red bead.

5. Joint Plot Phase – Players plot the points of impact for artillery fire to be in following turns. They also record "calls" for pre-registered indirect artillery fire.

6. Movement Phase – Players alternate attempts to move their stands according to the rules governing this process. Opportunity fire/covering fire, overruns, and close assaults may occur during the Movement Phase.

7. Marker Removal Phase – Players remove any movement markers from the board, and also markers that indicate a stand has fired this turn. Smoke and artillery impact markers from non-repeating fire missions are removed at this time. Players then conduct cohesion rolls to rally and or recover stands in the Suppressed and or Disorganized cohesion state. See [5.0] "Cohesion" for details.

Several combat engineering operations' outcomes are determined in this phase as well. See [11.0] "Engineering."

[5.0] COHESION

Cohesion is the single most important mechanic of play! It is the very core of *Micro Armour: The Game* (*MATG*). There is generally a "cohesion roll" associated with any sort of task a stand or group of stands attempts.

[5.1] Cohesion Rolls

Whenever a cohesion roll is called for, roll 1D20. The number rolled is subject to modifications as explained below in the rules, charts, and tables. To be successful the modified roll must be equal to, or less than, the player's "force cohesion level." When more than one modifier is called for apply each to the die roll. Cohesion die roll modifiers are cumulative! A force cohesion level, or suggested range of levels, is provided in the scenario or agreed upon by the players prior to the start of play.

Note: *Apply die roll modifiers to the die roll result, not the stand's cohesion value. Subtractions from the die roll are beneficial modifiers, whereas additions to it represent disadvantageous conditions. This principle is consistent for modifiers to Combat Results Table (CRT) rolls as well.*

[5.2] Cohesion States

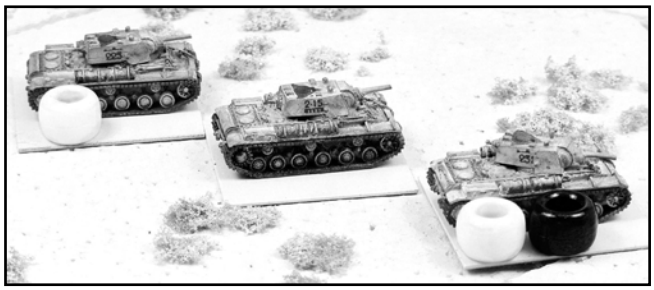
During the game a stand can be in several different cohesion states (indicated by markers or colored beads):

Normal – The default state of a fully combat-capable unit in the game. No marker is needed.

Suppressed – The stand's effectiveness is temporarily reduced. Mark with an "S" marker or white bead. A Suppressed stand adds 4 (+4) to all cohesion rolls while in this state.

Disorganized – The stand has been severely affected by combat. Mark with a "D" marker or black bead. A Disorganized stand adds 3 (+3) to all cohesion rolls while in this state.

A stand may be both Disorganized and Suppressed at the same time, in which case the modifiers are cumulative (+7). See [7.2] "Combat Results" for details on how to apply the various effects.



The T-34/85 platoon on the right is both Suppressed and Disorganized, while the platoon on the left is only Suppressed.

[5.3] Marker Removal, Recover, and Rally
Cohesion changes are cumulative and progressive, and are only removed by the marker removal process at the end of each turn. During the Marker Removal Phase players may attempt to remove Suppressed and or Disorganized markers as follows:

For each stand with an "S" and/or "D" marker make a cohesion die roll.

- A successful, modified, cohesion roll removes an "S" marker from a stand (it "recovers").
- An unmodified roll of 1 removes a "D" marker (it "rallies").
- An unmodified roll of 20 causes an automatic "(S)" result (it "panics"!).

The marker removal cohesion roll is modified by "-1" if a Suppressed stand is adjacent to a friendly (and not Suppressed and/or Disorganized) HQ or GHQ stand (see rule 10.1.7).

Example: Player "Max" is commanding a force of Soviet armour, his cohesion level is "13," and one of his T-34s is both Suppressed and Disorganized.

During the Marker Removal Phase Max attempts to "recover" and "rally" his T-34. He makes a cohesion roll on 1D20. One of four things will happen:

- If Max rolls a 6 or less, his T-34 will recover and will no longer be Suppressed. (6 + 3 for being Disorganized and +4 for being Suppressed) = 13 (his cohesion level). Note: The T-34 will still be Disorganized.
- If Max rolls an unmodified 1, his T-34 rallies and recovers and is no longer Disorganized or Suppressed.
- If Max rolls an unmodified 20, that T-34 is eliminated because it is already Disorganized and Suppressed. The reason (per the CRT) is the "(S)" effect is converted to a "D" and two "Ds" converts to an "E."
- If Max rolls a number between 7 and 19, nothing changes.

[6.0] SPOTTING
Spotting refers to the ability of one stand to "see" another stand or location on the game board. Line of sight (LOS) may be blocked by intervening stands and certain types of terrain.

[6.1] Line of Sight (LOS)
Line of sight is determined by drawing an imaginary straight line between the center of the attacking stand and the center of the target stand. This line must not be blocked in any way. Except in the case of indirect artillery fire, a clear line of sight must exist between an attacking stand and a target stand before the attack can be attempted on that target. For indirect artillery fires see section [7.6].

[6.2] Stands and LOS
6.2.1 For spotting and LOS purposes non-vehicle stands are divided into two types: weapons and personnel. For LOS purposes weapons include any stationary or towed anti-tank, anti-aircraft, and artillery stands not noted with a "P" in the Weapons Data Tables.

6.2.2 Personnel stands include infantry, some mortars, some light anti-tank gun stands, etc. They are marked in the "Notes" column of the Weapons Data Tables with a "P." Personnel stands block LOS to and from other personnel stands. They do not block LOS to or from any other types of stands. Motorcycle infantry and cavalry in the firing posture are considered personnel.

6.2.3 Motorcycle infantry or cavalry in any but the firing posture, and vehicles or weapons in any posture, block LOS to, and from, any stand.

[6.3] Terrain and LOS
6.3.1 Some types of terrain block LOS as indicated in the "Is Line of Sight Blocked?" column of the Terrain Effects Chart. A line of sight may not be traced through terrain which blocks line of sight. However, it may be traced into or out of the terrain type.

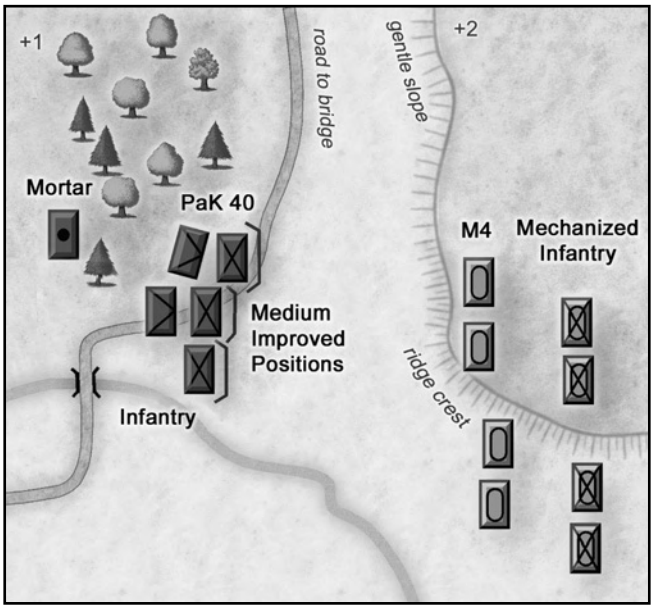
6.3.2 A stand in "blocking" terrain may not be spotted or fired upon if the line of sight passes through the blocking terrain to the edge of the target stand. A stand in blocking terrain may not spot or target an opponent's stand unless the sighting stand's edge is on the edge of a non-blocking terrain type. This applies to all "blocking" terrain: buildings, woods, groves, smoke, impact markers, wrecks, etc.

Note: *The target of the LOS check or the "spotting unit" must have its stand's edge at the edge of the blocking terrain to be "in" it but still see out of, or be seen in, that terrain. One guideline is if the stand edge is more than 1/8th of an inch inside the blocking terrain feature its LOS is blocked. Another guideline is if 75% of a stand occupies the blocking terrain it is "in" the blocking terrain. The key here is communications between players. If a stand is being positioned to fire out of blocking terrain, or conversely, being positioned to "hide" in blocking terrain, ask or tell your opponent your intention at the beginning of the phase, before it can become a problem. Ambiguous situations should fall in favor of the defender. Please be reasonable.*

6.3.3 Certain terrain features may conceal stands occupying that terrain type. Concealing terrain may or may not "block" LOS. See the Terrain Effects Chart for the effects of specific terrain types. Attacks against targets in concealing terrain ignore the cohesion modifier specified in the Terrain Effects Chart if the defender has fired previously in the turn or the defender and attacker are adjacent. However, the CRT die roll modifiers, due to the terrain, are still applied if the cohesion roll is successful.

6.3.4 A stand is <u>always</u> considered to be in clear terrain for spotting and line-of-sight purposes in any phase of the current turn <u>after</u> it has fired.

Note: *It is often advisable to wait for an enemy stand in cover to fire at you before you fire at him. This doesn't negate the effect of the cover for combat purposes but it does make spotting it a lot easier!*



Example: On the left are two PaK 40 ATGs, three German infantry platoons, and a 120mm mortar battery. The infantry are in medium improved positions (MIPs). The ATG on the road is in the open while the other is at the edge of the woods. The mortar battery is in the woods.

On the right are two M4 tanks adjacent to a ridge crest and two more down below. Behind them are four M3 halftracks loaded with U.S. infantry; two on the hill top and two down below.

The M4s on the ridge may trace line of sight (LOS) to both the ATGs. One is in clear terrain while the other is at the edge of "woods" which is concealing to anything in it and blocks LOS through it. If the M4s fire on the ATG in the woods before it fires, the terrain cohesion modifiers will apply to the cohesion roll. If the ATG fired previously in the turn, terrain modifiers would not be applied to the cohesion die rolls of units firing at the ATG. The terrain modifiers would not be applied to the cohesion roll of an attacking U.S. stand that was adjacent to the ATG, whether it had fired or not, because adjacent stands have LOS to one another.. The M4s on the same level as the ATGs may also trace LOS to both ATGs.

The PaK 40s may trace LOS to all the M4s. The ridge crest blocks LOS, but the M4s are on the edge of the terrain. One may fire into but not through terrain that blocks LOS. If they attack the M4s behind the ridge crest they will have to apply a modifier to their cohesion roll. Since the ridge crest is not concealing terrain the cohesion roll modifier will be applied whether the M4s fire or not. If the ridge crest had instead been concealing terrain, a hedgerow for example, then the Cohesion roll modifier would have been negated if the M4s had already fired.

The German infantry in medium improved positions (MIPs) do not block LOS from the tanks to the guns behind them, nor do they block LOS from the guns to the tanks in front of them. However, the infantry are concealed while in the MIPs. This means an attack on one would apply cohesion modifiers if the infantry inside had not fired previously in the turn.

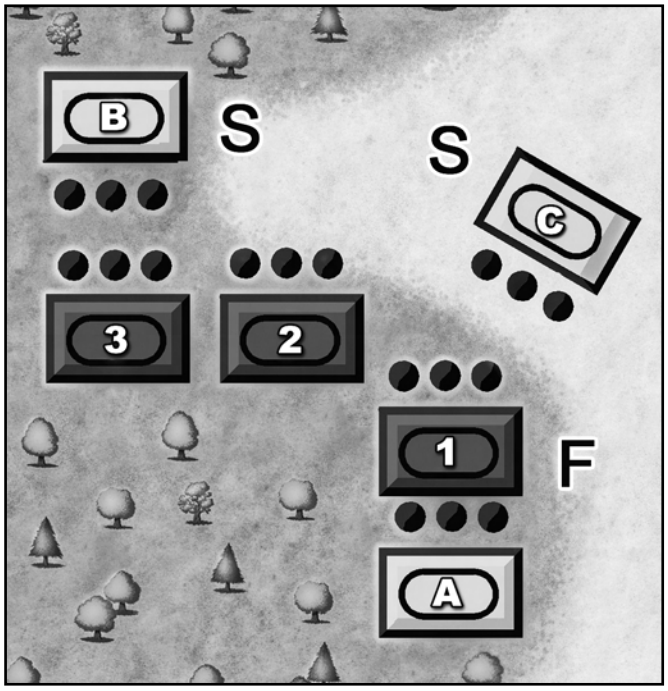
In this situation no stand may trace LOS to the 120mm mortar battery, nor may the mortar battery trace LOS to any stand. The two US mechanized infantry platoons, behind the tanks on the hill, are in a similar situation. Their LOS is blocked by the two tanks in front of them.

[6.4] Range and LOS

6.4.1 Maximum sighting distance is usually given for each scenario as it may be affected by the general terrain in an area, weather conditions, etc. If not specified in the scenario, maximum sighting distance in "open" terrain is 40 inches, that for "mixed" terrain is 20 inches, and for

"closed" terrain it is 10 inches. For further definitions of these general surface types see [9.0] "Terrain." There are no movement costs or cohesion die roll effects associated with these general surface designations.

6.4.2 Adjacent stands have LOS to one another regardless of the Terrain Effects Chart. If an attacker and defender are adjacent and the defender is in concealing terrain the cohesion die roll modifier is not applied. However, the Combat Results Table (CRT) die roll modifiers are still applied.



Example: Blue Tanks A and C are attacking Red Tank #1. Red #1 fired this turn. Blue A can "spot" Red #1 because adjacent stands have LOS to each other. Red #1 is in concealing terrain; however Blue A does not add cohesion modifiers due to concealing terrain because they are adjacent. Blue C can also spot Red #1 because it is on the "edge" of the wood terrain. Blue C is not adjacent to Red #1. However, because Red #1 fired previously in the turn Blue C does not add cohesion modifiers due to concealing terrain. Due to its suppressed status Blue C does have to add the +4 modifier to his cohesion roll.

6.4.3 Stands gain a five inch (5") additional sighting distance for each level of height they occupy above the level they are spotting, subject to scenario restrictions.

[6.5] When in Doubt

If the LOS is ambiguous, rule in favor of the defender. If agreed to by all parties prior to play, a die roll can be used to resolve ambiguous LOS situations.

[7.0] COMBAT

In *Micro Armour: The Game-WWII* combat events occur first in the Artillery Fire Phase, then in the Standard Fire Phase, and finally in the Movement Phase. However, the rules for standard fire are the basis on which most of the other phases are built, so those will be covered first. Then artillery fire will be covered, and finally, in [8.0] "Movement" the last types of combat events will be described.

Note: *Each type of combat event, no matter where it occurs in the sequence of play, is described in a step-by-step process in the Procedures Tables accompanying these rules. It is strongly recommended that readers examine the appropriate procedure immediately after, or even while, reading the rules found herein.*

[7.1] General Principles and Standard Fire Procedure

An "attack" is defined as the application of the firepower of one or more stands against the defense strength of a single stand. Each stand taking part in the attack is required to resolve their fire individually – referred to as a combat event. This means that the cohesion tests for each firing stand are considered and rolled separately. The combat results of each combat event on the designated target, are applied separately, but are cumulative and progressive.

7.1.1 The player with the initiative for the turn decides who executes the first attack of the Standard Fire Phase. The players then alternate attacks until both players "pass." At this point, the Standard Fire Phase ends. A player may choose to pass at any time during the phase while it is his turn to attack, but once the option to pass has been exercised, no further attacks may be made by that player for the remainder of the phase.

Note: *This same process of alternating attacks is also used during the Artillery Fire Phase.*

7.1.2 To conduct an attack during the Standard Fire Phase the attacker first identifies the target stand. The attacker then identifies each of his stands attempting to fire on the target. During the Standard Fire Phase a stand may only be attacked once but may be fired upon, during that attack, by as many stands as the player designates.

Note*: The target stand may have been attacked previously in the turn during the Artillery Fire Phase, or may be attacked later, during the Movement Phase. But it may not be the subject of a second attack later in the Standard Fire Phase.*

7.1.3 A clear line of sight must exist between the designated attacking stand and the defending stand for the standard fire combat event to proceed.

7.1.4 Unless optional rules are being used no stand may fire more than once per turn.

Note: *If a stand has fired, but is then the target of an overrun or close assault during the Movement Phase, it may conduct the defensive die rolls called for in those rules. Also see the optional rules [12.3] "Air Strikes" and [12.8] "Pour It On," for the two instances in which a stand may fire more than once in the same turn.*

7.1.5 Each of the attacking player's participating stands should be designated with a red bead or other distinct marker.

7.1.6 For each designated firing stand in an attack, make a cohesion roll to determine if the stand may fire. This may be referred to as the "to fire" roll. This roll is unique to each participant and subject to modifiers for various conditions or events. For attacks in the Standard Fire Phase these include the attacker's cohesion state ("S" and or "D" states), the attacker's posture (+3 if in the fire/move posture), and the terrain occupied by the target stand. See the Terrain Effects Chart for applicable modifiers.

A successful cohesion roll indicates the fire was effective and combat results must be determined. A failed cohesion roll indicates the fire was uncoordinated and/or ineffective. In this case, a roll on the CRT is not conducted and the stand may not fire for the rest of the turn.

7.1.7 All stands have two firepower values: one for use against armoured targets (the "AP" value), and one for use against unarmoured targets and personnel (the "HE" value).

7.1.8 All stands belong to one of three defense classes: armoured vehicles, unarmoured equipment or weapons, and personnel. These are identified on the Weapons Data Tables as follows:

Armoured vehicle defense values are displayed in brackets: e.g. "[7]."

This SdKfz 263 command armoured car stand is an armoured vehicle. It has a defense value of [3].

Unarmoured equipment or weapons defense values are unmarked: e.g. "4."

The US M2 "Long Tom" howitzer is an example of a weapons stand with a defense value of 2.

Stands marked with a "P" have their defense value divided by 2 (and rounded down) when in the movement posture or fire/move posture (e.g. Cavalry = 5, but in the movement posture it drops to 2).

The Soviet infantry platoon stand is an example of a "P" or personnel stand.

7.1.9 The appropriate firepower value must be used against the defense value of the target, unless special or optional rules are being used.

7.1.10 To determine the results of a combat event, players must determine which "Combat Differential" column to consult on the Combat Results Table (CRT).

To determine this, subtract the target's defense value from the attacker's firepower value. If the difference is lower than -3 and not an artillery attack, it has no effect. If the difference is greater than 9, use the +9 column.

Finally, roll 2D6 and apply applicable modifiers for the terrain the target is in and the range between the two stands. Then find the modified result on the Combat Results Table (CRT).

Note: *When all combat events of a given attack have been concluded, it becomes the next player's turn to conduct an attack or pass.*

Example: Max is controlling a French force with a cohesion of 11. A group of three Pz38t's is in range of four of his R-35s, all are in clear terrain. Considering his low cohesion and firepower against armoured vehicles, he declares an attack on one of the Panzers with all four R-35s. His following cohesion rolls are 19, 7, 2, and 14. Only two of the R-35s were effective. He then proceeds to roll twice on the CRT table. His AP firepower is 2, while the Pz38t's defense is a [3] resulting in a -1 combat differential. His two tanks are less than 5" away from the target so there are no modifiers for range or terrain. He rolls a 7 resulting in an "S" and then an 8 resulting in another "S." This results in the German tank being marked as "Suppressed." All four of his tanks are marked with a red bead to show they've fired. Then it is the German players turn to conduct an attack.

[7.2] Combat Results
The Combat Results Table is populated with five values:

"—" No Effect- Self-explanatory. Attacking artillery, infantry support, MMG, and light mortar stands cause an "S" on a "No Effect" result.

"S" Suppressed- Effectiveness temporarily reduced. The target is marked with a white bead or "S" marker. Apply a +4 to all cohesion rolls by the unit while thus affected. Additional "S" results have no effect.

"(S)" S-Parens- If the target is not suppressed it becomes Suppressed as above. If the target stand is already Suppressed, treat this result as a "D."

"D" Disorganized- Effectiveness seriously reduced. Mark the target with a black bead or "D" marker. Apply a +3 to all cohesion rolls by the unit while thus affected. If the stand is already disorganized when receiving this result, it is eliminated.

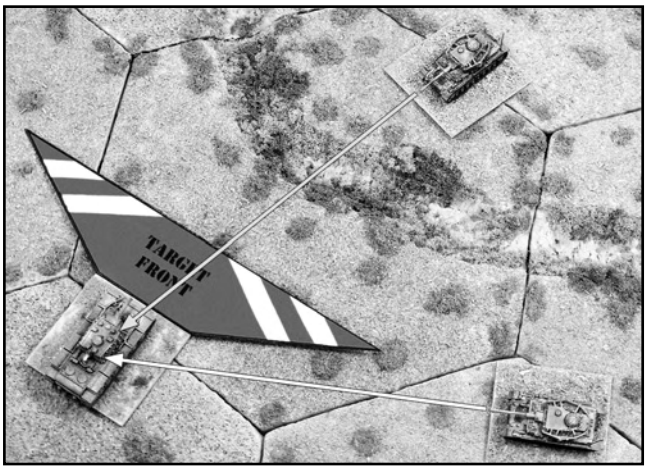
"E" Eliminated- Remove target from play.

Note: *Cohesion state changes are cumulative and progressive. A stand may be affected by both Suppression and Disorganization at the same time, for a cumulative cohesion modifier of +7.*

Example: One of Max's Pz IVGs is attacked by four of Sam's T-34s. Two of Sam's T-34s pass their cohesion rolls and he marks all four participants with a "fired" marker. The first CRT roll achieves an "S" result, followed by an "(S)" for the second. Max puts a "Suppressed" marker next to his panzer stand and then, on seeing the second result places a "Disorganized" marker next to the stand as well. Since the panzer was already Suppressed, the "(S)" is read as a "D" result instead, so his platoon is both Suppressed and Disorganized. Had the results been reversed, first an "(S)" then the "S," Sam's attack would have only resulted in the Pz IV stand being Suppressed.

[7.3] Facing and Range
7.3.1 A stand faces in whatever direction the model mounted on it faces. See [3.2] "Playing Pieces." Armoured vehicles retain 50% of their defense value (rounded up!) when they are fired upon through their side or rear arc. (See the included templates.)

If a line drawn from the center of the attacker's stand to the center of the defender's stand does not pass through the front arc of the target as defined by the "Target Front" template, the fire is considered a side or rear shot, and the target's armoured defense value is reduced. Ambiguous lines fall in favor of the defender.



7.3.2 A weapon's fire may be subject to range effects. To calculate range effect, measure the distance from the center of the firing stand to the center of the target stand. Find that distance in the "Range" column of the Range Effects Chart and cross-reference with the "Die Roll Modifier" row to determine the effect on the attacker's combat die roll.

7.3.3 Stands in base to base contact (touching) are "adjacent" and are considered to be at one inch range.

The German infantry platoon stand #16 and the Soviet T-34/85 platoon are engaged and may not fire at any other enemy stand. Infantry stand #12 is not engaged with the tank as less than half the stand's edges are in contact with the Soviet stand. Stand #12 is at 1" range from the tank.

7.3.4 Stands adjacent with an enemy along one-half or more of either stand are "engaged." Engaged stands may only fire at enemy stands with which they are adjacent.

7.3.5 No stand may exceed its maximum firing range.

7.3.6 Stands with an "R" in the "Notes" column of the Weapons Data Tables have a restricted field of fire and may only use their printed firepower values against targets in their forward arc. Use the "Firing Arc" template to define a stand's front firing arc. This type of weapon may fire at adjacent targets to their side or rear using the firepower and range data for the infantry HQ

unit appropriate for their nationality. This represents the use of small arms by weapon crews.

[7.4] Artillery Fire (General)
As listed in the "Sequence of Play," artillery weapons fire in a separate phase. This is due to artillery weapons being separate and distinct from other weapons. The power of artillery comes from a combination of shell weight and rate of fire. When artillery weapons fire, they do so for the entire turn.

7.4.1 Artillery attacks take place alternately, by initiative, in the same manner as in the Standard Fire Phase (see 7.1.1). Therefore: damage incurred by an artillery stand before it gets to fire must be taken into account. An artillery stand might be Suppressed, Disorganized, or eliminated by enemy artillery fire before it gets to resolve its fire. Suppression and disorganization will affect its cohesion die rolls, which may prevent it from firing.

Note: *Indirect and direct fire artillery attacks are all resolved in the same phase in no particular order.*

7.4.2.1 Artillery weapons include field guns, howitzers, mortars of 65mm or greater, multiple-rocket-launcher weapons, naval gunfire, etc. An artillery stand represents a battery of one, two, or three sections of weapons.

An artillery stand may deliver a one square inch "impact" marker per section per turn. In the Weapons Data Tables, a number in brackets ([ ]) after the weapon name indicates the number of sections represented by the stand, and thus the number of impact markers used for its fire (e.g. "122mm Howitzer [3]" places three artillery impact markers when it fires). The number in brackets after a rocket artillery weapon's name is the number of impact markers used for its fire, and their reload rate is specified in the Weapons Data Tables in the "Notes" column.

7.4.2.2 Impact markers are placed on the board during the Artillery Fire Phase. These markers remain on the board throughout the current turn. They may be removed during the Marker Removal Phase of the turn, or may persist from turn to turn, depending on the fire mission's recorded duration.

7.4.2.3 Artillery stands which produce multiple impact markers must direct the markers to strike the map in a pattern or "sheaf." A "closed" sheaf consists of a single impact location struck by all impact markers allowed for a stand. An "open" sheaf consists of multiple impact locations equal to the total number of markers allowed for the stand. The markers of an open sheaf must land in a straight line and each marker must be adjacent to at least one other marker of that sheaf. Rocket artillery weapons may not use the closed sheaf, only the open sheaf.

7.4.3.1 If a stand occupies the location where an impact marker lands, place the impact marker under the stand. This stand is attacked at the full attack value of the firing artillery unit. If more than one marker strikes the same spot (as in a closed sheaf or attacks by multiple artillery stands), the defender may be subject to more than one CRT die roll.

7.4.3.2 An impact marker must cover at least 50% of a target stand to affect it. Adjust the marker to one side so that it covers the stand it is affecting. If the impact marker falls equally on two or more stands the players should decide which of the possible targets will receive the most coverage and adjust the positioning of the marker accordingly. If need be, roll a die to decide ambiguous situations.

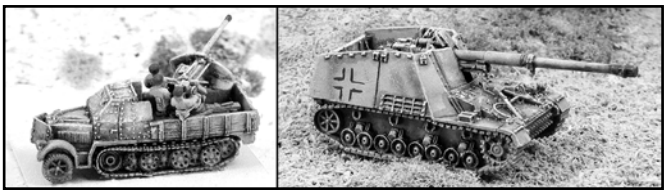
7.4.3.3 All stands in an artillery impact sheaf are subject to attack, regardless of nationality. Artillery shells affect friend and foe alike!

7.4.3.4 Stands which move into an artillery impact marker during the subsequent Movement Phase are subject to attack as well. At least 50% of the moving stand must pass into the impact zone for the stand to be affected. A stand may be affected by any number of impact markers during the Movement Phase. Each impact marker it encounters will affect it.

Note: *An artillery attack is considered to be continuous fire, impacting the target zone throughout the turn. The presence or absence of stands in the target area at the moment the fire commences is irrelevant.*

7.4.4 The HE firepower value of the artillery stand is applied to unarmoured targets while the AP firepower value is applied to armoured targets. Armoured vehicles attacked by artillery retain 50% of their defense value (rounded up). Facing is irrelevant. Open-topped

armoured vehicles retain only 25% of their defense value (rounded up). Open topped armoured vehicles are noted with a "U" in the Weapons Data Tables.



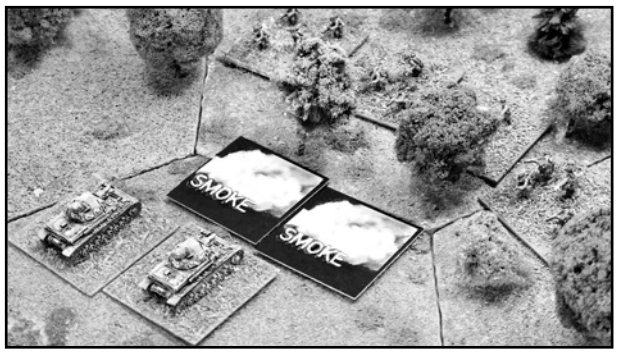
Example: An SdKfz 251 has an armoured defense value of [3] but is open topped. When attacked by artillery it would have a modified defense value of 1 (3 x.25 = .75, rounded up, .75 = 1.)

7.4.5.1 Artillery impact markers block line of sight through the marker.

7.4.5.2 Firing into an artillery impact zone incurs a +3 to the firing units cohesion roll. No stand may fire out of an artillery impact marker.

7.4.6 The terrain the defender occupies affects the CRT die roll.

7.4.7.1 Artillery weapons marked with an "S" in the "Notes" column of the Weapons Data Tables may opt to deliver a smoke screen marker rather than a standard artillery fire impact marker. The same sheaf patterns are used for smoke markers. Smoke markers are removed during the Marker Removal Phase like other artillery markers.



To screen a planned close assault on advancing German armour, the Soviet player fires a smoke mission ahead of his infantry hiding in woods. The mission deviated 1" from directly in front of both tanks. As a result, the Panzer III can still see two of the Soviet infantry stands. The smoke blocks the other lines of sight.

Smoke has the following effects:

1. Smoke suppresses like normal artillery fire. See 7.2 "Combat Results" for details.

2. Close assaults and overruns may take place in smoke.

3. Smoke is a type of terrain and blocks line of sight, but may be fired into or out of, but not through.

4. Stands firing into and/or out of smoke incur a +3 cohesion and CRT die roll modifier. This is in addition to the suppression effect to stands in smoke. (See the Terrain Effects Chart.)

7.4.7.2 Artillery batteries were not supplied with unlimited quantities of smoke rounds. To determine the number of smoke fire missions each artillery stand has available, multiply the total number of turns in the scenario by .3 (rounded down). Players must record smoke round usage by stand number.

Note: *A piece of scratch paper will be needed for this as the "Artillery Fire Mission Record" sheet may not contain all of the shots fired by every battery in the game (notably direct fire missions).*

7.4.8 If an artillery stand is attacked in a close assault procedure, or is engaging enemy stands at less than its minimum range, it must use the same firepower, range, and defense values as its nation's infantry HQ stand.

7.4.9 Grouped Fire

On-board artillery stands, in contiguous base contact and belonging to the same artillery battalion or regiment, may be grouped together for firing cohesion die roll purposes. Off-map artillery stands, described as part of the same battalion or regiment in the scenario's Orders of Battle (OOBs), may also be grouped and roll one firing cohesion die for all elements of the organization. All off-map US artillery units, regardless of battalion association, may be grouped together as above.

Off-map UK forces, beginning in 1944, may also be similarly grouped as the Americans.

7.4.9.1 The impact markers of grouped artillery stands must form a single sheaf pattern of either open or closed variety. The sheaf pattern of the grouped fire rolls for deviation as if it were a single stand.

When plotting "grouped" fire, the FO must have a clear LOS to the locations of all the impact markers, accounting for the blocking effect of any impact marker within that sheaf.

7.4.10 Artillery stands (even self-propelled units) may not use the fire/move posture. Artillery batteries may not fire and move in the same turn. This does not apply to infantry close support artillery weapons. (See rule [10.8].)

7.4.11 Any artillery stand, plotted to fire direct or indirect missions, which moves between the turn of plot and the turn of arrival may not participate in or conduct the plotted fire mission.

[7.5] Direct Artillery Fire
All artillery weapons are capable of direct fire. This type of fire represents the artillery battery (stand) using its own integrated observers to direct and correct their fire. It may be referred to as self-observed fire. These weapons are firing continuously throughout the turn at coordinates (or a target) they can trace a line of sight to and that is in its range. See the Direct Artillery Fire procedure for the step by step process to conducting these attacks.

7.5.1 The artillery stand(s) must have a clear line of sight to the target as in standard fire. The firing stand must have a clear line of sight to every location covered by the sheaf pattern chosen for this attack.

Note: *You may not use sheaf patterns to fire on stands that would not otherwise be legitimate standard fire targets.*

7.5.2 Direct artillery fire does not have to be plotted in advance (but may be plotted if desired).

Note: *Since the Joint Plot Phase comes after the fire phases, and artillery is not allowed to perform opportunity fire, it is impossible to bring artillery fire down on a hidden target which reveals itself by firing. Therefore: By pre-plotting direct artillery fire, you can attack concealed stands which expose themselves in the above manner in the following turn's Artillery Fire Phase. Plotted direct artillery fire missions should be plotted to arrive in the next turn and are not delayed by the nationality of the firing unit.*

7.5.3 You must roll for cohesion in order to conduct direct artillery fire, like other combat events.

7.5.4 Mortar and rocket artillery stands must roll for deviation when executing direct fire. (See [7.6] below.)

7.5.5 Artillery stands, conducting direct fire attacks have their "to fire" cohesion die rolls modified by the attacking stand's cohesion state only. The terrain of the target stand does not affect this cohesion roll. The terrain does still affect the CRT die roll results. Artillery stands, conducting direct fire, ignore CRT "Range" modifiers.

[7.6] Indirect Artillery Fire
Artillery, or any weapon marked with an "I" in the "Notes" column of the Weapons Data Tables, may conduct the various types of indirect fire missions.

Indirect artillery fire is one of the more complicated aspects of battle to simulate as historically it is a complicated and dangerous aspect of warfare. Indirect artillery fire occurs when the firing gun crews cannot see the impact location of their fire. The forces of every major country in the war were trained to employ this technique.

Note: *Off-map artillery fire and air strikes are also types of indirect fire but follow somewhat different rules. See [7.7] "Off-Map Artillery" and [12.3] "Air Strikes" for specifics.*

Indirect fire occurs when artillery weapons cannot "see" (trace a clear LOS to) the target. Instead, the batteries fire to a set of map coordinates provided to them by forward observers (FOs), or an HQ, that can see those coordinates. These observing units must "plot" the coordinates and other critical data required to conduct the indirect fire mission. Artillery units may not conduct indirect fire without a plotted mission.

7.6.1 Conducting Indirect Artillery Fire
7.6.1.1 Only indirect artillery fire missions noted to arrive in the "Turn of Arrival" column of the "Artillery Fire Mission Record" sheet for the current turn may be conducted. As the player executes each of these during the Artillery Fire Phase the following actions must occur:

7.6.1.2 On an indirect fire mission's recorded turn of arrival, a successful cohesion die roll must be passed for each artillery stand performing the fire mission, unless "grouped" (see 7.4.9). This roll is often referred to as the "to arrive" roll. This roll may be modified by the cohesion state of the firer and a -2 if it's a pre-registered fire mission.

If this cohesion roll is not successful, the fire does not arrive, and the stand's impact markers are not placed. The artillery stand is marked as "fired" with a bead or marker and may not conduct artillery fires for the rest of the turn.

If the roll to arrive is successful you must determine whether that fire "deviates" from the plotted location. To do this, another cohesion roll is necessary. This roll may be modified by the cohesion state of the firing unit and -2 if it is a pre-registered fire mission.

When firing pre-registered missions with rocket artillery, only apply modifiers for the cohesion state of the firing unit (there's only so much skill and training can make up for when firing unguided rockets).

This cohesion roll is often referred to as the "to deviate" roll. If the deviation roll is successful the impact markers are placed exactly as plotted.

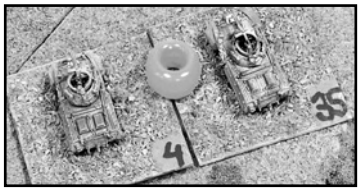
If the roll is not successful roll 1D8 and compare the result to the numbers on the "Artillery Deviation" template. This gives the direction of deviation (refer to

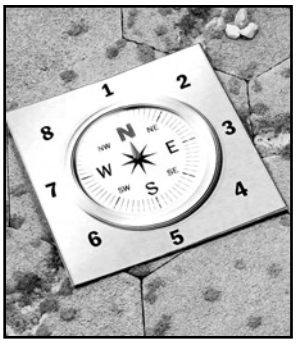
the compass marker placed on the board at the beginning of play). A roll of 1D8/2 (rounded up) gives the distance in inches that the sheaf-pattern deviates from the original target location.

When determining rocket deviation distance, roll 1D6.

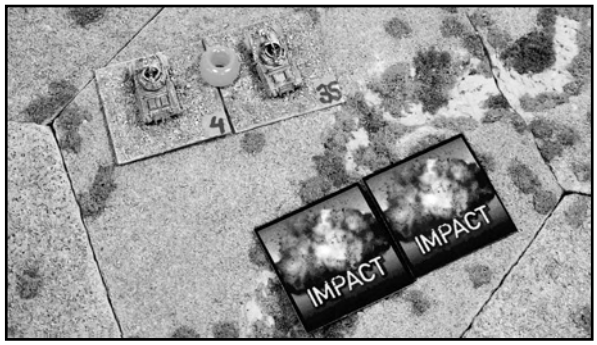
At this point in the process players should see rules 7.4.2 through 7.4.4 above, for guidance on marker placement and their effects on stands under which they are placed.

Two platoons of US recon cars have been targeted by a German FO. He calls in a 120mm mortar battery open sheaf barrage accurately on the location where stand #35 has ended his last movement phase. The mortars pass their cohesion roll to fire, but fail the deviation.





Here the Artillery Deviation (Compass) Template has been placed over the spot where the fire was to have fallen. The German player rolls the 1D8 and it comes up "8". The deviation is to the lower right. For distance of the deviation, (1D8/2), he rolls a "4", so the open sheaf is 2" away from the intended location.



The two artillery impact markers are placed on the tabletop. The German's glee at having properly estimated the US patrols location has turned to frustration, as the fall of shot is behind them!

7.6.1.3 To determine the results of a combat event, calculate the combat differential for each impact marker. To do this, subtract the defender's modified defense value from the appropriate firepower of the artillery stand represented by the impact marker. If the difference is less than -3, or the roll results in a "no effect," it is treated as "Suppressed." If the difference is greater than 9, use the +9 column.

Finally, roll 2D6 and apply applicable modifiers for the terrain the target is in. If the fire mission is a barrage apply a +2 die roll modifier as well. (See 7.6.2 for types of fire mission.) Then find the modified result on the Combat Results Table (CRT).

7.6.1.4 Indirect artillery attacks ignore CRT "Range" modifiers.

7.6.1.5 Final Protective Fire
An artillery stand plotted to fire an indirect fire mission, may cancel that mission, and perform direct fire instead. If the artillery stand can spot an enemy unit in its allowed field of fire (use the "Firing Arc" template if the weapon has a restricted field of fire), it may roll a cohesion check with a +2 modifier applied. If this roll succeeds, it has canceled the current mission and may conduct direct fire instead (with the required successful "to fire" cohesion roll). If the cancellation cohesion check fails, the artillery unit may not fire at all.

7.6.2 Types of Indirect Artillery Fire Missions
7.6.2.1 The dedicated support fire mission is the standard indirect fire mission in these rules. It is available to both defender and attacker in all types of scenarios.

The plotting FO or HQ must be able to trace LOS to all of the impact location coordinates of a support mission, on the turn of plot during the Joint Plot Phase. This mission must have all fields of the "Artillery Fire Mission Record" completed. The earliest possible turn of arrival is determined by the nationality rules below ([7.8] "National Artillery Efficiency").

The support mission follows the standard combat process described in section 7.6.1 to resolve attacks. For the complete process use the "Indirect Artillery Procedure" included with the rules.

7.6.2.2 Pre-registered fire missions are established and fired upon by supporting artillery units prior to the start of the scenario. These missions have been plotted, corrected, and recorded by the gun crews and FOs before play begins. As such, these missions are "plotted" after the terrain is placed and the defender has set up, but prior to the attacking player's deployment.

This mission type is available only to defending players in any type of scenario except the "meeting engagement," where it is not allowed for either force.

A pre-registered mission plot only needs to contain the mission name, firing unit IDs, impact location coordinates, sheaf pattern, and ammunition type. For the "Turn of Plot" field enter "pre" or "PR." It does not require a plotting FO ID, turn of impact, turn of arrival, or duration.

During the Joint Plot Phase, an FO or HQ doesn't plot the coordinates for this mission. Instead they record a "call" for a named pre-registered mission. The "calling" FO or HQ must be able to trace a clear LOS to at least one of the missions' impact locations on the turn of call. On the turn of the call, the player records the turn of call, the calling FO or HQ's ID, turn of impact, and duration.

The turn of arrival may be 1 or more turns after the turn the fire was called for. This is true for all nations' forces.

The batteries designated to conduct a pre-registered fire mission may not move between the establishment of the mission (before the game starts) and "Turn of Arrival." If they move, the pre-registered mission is canceled.

Note: *Using pre-registered missions allows one to respond faster than the limits imposed by [7.8] "National Artillery Efficiency."*

When rolling the "to arrive" and the "to deviate" cohesion checks apply a "-2" to the roll for pre-registered fire missions.

Players receive one pre-registered fire mission for every three stands of artillery in the scenario's Order of Battle section and 1 additional pre-registered plot if on the defense in a Hasty Attack, Delaying Action, or an Attack on a Prepared Position. The players also may receive additional pre-registered plots based on the force's cohesion level. Use the "Additional Targets Table" below, to determine how many of these a player receives.

ADDITIONAL TARGETS TABLE

Cohesion	Additional Targets
≤12	0
≥13	+1
≥17	+2

7.6.2.3 The adjusted fire mission represents a new location of fire, but is an adjustment from a pre-registered fire mission. These missions may be plotted on or after turn one of the game by a force that has recorded one or more pre-registered fire missions.

A plot for an adjusted fire mission must contain data in all fields of the "Artillery Fire Mission Record" sheet. An FO or HQ must have a clear LOS to all of the impact locations of the sheaf pattern in the Joint Plot Phase on the turn of plot. The coordinates of this mission may be no further than 4 inches from the pre-registered coordinates on which this is based. The turn of arrival follows the nationality rules (section [7.8]) below.

7.6.2.4 The barrage fire mission is a pre-planned type of indirect artillery attack used to engage "suspected" enemy units in a given area, disrupt possible concentration areas, or disrupt the defenses of the enemy on the axis of advance of friendly troops. It can be used to simulate creeping or rolling barrages.

These missions have been worked up by artillery fire planners prior to the start of the action. As such these missions are "plotted" after the terrain is placed, but prior to either player's deployment. They may only be plotted before play begins.

The barrage fire mission is available to either attacker or defender in all scenario types except for the Meeting Engagement and Hasty Attack.

A barrage mission must have all fields of the "Artillery Fire Mission Record" completed, except the ID of the plotting unit. They may be plotted to arrive as early as turn 1. The barrage mission coordinates may not be changed once play begins. The mission may be stopped, using the same procedure for canceling a multi-turn mission (see. 7.6.5 below), by an FO or HQ that can see at least one of the missions impact markers at the time of the request for cancelation.

Barrage mission attacks apply a +2 to CRT die rolls resulting from this mission. If a barrage mission fails to arrive it simply delays the arrival by one turn.

7.6.3 Plotting Artillery Fire Missions

An artillery fire mission must be "plotted" in order to perform indirect artillery fire missions. Use the "Artillery Fire Mission Record" sheet to record the following information for each plotted fire mission. The fields of this "Artillery Fire Mission Record" sheet include:

1. "Turn of Plot/Call": The turn in which the mission is plotted or called. For missions created prior to the game "pre" should be noted in this column.
2. "ID of Plotter/Caller": The ID of the FO or HQ stand making the plot.
3. "Mission Name/Type": The type of mission (Support, Barrage, or Adjusted) or in the case of a pre-registered mission, its name or number (e.g. "Bravo," "village bridge," or "FM02").
4. "ID of Firing Unit(s)"
5. "Turn of Arrival": This must be calculated at the time of plot, factoring in the type of mission and nationality of the force. The turn number recorded will be "when" it is available.
6. "Duration": The duration of the mission in numbers of turns, inclusive of the first turn of arrival. A duration of "1" means the mission lasts for only the one turn it arrives on.

For example, a recorded duration of 4 would mean it would last for the first turn of arrival plus three more turns.

7. "Impact Location": The location of impact should be noted in standard "right and up" format. This format records the number of inches from the left hand side of the board (as the player faces it) to the right until one reaches the target location. Then the number of inches "up" from the edge of the board closest to the player, to the target location, is recorded.

   For example: A recorded coordinate location of "0426" would be "4 inches right, then 26 inches up." "1722" would be "17 inches right, then 22 inches up."

   For pre-registered missions, specific geographic locations on the board may be given coordinates (i.e. a town at 1422 or hill at 0730). These pre-registered mission coordinates are pre-measured.

   For example, Hill 324 = "0730"

   Support and adjusted missions may be plotted in relation to pre-registered mission coordinates.

   For example, a support mission could be written as '5" E of Hill 324'

8. "Sheaf Pattern": Note the sheaf pattern for the mission. Make sure to note the direction an open sheaf is to be laid out in. It is also a good idea to note how many impact markers to deploy.

   For example: Notation "1722 Open 2E" is read: "17 inches right, 22 inches up, open sheaf, 2 impact markers starting at 1722 and going east."

9. "Ammo Type": Note the type of ammunition being used – HE or Smoke. HE is the default if no notation is made.

The plotting sheet is also used to record "calls" for pre-registered fire missions (see above). It should be used to plot direct fire artillery the turn before it fires. See [7.5] "Direct Artillery Fire" and [12.3] "Air Strikes."

7.6.4 Forward Observers, Calling and Observing Indirect Artillery

During WWII forward observer teams (FOs) were equipped with radios (or preferably telephones, when in established defensive positions). These small teams of soldiers were trained to provide accurate artillery indirect fire mission coordinates and adjust and correct the fire once it began arriving.

7.6.4.1 The scenario Order of Battle will detail the number of FO teams available to the player. These must be assigned to a stand, in writing, prior to the beginning of play. Any stand may "host" an FO. Unless otherwise noted in the scenario, all HQ stands may also perform the FO functions; however, GHQ's may not perform as FOs. See [7.8] "National Artillery Efficiency" rule for further description of the number of FOs a player may designate.

7.6.4.2 Each type of fire mission specifies the spotting requirements of an FO or HQ for the mission to be plotted. In most cases an FO or HQ must have a clear line of sight to each of the intended impact locations during the Joint Plot Phase, on the turn the mission is plotted. Failure to meet the spotting requirements specified means the plot or call may not occur during this turn.

7.6.4.3 The stand containing the FO may be in any posture during the plotting turn.

Note: *In the first edition, FOs could only plot fire while their host stand was in the fire posture. For a more challenging game, if all players agree, the game may still be played that way.*

7.6.4.4 An FO may be moved to a different valid "host" stand during a game. It moves from its current host in the current turn and arrives in its new host stand the following turn. During these two turns of transition, it may not plot fire missions. This transition must be written down. The FO ability of an HQ may not be transferred to another stand as just described.

7.6.4.5 If the FO's stand (or HQ) is eliminated during the remainder of the plotting turn, the plot is cancelled.

7.6.4.6 To successfully plot a target location, the FO must obey all LOS rules as if they were themselves firing.

7.6.5 Duration and Indirect Fire Missions

7.6.5.1 To avoid repeated cohesion rolls, you may plot indirect artillery fire with a duration of two or more turns. If the "to arrive" cohesion roll for a multi-turn

duration fire mission succeeds, subsequent attacks in that mission do not require a "to-arrive" cohesion roll.

7.6.5.2 The "deviation" cohesion roll for a multi-turn duration mission is rolled on the turn of arrival.

If the mission is on target, it remains so through the duration of the mission, and additional deviation rolls are not required (even for mortars).

If the fire deviates, the impact makers are placed as per the standard deviation procedure. The impact markers remain in that new location for the duration recorded or until it is canceled. On any turn after its arrival, if an FO or HQ can spot any of the off-target missions' impact markers during the turn's Joint Plot Phase, a successful cohesion roll will permit the player to move the deviating fire to its plotted coordinates in the following turn.

7.6.5.3 If a player wishes to end the fire before the duration mission has begun or is complete, they may make a "termination" cohesion roll during the Joint Plot Phase. If terminating a future planned mission and the roll is successful, the mission is canceled. If the mission is in progress the fire will cease the turn following the successful cohesion roll.

7.6.5.4 "Duration fire" is continuous from turn to turn. Artillery impact markers are not removed between turns of a multi-turn fire mission. In this way enemy observation of troops masked by smoke or artillery fire is prevented.

[7.7] Off-Map Artillery

In most cases artillery support is close enough to be effective but too far away for the weapons to be visible on the playing surface. off-map (or off-board) artillery represents this. The scenario Order of Battle will indicate the presence of off-map direct support.

Air strikes are another form of off-board artillery. Their execution is similar in many ways. Air strikes are covered under [12.3] "Air Strikes."

7.7.1 All off-board artillery fire is indirect-fire.

7.7.2 Off-map artillery require successful cohesion die rolls both to successfully arrive and prevent deviation just as other indirect fire.

7.7.3 The maximum range of off-map artillery weapons is reduced by 30%. The reduced maximum range of off-map artillery units is measured from any point along the controlling player's board edge.

[7.8] National Artillery Efficiency

7.8.1 Each major combatant in this period had its own artillery doctrine and capabilities. Indirect artillery fire arrives some turns after it is successfully plotted depending on the nationality as follows:

1. All of the U.S. forces' indirect fire, and post-January-1944 British/Commonwealth forces' indirect fire arrives no sooner than 1 turn after it has been plotted.

2. All pre-January '44 UK/Commonwealth forces', and all German forces' indirect fire arrives no sooner than 2 turns after it has been plotted, except in the case of pre-registered fire missions (see 7.6.2.2).

3. All other countries' indirect fire arrives no sooner than 3 turns after it has been plotted, except in the case of pre-registered fire missions (see 7.6.2.2).

7.8.2 National doctrine also affects the number of FOs the force may designate as follows:

1. All U.S. forces and UK/Commonwealth forces after January of 1944:
   - Each battalion HQ may act as an FO. This ability may not be moved to another stand.
   - One FO may be designated for every three infantry and/or weapons stands noted with a "P," in the scenario's Order of Battle (OOB).
   - Every "non-transport" stand in a reconnaissance unit in the OOB may act as an FO.
   - Additional FOs may be purchased for 15 points each.
2. Pre-January 1944 UK/Commonwealth forces and German forces:
   - Each battalion HQ may act as an FO.
   - One FO may be designated for every three artillery stands (or part thereof), capable of indirect fire, in the OOB.

- One FO may be designated for every three "non-transport" stands (or part thereof) of an armoured car or reconnaissance company or battalion in the OOB for the scenario.
- Additional FOs may be purchased for 25 points each.

3. All other countries:

- Each battalion HQ may act as an FO.
- One FO may be designated for every nine artillery stands (or part thereof), capable of indirect fire, in the OOB.
- One FO may be designated for every armoured car or reconnaissance battalion (or part thereof) in the OOB.
- Additional FOs may be purchased for 35 points each.

7.8.3 The U.S. indirect artillery control was the most agile in the war. If a U.S. artillery stand is in the fire posture and not already assigned to a plotted indirect fire mission during the turns Artillery Fire Phase, it may be added to any plotted or called fire mission scheduled for the current turn. Add "+2" to the cohesion roll "to arrive" when a stand fires in this manner.

[7.9] Fire Support Allocation

As one examines the costs of fielding heavy artillery it becomes apparent that it is expensive. Often, the cost of even a battery (stand), not to mention a battalion, is prohibitive in small games. In addition, historical references show that the tremendous amounts of ammunition used by large formations, conflicting priorities, and many other factors restricted the use of artillery on the battlefield. The Fire Support Allocation rule allows a number of barrages of off-map artillery to be "purchased" during the scenario design process, without paying for all of the guns for the whole length of the scenario. All artillery units deployed "on the map" must be paid for in full.

7.9.1 Use the following formula to determine the cost of allocating battery fire for a known number of turns of fire per battery. Divide the number of turns during which fire may occur by the total number of turns in the scenario to find a decimal representation of the cost of the fire missions. Then multiply the cost of the battery by the ratio to find the total cost.

For example, 3 turns of fire by a 122mm Howitzer [3] stand in a 15 turn game has a ratio of 3/15 = .2, .2 * battery cost of 308 = 62 points for 3 turns of fire from the battery.

7.9.2 All off-map fire procedures must be followed when using these allocated shots. If the cohesion roll "to fire" does not succeed, that turn's fire is lost.

7.9.3 Allocated off-map fire missions are not limited to firing in consecutive turns

ARTILLERY FIRE EXAMPLES

EXAMPLE #1 - THE SUPPORT FIRE MISSION

Note: The compass rose for this example is oriented such that north is to player Max's left. Max's forces are facing east.

On turn 3, during the Joint Plot Phase Max decides he would like to direct his two off-map "150mm sFH 18 [2]" batteries to fire onto a location he hopes will help protect his infantry company from attacking forces. He writes the following on the next two lines of his Artillery Fire Mission Record:

a. The "Turn of Plot" is 3 for both lines as this is the current turn.

b. The plotting stand field is "FO in 231" for both lines, as he is using the FO in stand 231 because it can see all the locations he intends the markers to hit.

c. The "Type of Mission" field for both lines is "support." The firing units don't have stands as they are designated off-map in his order of battle. He explains this to his opponent and says "I'll designate these as "OB150 #1 and OB150 #2" and he writes each as a separate line on the record sheet.

d. The "Turn of Arrival" field is filled in with a 5 because it is currently turn 3 and German artillery takes a minimum of two turns to arrive after it is called.

e. These fire missions will only last 1 turn so duration for each is 1.

1 - ARTILLERY FIRE MISSION RECORD							
Turn of Plot/Call	Plotting/Calling FO/HQ ID	Mission Type/Name	Firing Unit ID	Turn of Arrival	Duration	Impact Location/ Sheaf Pattern	Ammo Type
3	FO IN 231	SUPPORT	OB 150 #1	5	1	0816 OPEN S2	HE
3	FO IN 231	SUPPORT	OB 150 #2	5	1	1016 OPEN S2	HE

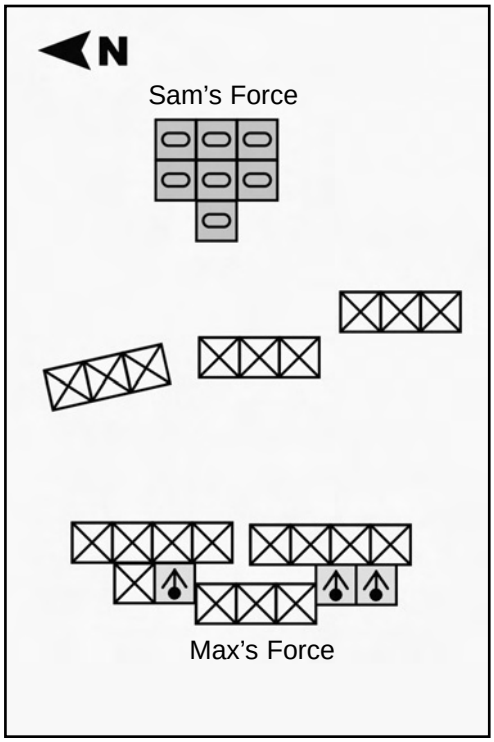
Then Max describes where he would like the fire to arrive. After taking a measurement he writes "0816 Open S2" for the first battery.

Max wants his second battery's fire to land next to the first, so he records the coordinates "1016 Open S2" to create a solid 4 inch long field of artillery fire right in front of his troops.

On turn 5, during the Artillery Fire Phase, Max will make a cohesion roll for the first unit. There are no die roll modifiers as the first artillery stand is in the normal cohesion state. His roll is successful, so the artillery unit fires, and Max puts the impact markers on the board.

Reading his plot, he measures 8 inches "over" from his left side of the board and then measures 16 inches "up" from his edge of the board towards his opponent's side and places the first marker.

Reading the rest of the notation, it is an "open" sheaf, so the second marker is placed adjacent to the first, in this case 1 inch to the south. Next, he makes a cohesion roll to see if they deviate. The firing stand is still in the normal cohesion state so there are no modifiers to this roll. His roll is lower than his cohesion value so he leaves the markers in place. Max then carries out the same procedure for the second unit, using an initial impact point 10 inches across and 18 inches up.



Sketch of disposition of forces for examples 1 and 2.

EXAMPLE #2 - THE BARRAGE FIRE MISSION

Note: For this example the diagram and orientation of Example 1 are used. North is to Max's left and his forces are facing East.

Before the game begins Max estimates that at the start of turn two, his enemy will be about 18 to 24 inches from that player's side of the board, on a road running down the center (not shown on the above map). This is about how far a T-34/85 can travel in one turn on a good road. Max wants to fire his artillery on this position but knows he won't be able to use a support fire mission on this location quickly enough with his German artillery. He is not certain he will have LOS to this location during the Joint Plot Phase of turn 1 with one of his FOs, so he uses a barrage mission after the board is set up, but before anyone deploys forces.

a. Max records the plot turn as "pre-game."

b. He fills in the ID of the calling stand and writes "barrage" in the mission type field.

c. He identifies the firing units: two off-map 150mm sFH [2]'s, He writes "G1" after each battery's name (or he might bracket them on the page) to indicate he has grouped the batteries together.

d. He records the turn he wants the fire to arrive and how long it will last.

e. He then records where he wants the impact markers to arrive, the sheaf pattern, and the direction and distance the markers of the sheaf will land.

2 - ARTILLERY FIRE MISSION RECORD							
Turn of Plot/Call	Plotting/Calling FO/HQ ID	Mission Type/Name	Firing Unit ID	Turn of Arrival	Duration	Impact Location/ Sheaf Pattern	Ammo Type
PREGAME	110 HQ	BARRAGE	OB150#1 G1	2	1	1224 OPEN E2	HE
PREGAME	110 HQ	BARRAGE	OB150#2 G1	2	1	1226 OPEN E2	HE

The plot is designed to land on the road 12 inches over from the left side of the board, and 24 inches up from Max's edge of the board. The open sheaf of 4 impact markers will extend to the east, on the road.

In the artillery fire phase of turn 2 Max rolls 1D20 for the cohesion roll to see if the grouped barrage mission arrives. He rolls 7. There are no other modifiers as the firing unit is in the normal cohesion state. The result is well below his cohesion of 15, so the first artillery marker is placed on the board.

Max then checks to see if the fire arrives on target. He rolls only 1D20 a second time and scores a 12. Again the roll is lower than his cohesion indicating the sheaf lands on target.

Max places the remaining three markers of the grouped barrage mission, under three T-34/85 tanks of his opponent. He then calculates which "combat differential column" to use (i.e. "-1" column).

When Max rolls 2D6 on the CRT for these attacks, he will add +2 to the result because this is a barrage mission. If the impacts and enemy stands had been in terrain that provided a CRT die roll modifier, such as woods or buildings, it would have been added to the CRT die roll as well.

Max did not use a pre-registered fire mission for this because he was concerned that he would not have a stand with an FO in a position to see the location "1224" during the plot phase of turn 1. If he was confident of having the location under observation the pre-registered mission would have been a better choice because it does not have the CRT die roll modifiers.

EXAMPLE #3 - THE PRE-REGISTERED FIRE MISSION

Note: In this example the map and compass rose are oriented as in the diagram above but the forces are different. Max has three 105mm M2A1 [2] batteries supporting his infantry battalion defending a town. Before the game starts he records the following two pre-registered missions. The first will be a defensive pattern right in front of his eastern facing position. The second will be along a road leading from his opponents' side of the board towards the town.

Looking at the numbers carefully you'll see that the first plot lays the three batteries' markers down in a straight line, end to end across the front of Max's force (only the "up" numbers are changing). The second plot arranges the markers side by side in a 3x2 pattern (only the "over" numbers are changing).

3.1 - ARTILLERY FIRE MISSION RECORD							
Turn of Plot/Call	Plotting/Calling FO/HQ ID	Mission Type/Name	Firing Unit ID	Turn of Arrival	Duration	Impact Location/ Sheaf Pattern	Ammo Type
PRE	-	DEF 1	111	-	-	1020 OPEN S2	HE
PRE	-	DEF 1	112	-	-	1022 OPEN S2	HE
PRE	-	DEF 1	113	-	-	1024 OPEN S2	HE
PRE	-	ROAD 1	111	-	-	1928 OPEN S2	HE
PRE	-	ROAD 1	112	-	-	2028 OPEN S2	HE
PRE	-	ROAD 1	113	-	-	2128 OPEN S2	HE

The first great thing about pre-registered missions is that when called they may be scheduled to arrive on the next game turn. Artillery units of nations that have the longest delays between their "call" and "arrival" times for indirect artillery fire missions will benefit from this type of mission.

The second nice thing about pre-registered fire missions is they more likely to arrive on target because they receive a -2 modifier to both the "to arrive" and "to deviate" cohesion rolls.

Max chose not to group these batteries together for these missions because he isn't confident, and would rather take the chance of some of the fire arriving when he wants it to, rather than all of it arriving or not. This may or may not pay off for him. There is a definite advantage to accuracy when using the pre-registered mission with a force with a high cohesion.

Here is what Max might write during the plot phase of turn 4 to call the "Def1" mission. It would not matter which country Max's force was from, pre-registered missions may arrive as soon as 1 turn after they are called.

3.2 - ARTILLERY FIRE MISSION RECORD							
Turn of Plot/Call	Plotting/Calling FO/HQ ID	Mission Type/Name	Firing Unit ID	Turn of Arrival	Duration	Impact Location/ Sheaf Pattern	Ammo Type
4	301 (HQ)	DEF 1		5	3		

Pre-registered fire missions receive a -2 cohesion roll modifier on both their "to arrive" and "to deviate" rolls. Since Max didn't group the batteries that make up "Def 1" it would be a good idea for him to record which ones are firing or write "all" in the "Firing Unit ID" field in case his opponent asks to look at his plot record.. On turn 5 after Max succeeds in passing the three "to arrive" rolls, he will get the plot coordinates from the "Def1" mission. He could have saved die rolls by grouping this fire mission too. He also passes all three of his deviation checks and places the markers at their coordinates. Note the duration field. When recording multi-turn durations, the number recorded includes the turn of arrival. Since this fire begins on turn 5 it will continue through turn 7.

EXAMPLE #4 - THE ADJUSTED MISSION

The Adjusted mission is simply an adjustment to a pre-registered fire mission's coordinates. They are really just like support missions except the location/sheaf pattern coordinates can be based on those of a pre-registered fire mission.

Max realizes his pre-registered mission called "Road 1" could be more effective if it first hit the board at 32" instead of 28". During the first turn's artillery plot phase he confirms that he has the new location in view of a stand with an FO attached and records the following adjusted mission.

On turn two he calls in the pre-registered mission "Road 1" and on turn 3 he checks his line of sight and then records another "Adjusted" mission.

ARTILLERY FIRE MISSION RECORD							
Turn of Plot/Call	Plotting/Calling FO/HQ ID	Mission Type/Name	Firing Unit ID	Turn of Arrival	Duration	Impact Location/ Sheaf Pattern	Ammo Type
1	811	ADJUSTED	(111, 112, 113)	2	1	ROAD 1, +4 EAST	
2	811	ROADS		3	1		
3	811	ADJUSTED	(111, 112, 113)	4	1	ROAD 1, +4 WEST, +1 NORTH	

Because Max is playing an American force his "turn of arrival" can be 1 turn after the turn of plot. Most other nations would have a longer delay between the turn of plot and turn of arrival. The "Adjusted" mission does not receive the 1-turn delay or cohesion benefit of a pre-registered mission.

[8.0] MOVEMENT

[8.1] Basic Principles

During the Posture Determination Phase, players mark individual stands and groups of stands that they wanted to move during the Movement Phase. Each movement group is marked to show that it is in the movement posture by placing a movement marker or green bead on or next to the stand or group of stands. Stands may be marked with a light blue bead to indicate they are in the fire/move posture.

8.1.1 A movement group is defined as one stand, or any number of stands in base to base contact, in the movement posture or fire/move posture, at the beginning of the current phase. Players must designate all groups consisting of two or more stands for their side before they may designate any "movement groups" of only a single stand.

Note: *When referring to a movement group, the rules may be referring to one or more stands.*

8.1.2 Once a movement group has been designated, the component stand(s) of that group are in the movement or fire/move posture throughout the turn, whether or not they actually move. It is very important that you designate movement groups clearly and unambiguously during the Posture Determination Phase.

8.1.3 Movement is initiated by group but executed by individual stands, one at a time. A stand moves based on its own movement value, terrain effects, and cohesion. The component stands of a movement group are subject to a single cohesion die roll in order to move.

8.1.4 There are two kinds of movement: "ordered" movement and "independent" movement.

[8.2] Movement Orders

8.2.1 Orders

At the beginning of each Movement Phase players must determine how many movement orders their GHQ will be able to issue this turn. Each turn players roll 2D6 and modify the result by applying the "quality" value of the GHQ stand. The GHQ quality value is listed next to the GHQ in the Order of Battle (e.g. GHQ+1 or GHQ +0) and is assigned during the scenario design process. Compare the modified die result to the "Movement Orders Table" for the number of movement orders each GHQ may issue this turn. See section 10.1.4 for more details about GHQ quality.

8.2.2 If the GHQ stand is eliminated, that player may no longer issue orders until a new GHQ is appointed and assumes command (see [10.1]). This does not mean the player cannot move units (see 8.2.7 below).

8.2.3 The player with the initiative decides who attempts the first movement in each turn. Players alternate movement attempts using movement orders, until all movement orders have been expended, or each player declines movement once. A similar process is then followed while attempting to move groups independently.

If a player elects not to move a group when it is their turn to do so, they may make no further ordered movement.

Note: *You are never forced to move a stand simply because it is in the movement posture. Actual movement is voluntary.*

8.2.4 To begin ordered movement, roll 1D20 to determine a base cohesion roll value for the group. For each component stand of the movement group, apply appropriate modifiers to this base roll to determine if it may move as a result of this order. The base value may be modified by +4 for suppression and/or +3 for disorganization, if the stand is in either of those states. The roll is also modified by -2 for <u>each</u> HQ and GHQ in the movement group. A successful result allows the stand to move.

The modified cohesion roll may be passed by some stands of a multi-stand group but not by all. Those that pass may move and leave those that failed behind. The unmoving stands now constitute a new group, or groups, if they are no longer in contiguous contact. In following movement actions, one may expend additional orders on these new groups in an attempt to move them with orders, if not, the player may attempt to move them independently (see 8.2.8 below).

Note: *The stands of a multi-stand movement group that passed their cohesion rolls are not required to stay together or move in the same direction.*

For each attempted ordered movement action, the player's total number of orders is decreased by one (1) for the remainder of the movement phase, regardless of the success or failure of the cohesion roll.

8.2.5 If a movement group fails to move with an order, it may be given additional orders, one per movement action, up to the maximum number of orders the player has for this phase (see 8.2.1). These additional orders must be resolved with a cohesion roll independently, and each spent order decreases the player's total by one (1), as above.

8.2.6 Movement orders may not be accumulated from turn to turn. Unused orders are lost at the end of the Movement Phase.

8.2.7 Movement without Orders

After a player has used all their movement orders they may attempt independent movement. Any group that tries to move without a movement order is attempting to move on its own initiative or independently. Each unmoved group, in the movement posture, may attempt independent movement once a turn.

8.2.8 To execute independent movement a successful cohesion check must be made. Just as in ordered movement, roll 1D20 to determine a base cohesion roll value for the group. For each component stand of the movement group, apply appropriate modifiers to this base roll to determine if it may move by its own initiative. The base value is modified by +3 because the stand is trying to move on its own initiative. The base value may be modified by +4 for suppression and/or +3 for disorganization, if the stand is in either of those states. The roll is also modified by -2 for <u>each</u> HQ or GHQ in the movement group. A successful result allows the stand to move.

Reminder: You may attempt to move a group any number of times with orders but only once independently. The Movement Orders Chart summarizes the modifiers needed for ordered and independent movement. No matter how many attempts are made a given stand may only make one actual move.

Example: Max forms a 3-stand movement group in the Posture Determination Phase. One stand is an HQ tank, one stand is a Suppressed tank, the stand tank is a Suppressed and Disorganized tank. The force cohesion level for Max is established as 14 in the scenario.

At the start of the Movement Phase Max rolls an 8 on 2D6 and determines he has 2 orders. He uses the first on this group and makes a cohesion roll to attempt to move the movement group. He rolls a 12. Consulting the Movement Cohesion Chart he sees that his HQ has a modified 10 and may move. The Suppressed tank has a modified 14 and may also move. The Suppressed and Disorganized tank has a modified 17 and may not move.

Max may move the two tanks that have passed leaving the tank that has failed behind. Max decides he does not wish to leave this stand behind and does not move the group. He now has one movement order left and it is his opponent's turn to perform a movement action. Had he chosen to move the two stands allowed, the remaining stand still could attempt to move again, in a following movement action this turn, by expending another movement order or attempt independent movement.

[8.3] Movement Execution, Restrictions & Limitations

8.3.1 Each stand may execute movement once per Movement Phase by expending up to its total movement point value or half that value rounded down, if in the fire/move posture. The movement point value is found in the Weapons Data Table's "Movement Points" column. This value may not be exceeded. Unused movement points may not be accumulated from turn to turn. Stands in the fire/move posture have a reduced movement point total whether they conducted fire or not during previous phases of the current turn.

8.3.2 Stands move across the playing surface, inch by inch, expending movement points as they do so. A stand may not enter or cross terrain without sufficient movement points to do so. However; a stand allowed to execute movement may always move a minimum of one inch (1") regardless of terrain penalties unless the terrain is impassable for that stand. See Terrain 9.1.4, for more details.

8.3.3 There are four movement classes: Wheeled (W), Tracked (T), Foot (F), and Amphibious (A). The Terrain Effects Chart covers how various terrain types affect the movement of stands belonging to each class, except water, see [8.9] "Amphibious Movement" and/or [10.12] "Boats" for details on that movement class.

Example: Max's movement group contains an M4 Sherman and an M20 armoured car. They are both beginning their movement in clear terrain. The Sherman moves 3 inches through clear terrain, ending up on a good road; this costs 3 of his 10 movement points. He then moves the Sherman 8 inches on the road, for a cost of 4 movement points of his 7 remaining points. During this movement the road passes into a forest (woods terrain). Max moves the model 1" forward (which contains more of the road, surrounded by woods) but informs his opponent that he is exiting the road and moving into the woods terrain. This costs a tracked vehicle 3 movement points per inch of movement which uses the last of the M4's remaining points.

Max's M20 moves 3 inches through clear terrain to the road, following the tank. This costs the M20 6 of its 16 movement points. It then proceeds down the good road for 12 inches of distance, which costs 6 more points, leaving Max 4 points to use (or not use). Finally, as with the tank, Max decides to move the M20 into the woods for a cost of 4 points.

If, in a following turn, Max decides to move the tank or armoured car back on the road, he will pay for 1" of movement through the woods to get to the road. He may then pay the road cost until he exits the road.

8.3.4 Friendly stands may pass freely though one another, but no two stands may end the Movement Phase overlapping. If a stand is forced to halt where it would violate this rule, move it back along its previous path until there is room for it.

8.3.5 Armoured vehicles may pass through enemy "transport" stands or other "unarmed" enemy vehicles freely. If an armoured combat vehicle finishes movement on top of an enemy transport stand, simply move the transport stand aside. Vehicles may only pass through enemy "non-vehicle" stands only when conducting overruns.

8.3.6 An armoured vehicle stand may pass through an enemy armoured vehicle stand only if it makes a successful cohesion roll (to test its nerve). The stand must first move adjacent, stop, and make the roll (with a "+3" die roll adjustment). If the roll fails, the moving stand must stop, remaining adjacent to the opposing stand it was trying to pass through.

8.3.7 Any stand may change facing without cost while moving. In addition, any stand in the movement or fire/move posture may change facing as its movement

action, even if it executes no other movement. Stands with zero movement points, and with a transport requirement of "8" or less, may change facing during the Movement Phase if they are in the movement posture.

8.3.8 Stands with zero movement points may not fire and move in the same turn.

8.3.9 Stands with no combat value (i.e. unarmed stands) may never voluntarily end their move adjacent to enemy stands.

[8.4] Transport

Transport vehicles display a cargo capacity value in the Weapons Data Tables. They may be used to transport other stands. Stands capable of being transported will show a transport requirement on the same list. While being transported, these will be called "cargo." Note that mounted cavalry may not be transported. The joining of cargo to transport vehicles is referred to as "mounting" or "loading," while separating the two joined stands is termed "dismounting" or "unloading" in the following rules.

8.4.1 One vehicle stand may transport one equipment stand and/or any number of personnel stands. The total transport requirement of these stands cannot exceed the vehicle's cargo capacity. See [12.7] "Loaded and Overloading."

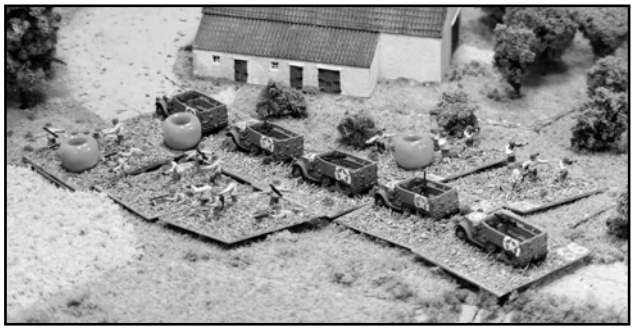
8.4.2 In order to load, the cargo and transport stands must be touching and both must be in the movement posture at the beginning of the Movement Phase. Loading any number of personnel stands onto a transport stand costs the transport stand and each personnel stand 50% of its movement point allowance for the turn, rounded up.

8.4.3 Loading a weapon stand onto a transport costs the entire movement point allowance for each stand involved. Weapon stands with a transport requirement less than or equal to 10 points are considered medium to small loads and may be loaded in one turn. Weapon stands with a transport requirement greater than "10" are considered large loads and require two turns to load. A few weapons (noted in the Weapons Data Tables) are so large they may take even more time to load.

8.4.4 A successful cohesion roll is required for any attempt to load. Failure prevents loading from taking place that turn. No further attempts may be made in this turn by the stand that failed its cohesion roll. Success requires the player to remove personnel stands from the board and place loaded (towed) equipment stands "behind" the transporting vehicle. A record must be kept of which transport is "carrying" each specific personnel stand.

8.4.5 When firing on a transport stand towing a weapon, range may be measured to either the "towing" stand or the "towed" stand for sighting or firing purposes. Otherwise, the two stands are considered a combined unit.

The combined unit uses the defense and movement value of the transporting vehicle. Any combat result suffered by the transport is also suffered by transported cargo stands, whether personnel or weapons.



Elements of two US armoured infantry companies have used less than 1/2 their movement points to arrive at the farmstead. The infantrymen have dismounted, becoming two new movement groups (green beads). They are faced away from the halftracks and ready to sweep around the farm. The infantry stands still have 1 and 1/2" of movement this turn (50%).

8.4.6 To dismount personnel cargo stands, the vehicle stand must be in the movement posture. No cohesion roll is required. The act of dismounting costs both the transport and cargo stands 50% of their movement allowance for the turn (rounded up). Dismounted personnel stands are placed on the map adjacent to the vehicle. Dismounted stands are in the movement posture and are faced at the player's preference.

8.4.7 To dismount (unload) weapon cargo stands, the vehicle stand must be in the movement posture. No cohesion roll is required. The act of dismounting

costs both the transport and cargo stands all of their movement allowance for the turn. Dismounted weapons stands remain on the map adjacent to the vehicle. Dismounted stands are in the movement posture and are faced at the player's preference.

As with loading, unloading stands considered to be light or medium sized loads (those with transport requirement ≤ 10 points) only require one turn. Stands considered to be large loads, (those with a transport requirement > 10 points), must remain in the movement posture for two turns to be unloaded, after which they may be placed in the fire posture.

8.4.8 Stands in the process of loading or unloading are vulnerable to opportunity fire because the process counts as movement.

8.4.9 Cargo stands may not fire while being transported. Armed transport vehicles may fire with cargo on board, but not while in the process of mounting or dismounting.

Note: *The next four rules cover the four combat actions which may occur in the movement phase. The only other combat actions which occur during the movement phase are interactions between moving stands and obstacles (e.g. mines) or artillery impact markers.*

[8.5] Opportunity Fire

8.5.1 "Opportunity fire" (OF) is a variation of the standard fire process but takes place during the Movement Phase. Only those stands that are in the fire or fire/move posture and have not fired during the Standard Fire Phase may execute this type of attack. Stands in the fire/move posture incur the "+3" cohesion roll modifier when conducting opportunity fire.

8.5.2 It is enemy movement that triggers opportunity fire. This type of attack may occur as soon as a stand begins to move. That is, as soon as your opponent touches the stand to move it, it may be fired on. A reasonable amount of time must be given to allow an opponent to make a decision to fire or not. When a move is completed, the opponent must be alerted to that fact and this is his last chance at opportunity fire against that stand.

8.5.3 Procedure:

1. The moving player is told to stop moving the stand.
2. The firing player resolves an attack as in standard fire.

8.5.4 If the result is "no effect," the owning player may continue moving the stand. An "S," "(S)," or "D" result forces the owning player to make a modified cohesion roll for the stand before resuming its movement. Success allows it to continue moving. Failure forces the stand to stop for the remainder of the turn.

8.5.5 A stand may suffer an opportunity fire attack only once per Movement Phase, but as in the Standard Fire Phase, the attack may come from multiple stands.

[8.6] Covering Fire

8.6.1 "Covering fire" (CF) is a variation of standard fire, but is triggered by enemy opportunity fire in the Movement Phase. Only those stands that are in the firing posture and have not fired during the Standard Fire Phase may execute this type of attack.

8.6.2 Procedure:

1. The moving player notifies his opponent that his opportunity fire (OF) has triggered covering fire (CF).

2. After the OF attack is complete, the moving player may perform a CF attack on stands which took part in the OF event.

8.6.3 There is a +3 penalty on the required cohesion roll to perform covering fire due to the limited sighting time available.

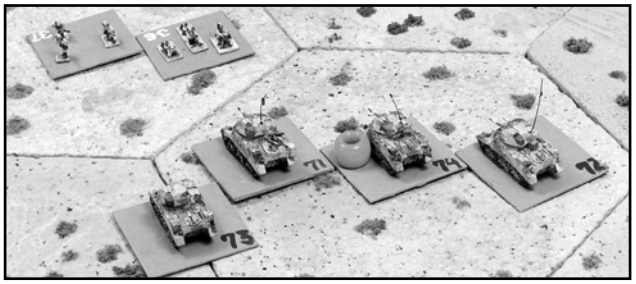
8.6.4 A stand may suffer a covering fire attack only once per Movement Phase, but as in the Standard Fire Phase, the attack may come from multiple stands.

[8.7] Overrun

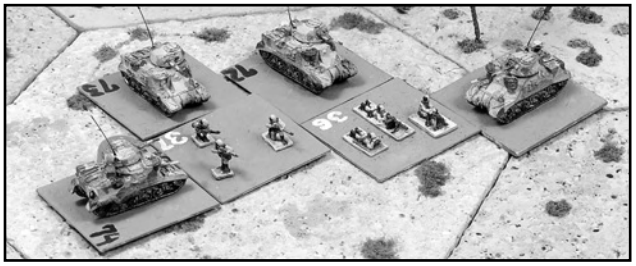
An Overrun is a kind of "contest of discipline" where the attacker's stands must maintain their formation and the defender's must avoid scattering in panic. This must be done in spite of the chaos that results when a group of armored vehicles careens around in the midst of hostile infantry!

Overruns occur when armoured vehicles move through unarmoured enemy stands. Armoured vehicle stands are the only stands which may not be overrun. Armoured personnel carriers may perform overruns, but only when carrying personnel. They may not do so if they are "towing" equipment or if they are running "empty." Overruns can result in negative effects, including elimination, for both the attacking vehicle and the defending stand being overrun.

8.7.1 An armoured vehicle executing an overrun must move so that it passes through the target stand and lands adjacent to it. It is not necessary to pass straight across the target and land on the opposite side. The vehicle need only pass over the target and land anywhere adjacent, including the direction from which it came! The act of overrunning pins the stands in place. The defending stand is not allowed to disengage by moving away from the overrun even if it has not yet attempted movement. All stands intending to execute an overrun against a single target must be moved before any of the overruns are resolved.



Caught in the open, two platoons of Italian Bersaglieri have tried to slow the rapidly approaching desert Rats. Rather than stop and shoot, the tank attempt to overrun the Italians. The defenders attempt Opportunity Fire, but this too fails.



The British player has completed an overrun. Each of his Lee platoons has crossed over one of the two enemy stands, and come to rest facing the Italians. Roll for the overrun at the end of the movement phase.

OVERRUN PROHIBITED TERRAIN

Defender is in:	Vehicle may overrun if:	
	Wheeled	Tracked
Jungle/Dense Woods	No	No
Marsh	No	No
Soft Sand or Mud	No	No
Steep Slope	No	Yes
Depression or Ridge Crest*	No	Yes
Bocage	No	Yes
Rough Terrain 2	No	Yes
Medium Buildings	No	Yes
Heavy Buildings	No	Yes
Rubble	No	Yes
Medium Improved Positions	No	Yes
Heavy Improved Positions	No	No
Anti-Tank Ditch	No	No
Minefield	No	No

* Wheeled vehicles may not overrun through a ridge crest or depression (they are linear features). They may overrun from a facing of the defender other than that which is adjacent to the ridge crest or depression if the terrain occupied allows.

8.7.2 An armoured vehicle may not conduct an overrun if the defender is occupying terrain specified in the Overrun Prohibited Terrain Table.

8.7.3 The maximum number of vehicles capable of overrunning a single target stand is eight, filling all the space around the target stand when movement is complete.

8.7.4 A moving stand may overrun more than one target in a single movement phase, provided it has enough movement points and is not Eliminated by the previous overrun events.

8.7.5 An armoured vehicle stand in the fire/move posture may conduct overruns as long as it has enough movement points to do so. See rule 8.7.1 above.

8.7.6 If in the firing posture or fire/move posture, the target stand may perform opportunity fire on one overrunning vehicle. This fire is done as the vehicle passes 'through' the target. The range for this attack is zero. The armoured vehicle's defense value is halved as in close assault. Defending stands with a restricted field of fire must use their nation's Infantry HQ firepower values if the close assault comes from a direction in which their main weapon does not face. If overrun from the front, the weapon with a restricted field of fire may use its printed combat values.

Note: *The target of the overrun may perform this attack only if it did not fire during the fire phase or earlier in this movement phase. The over running vehicle may not be the target of more than 1 Op Fire in this movement phase. Also in the case of vehicles with a main gun facing to the rear and with a limited field of fire, such as the British Archer, reinterpret the above rule accordingly (i.e. if attacked from the 'front' or sides it would have to use the firepower of the infantry HQ stand…)*

8.7.7 If an overrunning stand is Eliminated at range 0 (while the attacker is 'in' the same space as the defender) the overrun still takes place. A wreck marker is placed under the defender's stand but its terrain effect is not applied until after the complete overrun event for this defender is concluded. Thus additional overrunning vehicles, which have not resolved their overrun event on the current defender, do not suffer cohesion modifiers or movement point costs from the newly placed wreck marker.

8.7.8 To resolve an overrun event, the defender (the one being overrun) makes a cohesion roll for each overrunning stand. The roll is modified by the defender's cohesion state. The type of overrunning stand and the type of defending stand may affect this roll as well.

See the Overrun Procedure for these conditional modifiers. All modifiers are cumulative.

For each of the defenders failed cohesion rolls the attacker rolls 2D6 and finds the result on the +5 combat differential column of the CRT. The defender applies the combat result to the overrun stand.

The attacker then makes a cohesion roll for each stand which overran the defender's stand. This roll is modified by the attacker's cohesion state. If the defending stand is a personnel stand with an AP firepower of 2 or higher the roll is modified by +3. All modifiers are cumulative.

For each of the attackers failed cohesion rolls the defender rolls 2d6 and finds the result on the +2 combat differential column of the CRT. If the defending stand is a personnel stand with an AP firepower of 5 or higher use the +3 combat differential column of the CRT instead. The attacker applies the combat result to the overrunning stand.

Note: *Please read the Overrun Procedure carefully to correctly apply die roll modifiers and conduct the event properly.*

Example: 3 of Max's M4A2 Sherman's (one of which is Suppressed and another one is Disrupted) overrun Sam's German '44 infantry stand. The German stand is 'Suppressed' (+4), is being overrun by tracked vehicles (+3) and has a cohesion of 15. Sam has a total modifier of +7 to his die rolls. Sam gets a 12, 4, and 8 on his rolls. After modification these are 19, 11, and 15 or one failure and two successes. Max then rolls 2D6 and gets a 7 on the +5 column which means Sam's infantry is Eliminated.

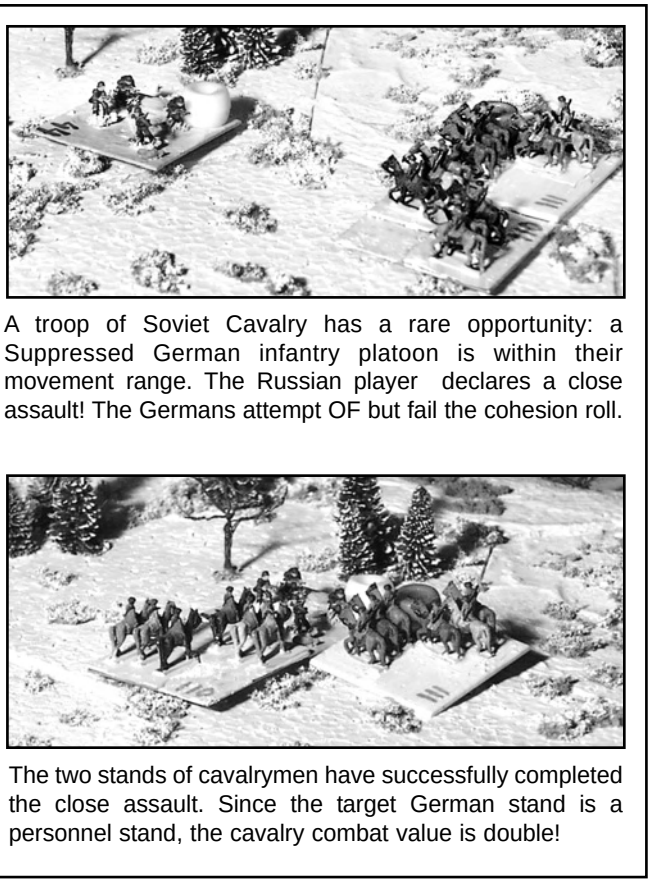
Now Max makes three cohesion rolls. The first is a 7 for his Suppressed tank. Max adds +7 to his roll (+4 for the S and +3 for infantry with an AP firepower of 2 or higher) which is a success with his cohesion of 14. Next Max rolls for his Disrupted tank and scores a 12, after the +3 modifier for Disruption and +3 for infantry with a high AP, he fails this cohesion roll. Sam rolls 2D6 for a score of 5, which on the +3 column of the CRT yields a "D." Since Max's tank is already Disrupted it is Eliminated and the stand is removed and a wreck marker is placed in the location where the infantry was. Finally Max rolls for his last tank and scores a 9, +3 for infantry with a high AP, results in a 12 which is a success and the tank is unaffected by the defenders presence.

[8.8] Close Assault

A "close assault" is a sort of contest of wills in which the assaulter(s) must overcome the natural desire to avoid closing with the enemy and the defenders must overcome the natural urge to flee before they are overwhelmed!

8.8.1 All close assaults are conducted after all movement is completed. Only infantry and cavalry stands may conduct close assaults.

8.8.2 In order to close-assault, the assaulting stand must end the movement phase adjacent to an enemy stand, be in the movement posture, and have at least one unused movement point remaining. Once in this situation, the intention to attempt a close assault with the stand must be declared. If it is not declared the pinning effects of 8.8.5 do not apply. A stand may be subject to close assault from more than one assaulting stand.



A troop of Soviet Cavalry has a rare opportunity: a Suppressed German infantry platoon is within their movement range. The Russian player declares a close assault! The Germans attempt OF but fail the cohesion roll.

The two stands of cavalrymen have successfully completed the close assault. Since the target German stand is a personnel stand, the cavalry combat value is double!

8.8.3 The steps involved in conducting a close assault are listed in the Procedures Chart. Every step must be performed in the prescribed order. Results in a given step apply to subsequent steps. For instance, if a defending stand manages to suppress or disorganize an assaulting stand, those effects are applied to the assaulter immediately before it makes its next cohesion roll.

8.8.4 The target of the close assault may perform the defensive response detailed in the procedure, whether it fired or not in the Fire Phase. But it must be in the fire posture at the time of the close assault to conduct this defensive response. If the target is a weapon stand with restricted facing limits, and the attacker is moving in from any direction except the front, the defender should use

the appropriate firepower values of the infantry HQ stand for its nationality to conduct the defensive response. If close assaulted from the front, the weapon with a restricted field of fire may use its own combat values.

8.8.5 The act of close assaulting pins the target stand in place. The target stand is not allowed to disengage by moving away from the assault even if it has not yet attempted movement. If, as a result of the close assault process a disorganization result is achieved, then the defender must still move 1" away from the attacking stand that inflicted the result. If the defender was subject to close assault from more than one stand, it moves away from the stand that first caused the Disorganized result.

8.8.6 A stand may be subjected to close assault by more than one assaulting stand.

8.8.7 Close assaulting stands might themselves become the object of assault. All close assaults are conducted after all movement has taken place. When more than one close assault must be resolved, players alternate completing assaults. The player with the initiative decides who goes first.

8.8.8 Armoured vehicles subjected to close assault retain 50% of their defense value (rounded up) regardless of the direction from which they are attacked.

8.8.9 Cavalry double their printed combat value when close assaulting personnel or other non-vehicle stands. They may not close assault stands occupying any type of building, medium or heavy improved positions.

8.8.10 Terrain effects (including improved positions) are ignored in a close assault.

8.8.11 Any firepower with a range of 0 (zero) may be used in close assault actions only.

[8.9] Amphibious Movement

Some stands are capable of amphibious movement as indicated in the Weapons Data Tables by a value in the movement points column followed by an "A" (e.g. the U.S. DUKW = 15W/3A). Unless specifically prohibited in scenario descriptions, these stands may move across non-fordable streams or unbridgeable rivers and through water terrain. See [9.5] "Water" for more details on the effects of water type terrain.

8.9.1 A stand may not use amphibious movement points and land movement points in the same movement phase. A stand must begin its Movement Phase adjacent to the water terrain feature to be entered or crossed.

8.9.2 Movement into the water terrain feature is determined by a successful cohesion roll. If successful the stand(s) may move their full amphibious movement rate. If the roll is unsuccessful the stands may not move, unless another order is expended as per standard movement rules.

8.9.3 A stand, moving through water, but then exiting onto land during the current movement phase, may use any remaining amphibious movement points once on land during the current movement phase. An amphibious unit may not use its "land" movement points if it begins the movement phase in water.

Note: *An amphibious unit, moving through water, may only resume using its "land" movement points at the beginning of a Movement Phase in which its front edge is "clearly" on a land terrain type.*

Example: A DUKW begins its movement adjacent to a 2 inch wide river with "clear" terrain on the other side. Its 3 amphibious movement points allows it to cross the river in one turn of amphibious movement, and continue moving 1 more inch into the clear terrain, on the other side. It may move normally in the next turn. If it were trying to move across a bay that was 3" wide, it would not end "clearly" on dry land (it would be adjacent to the land), and thus it would only be allowed to spend its 3 movement points the following turn, despite most of its movement being on land that turn.

8.9.4 Amphibious Infantry

Infantry stands may become temporarily amphibious and ford any water terrain type (water, river, or stream) with fording boats. There are two types of fording boats, and both, if they don't start the scenario adjacent to water, must be transported by a transport stand with a cargo capacity of 8 or higher. Fast fording boats have a small outboard motor, convey an amphibious movement rate of 3 to any infantry stand and cost 15 points per deployment. Slow fording boats, are man powered (rowed), convey an amphibious movement rate of 1 to any infantry stand and cost 5 points per deployment. Fording boats may not be used by motorcycle, bicycle, or cavalry stands of any type despite these types of stands being classed as infantry.

To use fording boats, the infantry stand must spend one turn adjacent to both the transport stand carrying the boats, and the water feature to be crossed, in the movement posture. This represents the boarding process. On the following turn, place a fording boat marker on the infantry and it may move amphibiously through the water after a successful cohesion roll as in 8.9.2.

On any turn in which the "boating infantry" end their Movement Phase adjacent to land they may be moved onto the land with a successful unmodified "disembark" cohesion roll. They may not move again until next turn. If the "disembark" cohesion roll is unsuccessful the infantry must remain "in the water" and in the movement posture until the following turn in which they may try again to move out of the water.

While moving by either type of fording boat, the infantry stands defense is reduced to a value of "1."

8.9.5 Infantry stands may traverse a stream anywhere along the terrain feature without fording boats. The infantry stand must begin its turn adjacent to the stream in the movement posture. During the movement phase, make a cohesion roll.

If successful, move the stand across and adjacent to the stream edge, and stop. Fording a stream expends all of a stand's movement points. Regardless of the cohesion roll result mark the stand as "Suppressed."

If the "crossing" cohesion failed, the stand may not move further this turn. Mark the stand as "Suppressed."

[8.10] Airborne Landings

Though conceived of years before, and even experimented with by several countries between wars, the airborne deployment of troops into combat was first implemented during WWII. Throughout the war the use of paratroopers as well as glider borne soldiers was an integral part of combined arms military thinking and doctrine.

The chaos, tension, and uncertainty connected with airborne deployments can make for exciting gaming. The challenge for the scenario designer is keeping things balanced enough that the game is still enjoyable for all the players. There are two distinct types of airborne forces in World War 2, paratroopers and glider borne forces. They deploy differently, so there are distinct rules for both.

8.10.1 Paratroopers

History suggests that paratrooper infantry formations, landing in ideal conditions, could take as little as 15 to 20 minutes to assemble back into battalion or even regimental groups. Under poor conditions assembly took hours, and in the worst cases it took days for a regiment to put itself back together after a jump. Despite the chaos, 5 to 10 man groups would typically form within minutes of landing. Platoon to even company sized formations of paratroopers would organize around a strong leader in not much longer periods of time.

It was not uncommon for men of different units (ranging from men of different platoons to those of different divisions) to be mixed together. Despite this homogenization, they quickly made themselves combat capable and set about accomplishing assigned tasks or objectives. When paratroopers found themselves too far off target or too few in number to work on one of their assigned goals, they would do their best to reach their assigned position, help a local unit with their goals, or just "raise hell" in the enemy's rear area until they could link up with allies.

8.10.1.1 Parachute landings are executed by "landing groups." These groups will be established by the scenario designer and detailed in the scenario's Order of Battle section. Landing groups should consist of the stands that make up company sized units (about 3 to 5 stands each).

Note: *Scenarios should be designed around a Parachute Infantry Battalion or group of battalions and and supporting units. The number of stands belonging to the attached units may not exceed those of the battalion they are supporting.*

Note: *Since combat parachute landings were typically planned to surprise the enemy, these rules are written to deploy a force on the board prior to the start of play. Readers may wish to modify them to accommodate mid-game deployments.*

8.10.1.2 The scenario should provide the drop zone (DZ) locations (coordinates) for each landing group. If not provided, the drop zone's coordinates should be chosen, written down, and kept secret, by the "landing" player prior to the opponent deploying any of their forces. Drop zone locations must be in "clear" terrain and ideally should be about 3 to 4 inches away from each other.

The coordinates should be written using the artillery plotting conventions. After the landing player has recorded his drop zone locations the defending player deploys his forces on the board.

Note: *An optional process is to allow the defender to deploy 50% of their forces before the player with paratroopers records his intended drop zone locations.*

8.10.1.3 Paratrooper Landing Procedure:
Paratrooper stands of a landing group must determine "if they arrive," "where" they land, and then "how safely" they land.

To deploy the attacker's landing groups on the board, perform the following steps for each stand of the group:

1. Determine if enough transports arrived in the vicinity of the DZ to put enough troops on the ground to "form" the stand. Place one stand of the landing group at the pre-determined DZ coordinates.

Roll 1D20 once per stand of the landing group. Apply the die roll modifiers listed below, for each of the following conditions as detailed in the scenario description or decided prior to play:

- +1 Operation is occurring at night
- +1 Flight encountered high winds and or clouds en route or at the DZ
- +1 Flight encountered AA fire en route to the DZ or there are AA units on the board at the time of deployment.
- +1 If transport aircraft are small (e.g. German JU-52 or Japanese KI-57)

If the modified result is "19" or less the stand stays in place and continues with the process. On a modified score of 20 or greater the stand is removed from play.

2. Determine landing location: Make a cohesion roll for the landing stand. Modify this roll with:

- +2 if the jump is occurring at night
- +1 if there are any enemy AA units in range of this location.
- +1 if the skies are overcast or there are high winds
- -2 if the jump is occurring during daylight
- -1 if there are pathfinders present.

If this cohesion roll is a natural (unmodified) 1 the stand is placed on the drop zone coordinates and no deviation check is made for this stand. There is no penalty for a natural 20.

On a successful cohesion roll other than a natural "1," conduct a parachute landing deviation by rolling 1D8 and consulting the compass rose to determine the "direction" of drift. Next, roll 1D8/2 to determine the distance of the deviation. Place the stand at this new landing location.

If the cohesion check is unsuccessful conduct a parachute landing deviation by rolling 1D8 and consulting the compass rose to determine the "direction" of drift. The scenario will specify which "distance" die or dice to use for the deviation roll. If not specified, consult the table below and by player consent determine which type of roll to make for the distance determination.

PARATROOPER DISTANCE DEVIATIONS

Jump Conditions	Distance Die Roll	Consider transports had:
On Target	1D8/2 (1-4")	Good visibility , no AA fire, day-light, communication w/ground
Milk Run	1D20/2 (1-10")	Good visibility, no/light AA fire, daylight, communication w/ ground
Combat Jump	2D8 (2-16")	Poor visibility, moderate AA fire, night/dawn, poor/no communi-cation w/ ground
Hot Combat Jump	4D6 (4-24")	+Poor visibility, AA fire, night, poor/no communication w/ ground

Note: *The factors that induced the greatest dispersal of transport aircraft included: flying/navigating at night, high winds, clouds, ground fire (AA), and poor or no communication/coordination with ground forces. Scenario designers are advised to consider these "pre-game" and "off-board" factors when assigning deviation distance die types.*

3. Determine landing results: After the stand is placed, resolve any landing issues in the following order:

a. Check for landing terrain effects: Find the terrain of the stand's landing location on the Airborne Landing Terrain Chart and if not automatically "Eliminated," make another cohesion die roll.

Apply the following cohesion die modifiers:

- +2 if the landing is occurring at night
- +1 if there are any enemy AA units within range of the stand's landing position.

Consult the Airborne Landing Terrain Effects Chart and make a cohesion roll. Apply the terrain effect result before resolving any other landing issues.

b. Check for occupied landing coordinates' effects: If the landing location is occupied by a friendly stand, roll 1D8 and use the compass rose to randomly determine the direction in which to place the "arriving" stand adjacent to the "on-board" stand. Make cohesion checks for both, if either fails their check apply an "S-Parens" CRT result to that stand, otherwise there is no effect.

   If the landing location is occupied by a defender's stand, the defender makes a cohesion check. If the defender's roll was successful, the "landing" stand is eliminated and the defender's stand is Suppressed. If the defender fails the cohesion check, roll 1D8 and use the compass rose to randomly determine the direction in which to place the landing stand, adjacent to the defender's stand. Then the defending stand attacks the landing stand using the close assault procedure. See [8.8].

If there are multiple parachute landing groups repeat this sequence of steps for each.

8.10.1.4 Paratrooper Loss of Command

Due to the natural initiative of men selected to be paratroopers and their higher levels of training, the paratroopers of all nations were able to transition easily to the authority of a new commander on the loss of the original.

If a HQ stand is "Eliminated" during the landing process roll 1D8/2 to determine the number of turns it takes for a new temporary battalion commander to be established.

If a GHQ stand is "Eliminated" due to the landing process, use rule 10.1.7 to simulate the effects of the loss. On the turn when the unit's cohesion returns to full strength, during the marker removal phase, pick a stand and designate it as the GHQ.

8.10.1.5 Paratrooper Surprise (Optional)

By using this rule, if this scenario is occurring during the night, one may portray effective "surprise" of the defender, or prolonged "reorganization time" for attacking paratroopers. After deploying the paratroopers on the board (using their regular cohesion level), begin with either one or both sides' force cohesion level lowered by 4. During the Marker Removal Phase each side makes a cohesion check, modified by the GHQ's quality value. A successful check raises the sides' force cohesion level by 1. Each side may continue performing this roll until it reaches its original cohesion value.

PARACHUTE LANDING EXAMPLE

Max is controlling a force with one US parachute infantry battalion. The order of battle specifies that he has three landing groups; two with five stands each, and the third with four stands. The scenario instructions tell Max to secretly pick either the northern or southern hamlet as his objective. These hamlets are both 1" x 2" light building terrain adjacent to a stream. A stone bridge crosses the stream with a good road passing through the light buildings. Max must record three DZ coordinate points in clear terrain, within 10 inches of his objective. The scenario further details that this is a "combat jump" for deviation purposes. It is occurring at night, in clear skies, and there was some AA fire on the approach but no AA on the board. There is no communication with the ground.

Max picks the northern objective and records three DZ coordinates. He is standing at the south end of the board, looking north, and his objective village is located at 1636 (on a 24"wide by 40" long board). His landing groups are given the following DZ coordinates:

Group 1: 3x Parachute Infantry, 1x Parachute MMG, DZ = 1440 (NW of objective)

Group 2: 3x Parachute Infantry, 1x Parachute MMG, 1x Para HQ (GHQ), DZ = 1237 (roughly W of objective)

Group 3: 3x Parachute Infantry, 1x Parachute MMG, 1x 81mm Mortar [2], DZ = 1630 (S of objective)

After his opponent has deployed his forces, Max deploys his paratrooper force. Max places the first stand of Group 1 on the board at 1440. He rolls a D20 with a +1 modifier to the roll due to the night time jump and +1 for AA encountered en route, to see if the stand arrives. He rolls a 5+2 = 7, and it is less than 20, so the stand arrives. Next Max rolls to see where the stand lands. His force cohesion is a 17. The location cohesion roll is modified by +2 for night. Max rolls a 12+2 = 14: success. His stand is on target. He then rolls for deviation on the "on target" table. A 1D8 roll for direction yields a 5 (S) and the distance roll is a 5 (5/2 = 2.5 rounded up = 3), so the first stand is moved 3" south (to 1437).

Max cycles through the "landing results" steps by first noting the terrain the stand landed on. It happens to be clear so he looks that terrain up on the terrain chart and rolls for cohesion again (with +2 for night). He rolls a 16 +2 = 18: fail. The stand is Suppressed. The location is not occupied by another stand so the next steps are skipped.

For the second stand of Group 1 Max rolls 1D20, applies the modifier, and determines it arrives. Then he makes a cohesion roll to determine its landing location, and he

gets a 17+2 = 19: a failure. This stand will land "off target," so he rolls 1D8 to determine direction and gets 2 (NE). Then he looks at the "combat jump" row of the Paratrooper Distance Deviation table and rolls 2D8, resulting in a 9" or 9" NE of 1440. Unfortunately this stand lands off board so it is Eliminated.

The third stand of Group 1 is placed at the DZ coordinates of 1440. Max determines it arrives, then makes a cohesion roll to determine landing location, and it again results in a deviation. This time the direction is due east and the distance is only 8." Max places the stand at the coordinates, to find it has landed in Bocage terrain. He looks this terrain up and makes a cohesion roll with a +2 modifier for night time, to determine landing success. He gets a 10+2 = 12: a pass. Paratroopers landing in Bocage and passing their "landing cohesion roll" receive a Suppression result, so Max marks the stand and proceeds with the last stand of the group.

8.10.2 Glider Borne Forces

Glider borne combat forces were unique to WWII. They could approach a position silently. They could deliver groups of combat-ready soldiers and larger, heavier assembled guns, vehicles, or equipment, to areas behind enemy lines. Finally, glider infantry troops took less time to train than paratroopers.

The challenge of using glider borne troops began by towing the gliders to their release point. While en route the tugs and glider aircraft were helpless against any attacking aircraft and more susceptible to disorganization from any ground fire. The tug planes could be affected by poor weather conditions (namely high wind, clouds, and or darkness) just as paratrooper carrier plane pilots were. Consequently, poor navigation or lack of ground communication often resulted in inaccurate release points for the gliders. Once released, the glider is going to land somewhere. Gliders were thin-skinned, fragile, and highly susceptible to damage from ground fire. Their structure and design also meant that they required relatively smooth fields to land on safely. Combat glider landings were often described as "controlled crashes" even by the pilots. These factors all contributed to the fact that when things went wrong, the resulting casualties added up quickly.

In some cases, glider troops were used for surprise attack operations and "opening battles," but high casualty rates inflicted by alerted ground forces meant that planners tried to opt for glider troops to be deployed after a group of friendly troops could be deployed to cover the gliders' landing zone. However, this was more of a guideline than a rule, considering that the last major airborne deployment of the war disregarded this idea.

8.10.2.1 Glider landings are executed by "landing groups." These groups will be established by the scenario designer and detailed in the scenario's order of battle section. Landing groups should consist of the stands that make up company sized units, or about 3 to 5 stands each.

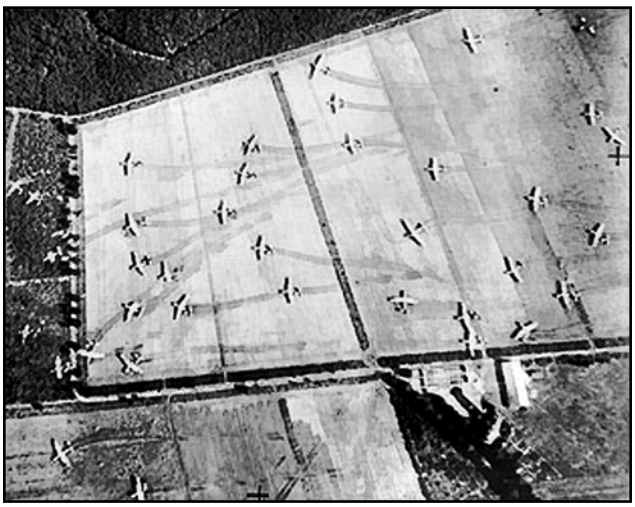
Note: *Scenarios should be designed around a glider or air-landing infantry battalion, or group of glider borne infantry battalions and their attached supporting units. The number of stands belonging to the attached units may not exceed those of the battalion they are supporting.*

8.10.2.2 The player with glider landing forces records a set of Landing Zone coordinates, in clear terrain, for each landing group prior to the start of play. The coordinates should be written using the artillery plotting conventions. The scenario will specify when coordinates are to be recorded; before, after all, or after some percentage of the opponent's forces are deployed.

Note: *This timing is used to represent the effectiveness of intelligence and planning of the glider operation. If the opponent is fully deployed before the landing coordinates are recorded, the landing force had excellent information, recording before any enemy are deployed and the planning staff had less accurate.*

Example: One of Max's landing groups has 4 stands so he plots the LZ for this group as follows: "Turn 3, Group 3 LZ = 1625 4S." The "open" sheaf pattern is assumed. During the movement phase of turn 3 Max would place his first stand at 1625 and the remaining three going south three more inches.

Note: *Photos indicate that the gliders of a company tried to land roughly in columns or line abreast formations. Companies (landing groups) of a given battalion would also try to land together, each company landing a few inches (in game terms) behind the previous group or a couple of inches to the side of an adjacent group.*



8.10.2.3 The turn of arrival may be determined randomly, prior to the start of play, or specified by scenario design.

Glider landings, occurring after the start of play, are resolved after the Joint Plot phase but before the Movement phase of the turn of arrival. On the turn of arrival the controlling player completes the glider force landing process for each landing group scheduled to arrive that turn. The newly arrived glider borne forces may not move that turn and may not roll to remove cohesion effects at the end of the turn.

Note: *The inability to move on the turn of arrival represents the few minutes of initial disorientation and the constituent components resolving themselves into platoon sized fighting units, and is consistent with the 'unloading from ground transport' rules. The inability to recover from Suppression or Disorganization for one turn is imposed to simulate the effects of chaos on troops landing by glider.*

Optional Rule: If the landing player has initiative conduct the landing process after the Joint Movement phase is completed, otherwise it occurs before. This may only be used if all players are made aware of it before play begins.

Glider landing units do not require or use movement orders to land.

Example: According to the scenario, Max has two glider infantry battalions scheduled to arrive on turn 2 and one more to arrive on turn 8, to reinforce his existing force. Prior to the movement phase of turn 2, Max deploys both battalions on the board. Then the players begin the movement phase by rolling for orders.

8.10.2.4 Air Landing Unit Deployment Procedure:
Stands of a glider-borne landing group must determine "if the planes stayed together" during the approach flight, then "where" they land, and finally "how safely" they land.

For each landing group scheduled to arrive on the current turn, perform the following:

1. Place each of the stands of the landing group on the board, per the pre-plotted specifications, facing the opponent's board edge, with one of the stands on the pre-recorded landing zone coordinates.

Note: *If deploying several landing groups it may speed play to place temporary labeled markers at each of the recorded landing zone location coordinates.*

2. Determine if each of the stands arrive at the LZ: for <u>each stand</u> of the group roll 1D20.

Apply the following modifiers if applicable:

- +1 If the landing is occurring in darkness
- +1 Flight encountered high winds and or clouds en route or at the DZ
- +1 Flight encountered AA fire en route to the DZ
- -1 If there is communication with friendly guiding forces (e.g. "pathfinders") on the ground.

If the modified result is 19 or less the stand stays in place and continues with the process. On a modified score of 20 or greater the stand is removed from play.

Note: *This step is used to represent the loss of gliders on route to the landing zone. This step may be skipped if specified by scenario design. The scenario designer may dictate which stands "arrive" for scenario balance purposes.*

3. Determine if the landing group arrives at the target: Make a cohesion roll for each of the remaining stands.

Apply the following modifiers to the die roll:

- +2 for night landings
- +1 if any enemy AA units are on board.

If the check is successful the stand remains in place.

If the check is unsuccessful determine the new landing location by rolling a 1D8 and consulting the compass rose to determine the "direction" of the new coordinates. The scenario will specify which "distance" die or dice to use for the "distance" roll. If not specified, consult the table below and by player consent determine which type of roll to make for the distance determination.

AIR-LANDING DISTANCE DEVIATIONS

Flight Conditions	Distance Die Roll	Consider tugs approached LZ with
Milk Run	1D8 (1"– 8")	Good visibility, no/light AA fire, daylight, some comm. w/ground
Poor Spot	1D8 +3 (4"– 8")	Poor visibility, moderate AA fire, night/dawn, poor communication w/ground
SNAFU	2D8 +4 (6"– 20")	Poor visibility, AA fire, night, poor comm. w/ ground

Note: *The factors that induced the greatest dispersal of towing aircraft included: flying/navigating at night, high winds, clouds, ground fire (AA), and poor communication/ coordination with ground forces. Scenario designers are advised to consider these pre-game and "off-board" factors when assigning deviation distance die types.*

Once the new landing location is determined, position the stand at the new location. If the location is off board the stand is eliminated.

4. After each stand is placed resolve any landing issues in the order below.

a. Check for landing terrain effects: For each stand find the terrain of the stand's landing location on the airborne landing terrain effects chart and if not automatically "Eliminated," make a cohesion die roll.

Apply the following cohesion die modifiers:

- +2 if the landing is occurring at night
- +1 if there are any enemy AA units within range of the stands landing position

Apply the determined cohesion change (if any).

b. If the landing location is "Occupied": If the landing location is occupied by a friendly stand, place the"arriving" stand adjacent to the "on board" stand randomly by rolling 1D8 to find the direction using the compass rose. Then make cohesion checks for both stands, if either fails their check apply an S-Parens "(S)" CRT result to that stand, otherwise there is no effect.

If the landing location is occupied by a defender's stand, the defender makes a cohesion check. If the defender's roll was successful the "landing" stand is "Eliminated" and the defender's stand is "Suppressed." If the defender fails the cohesion check place the landing stand adjacent to the defenders stand randomly by rolling 1D8 to find the direction using the compass rose. Then conduct a close assault using only these two stands. The defending ground forces stand is the attacker in the close assault while the landing stand is the defender.

c. Account for glider landing path: If, after conducting the preceding steps, the stand is not Suppressed, disrupted, or did not encounter an occupied position, move the stand forward 1" and repeat steps a. and b. above. If the stand was Suppressed, disrupted, or it encountered an occupied position, the stand remains in place.

After conducting the landing process for each landing group scheduled to arrive in the current turn, play resumes as normal. The newly deployed forces may not move nor do they conduct marker removal checks this turn.

GLIDER LANDING EXAMPLE

Max is controlling a force with one US glider infantry battalion. The order of battle specifies that he has three landing groups, all with four stands each. The scenario instructions tell Max to secretly pick either the northern or southern hamlet as his objective. These hamlets are both 1" x 2" of light building terrain adjacent to a stream. A stone bridge crosses the stream with a good road passing through the light buildings. Max must record three LZ coordinate points in clear terrain, within 10 inches of his objective before the defender places any forces.

The scenario further details that this is a "poor spot" for deviation purposes. It is occurring at night, in clear skies, there was some AA fire on the approach but no AA on the board. There is no communication with the ground. Finally, the instructions relay that the game will begin after Max deploys his glider forces on the board.

Max picks the northern objective and records three LZ coordinates. He is standing at the south end of the board, looking north and his objective village is located at 1636 (on a 24" wide by 40" long board). His landing groups are given the following LZ coordinates:

Group 1: 2x Infantry, 2x Infantry Support, LZ Coordinates = "1625 4E"(S of objective)

Group 2: 2x Infantry, 1x Infantry Support, 1x Infantry HQ (GHQ), LZ Coordinates = "1629 4E" (S of objective)

Group 3: 2x Infantry, 1x Infantry Support, 1x 81mm Mortar [3], LZ Coordinates = "1633 4E" (S of objective)

After his opponent has deployed his forces, Max deploys his glider force. Max places the first group of stands on the board in a line from 1625 to 1925. He starts the landing process by rolling to see if each stand "arrives" by rolling 1D20 with a +1 modifier to the roll due the night time landing and +1 for AA fire en route. He determines by these rolls that 1 of the stands is Eliminated before it makes it to the LZ. The remaining 3 stands are repositioned to be adjacent.

Next Max determines where the platoons actually "land." Max makes a cohesion roll for each to see if it lands on target or not. His force cohesion is a 17. For the first he rolls a 16 +2 for night = 18. He fails his check and consults the Poor Spot deviation table for its location. A 1D8 roll for direction yields a "5" (South) and the distance roll (1D8+3) yields a 4+3=7", so the group moved 7" South. The other three stands pass their cohesion rolls so remain in place.

He then moves on to determine the condition of the group's stands. Three of the four stands land in clear terrain and both pass the cohesion check. Looking at the Airborne Landing Terrain Effects Chart, these stands are fine, for now. The fourth stand initially lands in Bocage terrain. It rolls for cohesion with a "+2" modifier for night time. His check fails and checking the terrain effects chart for glider troops finds the stand is "Disrupted."

Next Max moves the first three stands forward 1 inch, as they were not affected by the terrain they landed in. They move into more clear terrain, pass their cohesion checks and remain unaffected by the landing. The fourth stand was affected by landing in bocage terrain (where its gliders presumably came to more abrupt stops) and remains where it was initially placed. Max then addresses the other two landing groups using the same process.

[9.0] TERRAIN

There are three "general surface" descriptions used in scenarios to describe the maximum sighting distance allowed in "clear terrain," they are:

Open Terrain: Almost universally flat and featureless; maximum sighting distance is 40 inches.

Mixed Terrain: Gently rolling ground that includes isolated buildings, small clumps of trees, sparse bushes etc.; maximum sighting distance is 20 inches.

Closed Terrain: Difficult ground with rocky outcroppings, abrupt changes in elevation (smaller than 10m), ridges, large clumps of trees, patches of dense undergrowth or bushes etc.; maximum sighting distance is 10 inches.

These sighting distances apply to the "clear" terrain of the game board and specific terrain types which differ in surface characteristics but do not block line sight (e.g. marsh, ford, soft sand, mud).

[9.1] Effects

The terrain in specific areas and certain terrain edges may alter the cost of moving through them. Terrain may also affect spotting ability, firing cohesion die rolls, and combat results die rolls. These costs are listed in the Terrain Effects Chart.

9.1.1 All terrain effects, except smoke and artillery impact zones, only affect fire into the terrain, not fire from the terrain. See 7.4.5.2 and 7.4.7.1 for artillery and smoke rules.

9.1.2 Terrain effects are applied to moving stands in terms of movement points and will be expressed in values no smaller than half a movement point.

For example: A tracked vehicle with a movement point total of 10 moves through 2 inches of woods to get to a good road. These two inches cost it 3 points per inch, or 6 movement points. Once on the good road it moves another 8 inches at 1/2 a movement point per inch for 4 points and may move no further this turn as it has expended all 10 of its movement points.

9.1.3 Some types of terrain may occupy the same 1 square inch of the board (e.g. woods and improved positions). In these situations, a stand receives the terrain modifiers of each type of terrain simultaneously, except in the case of roads. Cohesion and Combat Results die roll modifiers for terrain effects are cumulative.

Example: An infantry stand may be in a medium improved position and medium buildings. Attackers of that infantry stand will have to add +5 and +5 to their "to fire" cohesion die roll and if successful will have to add +10 to their CRT die roll as well.

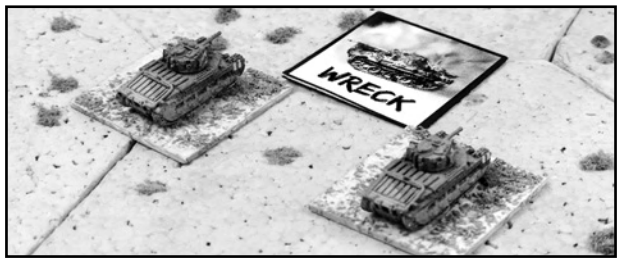
Note: *If adjacent, the cohesion die roll to fire would not be modified but the CRT die roll modifier still applies.*

9.1.4 A stand may not be "on" a road (that is, receiving its movement benefits) and "in" a surrounding type of terrain (thus receiving its terrain effects modifiers) at the same time. Stands in the fire posture or stands which pay the required movement costs of the surrounding terrain on entering it, do gain the benefit of that terrain.

9.1.5 Players must be careful to locate stands clearly "in" or "out" of restrictive or defensive terrain. Except in the case of roads, as above, if 50% or more of a stand passes through or into a terrain type, it must pay the movement costs for that terrain type (see section 8.3.2). If the stand can not afford to enter the restrictive terrain, reposition the stand to be adjacent to the terrain type. If 75% or more of a stand is in a particular terrain type it is usually ruled to be "in" that terrain, unless specified otherwise by the controlling player. As in section 6.4.1, the key here is communication between players. If a stand is being positioned to fire out of blocking terrain or conversely, being positioned to "hide" in blocking terrain ask, or tell your opponent about your intention at the beginning of the phase, before it can become a problem. Finally, ambiguous situations should fall in favor of the defender and the higher movement cost must be paid.

[9.2] Wrecks

Whenever an armoured vehicle is removed from play, replace it with a wreck marker. Wrecks are a type of terrain; see the Terrain Effects Chart for details.



Three stands of Eighth Army Matildas IIs were advancing when a German "88" opened up on them. The lead tank was destroyed and has been replaced with a wreck marker.

9.2.1 If two or more wrecks occupy the same space, treat it like Rough Terrain 3 instead.

9.2.2 If a wreck is located on a road or track, moving stands may choose to pay either the cost of the underlying terrain or the cost of the wreck. They may not use the road or track movement rate for that area covered by the wreck marker.

9.2.3 Recovery vehicle stands, vehicles with dozer blades, transports, and fully tracked vehicles may attempt to clear a wreck, see Combat Engineering rule 11.5.9 for details.

[9.3] Hedgerows and Bocage

While fields bounded by hedgerows may be too small to be easily modeled at this scale, areas of the map board may be designated as this obnoxious terrain type.

9.3.1 Only armoured, tracked vehicles, and personnel stands may move into hedgerow terrain during play. Weapons may be deployed in hedgerow terrain as part of set up of forces. Movement point costs are 4 for tracked, armoured vehicles and 2 for personnel. Wheeled vehicles may not enter or move through hedgerow terrain except along roads or tracks, for which they pay the normal movement costs. Cohesion die roll and CRT die roll modifiers are +4 for personnel and +2 for armoured tracked vehicles in this terrain. Bocage is a concealing terrain type.

Terrain Effect entry for Hedgerow/Bocage terrain:

Terrain	Movement Cost			Firing unit cohesion & CRT die roll effect for target in this turn	LOS blocked?
	Track	Wheel	Foot		
Bocage/ Hedgerow	4T	n/a	2F	+4 personnel +2 others	Yes ++

9.3.2 During the act of entering each inch of hedgerow terrain, armoured vehicles retain 25% of their defense value (rounded up) for their front armour value at the moment of entry. If no opportunity fire is declared on the moving stand as it enters each inch of bocage terrain its defense value reverts to normal.

Example: An M5 light tank entering bocage terrain would have a defense value of [5]*.25 = 1.25 = "[2]"

9.3.3 If the stand represents armoured tracked vehicles equipped with dozer blades or Culin hedgerow plows, make a cohesion roll as the stand moves each 1 inch forward into this terrain. On successful rolls, the stand makes the move. Its armour value is not reduced, as in 9.3.2 above, during the act of entering hedgerow terrain. This stand has "breached" the hedgerow and that inch of terrain may be traversed by any stand thereafter as if a "Track" existed through the hedgerow terrain in the direction of the breaching vehicles movement. If the cohesion roll fails, the stand stops for the remainder of the movement phase and the terrain is not breached.

Vehicles with dozer blades or Culin's plows will be specified in the Order of Battle section of the scenario rules and may be added to tracked armoured vehicle stands at a cost of the base unit cost multiplied by 1.3 (cost x 1.3) points during the scenario design process.

9.3.4 Stands must be adjacent to spot or fire on enemy targets in hedgerow terrain unless the target has already fired in the current turn.

[9.4] Buildings

If artillery fire or bombing mission air strikes land in building terrain features it may eliminate or reduce those areas to rubble.

9.4.1 As the Light building terrain represents mostly wooden buildings these will burn down and be eliminated over time. Each time an artillery or airstrike impact lands in light buildings conduct an attack on the buildings with the HE firepower of the weapon against a defense value of 4. On the first successful attack place a smoke marker on the location and leave it in place for the duration of the game. On the second "E" result the terrain becomes Rough Terrain 1, and the smoke stays.

Note: *The act "barraging," or "bombing" a built-up area will set buildings on fire and generate smoke, whether the result is "No Effect," "Eliminated," or anything in between. It takes several "E" results to actually convert the buildings to rubble. The "E" results do not have to be in consecutive turns, but may occur in the same turn as a result of multiple impacts in the same location.*

9.4.2 Medium buildings represent a mixture of wood residential and stronger light commercial buildings of typically one or two stories. Each time an artillery or air

strike impact lands in medium buildings conduct an attack on the buildings with the HE firepower of the artillery against a defense value of 5 for the buildings. On the second attack on this position, place a smoke marker on the location (the CRT result doesn't matter, flammable material will ignite). On the third "E" result the location converts to rubble and the smoke marker remains.

9.4.3 Heavy buildings represent dense urban regions or heavy commercial\industrial districts, often with tall multistory structures built with heavy or reinforced materials. Each time artillery or Air strikes land in Heavy buildings conduct an attack on the buildings with the HE firepower of the artillery against a defense value of 6 for the buildings. On the second 'on target' attack on this position, place a smoke marker on the location (the CRT result doesn't matter, flammable material will ignite). On the fifth "E" result the location converts to rubble and the smoke marker remains.

9.4.4 All building terrain ignores CRT results other than "E."

[9.5] Water

There are three types of Water Terrain depicted in these rules; Water, Rivers and Streams.

9.5.1 Water terrain may be featured along one edge of the board in "beach landing" scenarios of the game, or it may represent a lake or lake edge. Water terrain may only be traversed by stands with an amphibious movement rating.

9.5.2 Rivers are defined as linear watercourses, which are impassable to all stands except those with an amphibious movement rating. Non-amphibious capable stands may only cross rivers via bridges (Exception: infantry in fording boats, see 8.9.4). Typically engineering troops or vehicles may not bridge rivers during the scenarios represented in this game.

Rivers should be represented clearly on the board, preferably by something 1 or more inches wide. This size feature may not be "to scale" but will aid in play.

9.5.3 Streams are defined as linear watercourses, which impede and may prevent movement. Streams may be crossed by non-amphibious capable stands only at "fords" or via bridges. Streams may be bridged by engineering troops, or bridging vehicles, during the scenarios represented in this game, see 11.5 for details. Streams may be crossed by infantry at fords or via bridges. Amphibious infantry may cross a stream at any point. For details on amphibious infantry see (8.9.4 and 8.9.5).

Streams should be represented clearly on the board, preferably by something about ½" to ¼" wide. This size feature may not be "to scale" but will aid in play.

[9.6] Weather Effects

Weather conditions can have an impact on visibility, movement, and cohesion.

9.6.1 Unless they are contradictory all effects of weather on visibility and or movement are cumulative.

9.6.2 Conditions and their impact:

Light Rain: Reduce maximum sighting distance to 3D6"

Haze or Light Fog: Reduce maximum sighting distance to 2D8" or by 1D20%.

Heavy Rain or Light Snow: Reduce maximum sighting distance to 2D6" or by 3D6%.

Heavy Snow or Fog, Dust or Sand Storm: Reduce maximum sighting distance to 1D6"

Snow: Treat all "clear" terrain as Rough Terrain 1.

Deep Snow: Treat all "clear" terrain as Rough Terrain 1 and double all movement point costs.

Extreme Cold: Treat water terrain types (lakes, rivers or streams) as Rough Terrain 1

Extreme Heat or Cold: Modify "Movement" cohesion rolls by +2 for dismounted personnel and weapons noted with a "P" in the Weapons Data Tables.

Darkness: If the scenario is occurring in the dark lower the force cohesion level by as much as 4. Flares or illumination artillery rounds may temporarily negate this cohesion penalty. Maximum sighting distance during night engagements should typically be 1 to 5 inches but no more than 10" under ideal atmospheric and lunar conditions. Scenarios occurring in darkness must specify the effects on play.

Designers may impose modifiers to combat cohesion rolls for scenarios involving rain, fog, dust, snow, or sand storms in addition to the sighting distance limitations.

9.6.3 Unless otherwise specified in the scenario description, any reduction in visibility will be determined at the beginning of the initiative phase of the turn in which the weather condition occurs. The determined reduction will remain constant throughout the turn. The reduction may remain constant from turn to turn, until the weather changes or may be variable from turn to turn, depending on the scenario description. Experiment and have fun with this!

[10.0] WEAPONS SPECIFICS & SPECIAL WEAPONS

[10.1] Command Units

10.1.1 HQs

The HQ stand is used to represent the battalion (or equivalent) command in the game. Scenario designers should assign one HQ for each Battalion sized unit in a scenario. More may be added by paying the additional costs. An Infantry HQ stand may be used for this at the printed cost. A weapon stand may be designated as an HQ, at 1.5x the cost of that stand. HQs don't have a "quality level," as that property is unique to GHQs. However, HQs do provide some tactical benefits, as below.

10.1.2 When one or more GHQ or HQ stand is part of a movement group, each GHQ and HQ stand provides a -2 cohesion die roll modifier to the movement cohesion roll, regardless of its quality value.

10.1.3 During the Marker Removal Phase, if a Suppressed stand is adjacent to (1" away from) a non-Suppressed and/or non-Disorganized HQ or GHQ stand, that stand may apply a -1 to their recovery cohesion die roll. This modifier does not apply to the "natural 1" required to recover from a Disorganized state.

10.1.4 GHQs

GHQs are typically designated when a force contains 3 or more battalions (regiment/brigade level), but a minimum of 1 GHQ is required per side regardless of force composition, unless specified in the scenario. In a particularly large game multiple GHQs per side may be specified.

GHQs may be represented by Infantry HQ stands or weapon stands at the following cost, based on their quality level:

GHQ Quality	Cost
-2 GHQ	x 1.2 points
-1 GHQ	x 1.6 points
0 GHQ	x 2 points
+1 GHQ	x 2.4 points
+2 GHQ	x 2.8 points
+3 GHQ	x 3.2 points

Note: *Infantry HQ stands must pay the above cost when used as a GHQ.*

10.1.5 GHQs are the source of movement orders for a force in play. If a player's GHQ is eliminated or leaves the board, that player may no longer issue movement orders until a new GHQ is appointed and assumes command (see section 10.1.7).

10.1.6 A GHQ's quality value (+ or -) is a direct die roll modifier to the Movement Orders Table, thus influencing the number of issuable orders each turn.

10.1.7 Loss of a Command Unit

In the first phase after an HQ or GHQ stand is lost, the player must designate, in writing, the stand which will "take command."

During the Marker Removal Phase of the turn of loss, the player must roll a successful cohesion check, modified by the factors below, for the "change in command" to take place.

German, American force:	+3
British/Commonwealth force:	+4
All Other forces:	+5

If the force, which has lost its GHQ, has a cohesion level of 14 or less, it may only be replaced by an HQ. If the force, which has lost its GHQ or an HQ, has a cohesion level of 12 or less, it may not replace the GHQ or HQ with a unit in play. This represents the training and capability of junior officers to assume command without approval by higher authority, and the possible inability of the subordinate units to recognize the change during the course of battle. When a force with a cohesion of 15 or higher succeeds in getting a new GHQ, roll 1D20. If the result is 5 or lower the GHQ has a -1 modifier, a roll of 6 to 16 the new GHQ has no modifier, a roll of 17 to 19 the GHQ has a +1 modifier and on a 20 the GHQ has a +2 modifier.

[10.2] Stands with Facing Restrictions

Any weapon, marked with an 'R' in the notes column of the Weapons Data Tables may only fire on targets found to be in the direction in which their main weapon faces and within the angle of the Firing Template. They may fire at targets to their side or rear using the firepower and range data for the Infantry HQ unit appropriate for their nationality in cases of overrun or close assault.

[10.3] "P" Stands

The defense value of stands marked with a "P" in the Weapons Data Tables is halved (rounded down – i.e. Cavalry: round to a defense of 2) when they are in the fire/move posture.

[10.4] MMG, Light Mortar, & Infantry Support Stands
These types of Stands represent groups of medium machine guns, heavy machine guns, and/or mortars of 40mm to 60mm. These are used to provide close supporting fire for other units. They are "special" in that, when they fire, all "No Effect" combat results are treated as "Suppressed" results. See the Combat Results Table. They are considered personnel stands for all purposes.

[10.5] Weapons Stands
Weapons stands represent groups of anti-tank guns, anti-aircraft guns, etc. As stated in rule section [6.0] "Spotting," these stands can sight and fire over intervening personnel stands. They are generally not armoured, though they may be mounted on armoured vehicles, in which case they take on the defense class of that vehicle. (The U.S. M3 GMC is an example) If their defense value (as listed in the Weapons Data Tables) has no brackets they are unarmoured targets. Stands firing on unarmoured targets use only their HE attack value. They generally have a movement value of zero (0) and may only move when "mounted" to transport vehicles.

[10.6] [R]econ Stands
Stands marked with an [R] in a scenario's Order of Battle or "Forces" section are considered reconnaissance units or units with particularly high initiative compared to other stands. Stands with this designation do not suffer the +3 cohesion die roll penalty when attempting to move without an order. Any stands given this designation and ability cost an additional 10 points above their basic value found in the Weapons Data Tables.

Note: *This designation was not to be applied to all of the armoured car, halftrack, jeep, motorcycle, or personnel stands of a reconnaissance battalion. All the stands of a "Recon" battalion may be given a slightly higher cohesion than other battalions in a scenario, but they should follow all the normal movement rules as other formations in play. Some nations list "Recon Infantry" as a weapon type, and are usually part of a Recon Company. While these are excellent candidates for the [R] designation they do not automatically receive it.*

[10.7] Dual Purpose Guns
10.7.1 The British 25lbr. and the Soviet 76.2mm Division artillery units are dual-purpose weapons which are handled differently from other field artillery. In a given turn they may fire either as "artillery" weapons using the artillery rules, or they may be used as anti-tank guns at the players' discretion.

10.7.2 The German 88mm, Italian 90mm, and Soviet 85mm AA guns performed in two roles, both as AA guns and AT guns. In a given turn they may fire either as anti-aircraft guns or against ground forces.

When firing at ground targets these weapons use the following range effects table:

Range	1" or less	2" to 8"	9" to 16"	17" to 24"	Each additional 8"
Die Roll Modifier	-1	0	+1	+2	+1

All of these guns had reliable direct-fire sights and were supplied with effective armour-piercing ammunition. It was also "doctrine" that really makes these weapons different. The forces deliberately deployed these guns in both roles and gun crews were trained accordingly. The Weapon Data Tables includes the necessary specifications for all the guns in either role.

Note: *The US 90mm (mid 43 on) and British 3.7" (94mm) guns could have been used in this manner and did on occasion fire at ground targets in self-defense, but doctrinally were not put in the role of anti-tank guns like the German, Italian, and Soviet units.*

[10.8] Infantry Close Support Artillery Weapons
Certain weapons employed artillery guns and ammunition in aimed fires to suppress or destroy enemy strong points and positions. These are known as Infantry Close Support Artillery weapons and behave in all ways like other artillery weapons conducting direct fire artillery attacks with the following exceptions:

1. They do not use impact markers – Their fire is directed at an individual stand and does not continue throughout the turn.

2. They may <u>not</u> fire at less than –3 Combat Differentials. However, like artillery weapons "No Effect" results on the CRT are treated as "S" results instead.

3. They ignore the "range" effects modifiers to CRT die rolls.

4. They may use the Fire/Move posture (unlike other 'artillery' weapons).

[10.9] "Land Ships"
Tanks with multiple turrets or weapons (such as the M3 Grant/Lee, Char B1, and the T-35, etc.) have firepower and range values, as well as restrictions or notes listed for the various weapons they were equipped with. Only one weapon may be fired per turn and that weapon must adhere to any specified restrictions unique to its use.

For example: The M3 Grant may only fire its hull mounted 75mm gun at a target in the forward firing arc template, while its 37mm turret gun may designate a target in any direction. But only one may "fire" during a turn.

[10.10] Horse Cavalry
Although the Second World War is regarded as the first truly mechanized war, most nations still employed a significant number of horse mounted troops.

10.10.1 Mounted cavalry stands double their printed combat values when close assaulting, but only if the defender is not an armoured vehicle. Mounted cavalry stands may not close assault stands occupying any type of buildings, medium, or heavy improved positions.

10.10.2 Mounted cavalry stands may not occupy buildings or any fortifications and receive their defensive benefits. They may move through such terrain.

10.10.3 Dismounted cavalry stands are treated as infantry stands. However their HE firepower is reduced by 1 when dismounted to reflect the allocation of horse holders.

10.10.4 To dismount, a cavalry stand must be in the movement posture. Dismounting costs 50% of the stands movement points. The cavalry stand is replaced by an infantry stand and a horse stand in base contact with the infantry stand. They both remain in the movement posture and may move after dismounting if they have enough movement points remaining.

10.10.5 A horse stand is treated as a personnel stand with no firepower, a defense of 5, and 3 movement points.

10.10.6 To mount, an infantry stand and horse stand must be adjacent and in the movement posture at the beginning of the Movement Phase. Mounting costs both the horse stand and the infantry stand 50% of their movement points.

10.10.7 Mounted cavalry stands may not perform standard or opportunity fire. They may only fire during close assaults, whether defending or attacking.

[10.11] Bicycle Infantry
Bicycle infantry were featured in many nations' forces throughout the war. These troops could move faster than "foot" infantry in most relatively clear types of terrain. But they were slower and more limited than either cavalry or motorcycle borne soldiers.

10.11.1 Bicycle infantry remain classed as "foot" movement type stands. They may spend up to 5 movement points each turn, however; the 2 points greater than standard infantry may only be used in the following terrain types: Clear terrain, any type of Building terrain, and on any type of Road or Track.

10.11.2 Bicycle infantry are normally treated as foot infantry for all sighting purposes. They immediately and automatically dismount and perform as foot infantry in all combat situations including overrun and close assault situations. They may not use their bicycle movement points to conduct overruns or close assaults.

[10.12] Boats
Boats are not amphibians and may only move in water terrain. They are described in their own section in the Weapons Data Table with a number of movement points followed by the letter "A" (like amphibious vehicles, but for "aquatic" in this case). They may operate adjacent to land terrain and may only unload or load cargo stands directly onto, or from land terrain types. They obey the transport rules in section 8.4 above.

Unless otherwise noted in scenario notes, boats may not move in streams, only in rivers and open water.

[10.13] Ski Troops and Mountain Infantry
Many nations fielded "mountain infantry" or "ski troop" units which were trained and equipped to operate in the snow. If such a unit is operating in Snow or Deep Snow it may be designated as equipped with skis. These units treat Deep Snow (see 9.6.2 above) as just Rough Terrain 1. They also have their base movement rates increased by +1 in any Clear or Track terrain.

Mountain infantry (i.e. *gebirgsjaeger*, alpini, etc) may be given a movement point value of 5F in the following terrain types: Steep Slope, Broken Rock, Rough Terrain 2 and 3 by scenario as needed.

[10.14] Personal Infantry Anti-Tank Weapons - 'D' stands
The issuance of the PIAT, Bazooka, Panzerschreck, and Panzerfaust in 1943 changed the physical and psychological relationship between the infantryman and the tank.

Unlike the anti-tank rifle or anti-tank grenade, these devices put a much more effective weapon in the soldier's midst, albeit still of very short range compared with anti-tank guns.

The Panzerfaust was issued like a grenade, to the soldiers of most infantry platoons. The most common type was still very short range while the later model was effective at a slightly longer range. Its effect is reflected in the weapons data of German units.

The German Panzerschreck, British PIAT, and American bazooka were man portable, crew served anti-tank ranged weapons. They were more commonly issued at a rate of only 1 per platoon or squad.

A simple way of handling this "scarcity" issue is by use of a "Depletion" number. Whenever a stand marked with a "D#" in the Order of Battle or Weapons Data Table uses its AP firepower and the unmodified CRT roll result is equal to or less than the number following the "D" the platoon is out of ammo and/or no longer as effective against armored targets for the remainder of the game. It may still conduct HE firepower attacks normally. One may use a marker or paper and pencil to record which stands are out of ammo.

[11.0] FORTIFICATIONS & COMBAT ENGINEERING

[11.1] Mines

Land mines are vicious weapons. Anti-personnel mines are usually designed and placed to wound rather than kill. Anti-tank mines were used to halt or channel vehicles into artillery killing zones. Finally, they are a great nuisance and notoriously difficult to get rid of. In game terms mine field markers represent both AP and AT mines and are placed on the board as part of the initial setup and may be neutralized only in a couple of ways.

11.1.1 There are three concentrations of minefield: Hasty, Standard, and Concentrated. The players should determine which strengths are available and in what numbers before the scenario begins. See the scenario design rules for more details.

11.1.2 Each minefield marker covers a one square inch area and should display a clear identifying number. Minefield markers may not be "stacked." The minefield marker number and its concentration or dummy status must be recorded on a "Minefield Record Sheet" prior to the start of the game.

11.1.3 For each active minefield marker, one or more "dummy" minefields may be deployed. The actual number is based on the player's force cohesion value:

Cohesion Level	Dummies per actual minefield
11 or less	1/4
12 – 14	1/2
15 or more	1

The number of dummies deployed may be equal to or less than the number allowed.

For example, if Max's force has a cohesion of 14 and the Order of Battle for his scenario said he had 12 standard mine fields Max could deploy as many as 6 additional minefield markers as "dummies." If his cohesion was 10 he could deploy 3 dummy markers. Max will record which are "standard" and which markers are "dummies" on the Mine Record Sheet before the game begins.

11.1.4 The defense value of a defending stand is not subtracted from the minefields Fire Power value to determine the combat differential, as in a normal attack. Minefield attacks are resolved directly on the Combat Results Table with the combat differential column indicated below, based on the concentration of the minefield.

Minefield concentration	CRT differential column	Cost per 1" field
Hasty	-2	2 points
Standard	+1	4 points
Concentrated	+7	10 points

11.1.5 Whenever a stand moves onto a mine marker, it must cease moving for the remainder of the turn and may not move off the mine marker until the next turn. If the stand moves onto two minefield markers at the same time, shift the moving stand so that it is clearly positioned atop only one of the two markers.

11.1.6 Any attempt to move off a mine marker requires a successful cohesion roll with a +3 penalty. If the cohesion roll is successful, the owning player of the minefield must inform his opponent whether the marker represents an active minefield or a "dummy." If the minefield is a "dummy" it is removed from play for the remainder of the game. If it is an active minefield, the moving player undergoes a mine attack as he attempts to move out of the minefield. The type and density of the minefield is revealed and the owning player rolls 2D6 to obtain the result on the Combat Results Table.

If the result is "No Effect," the owning player may continue moving the stand. An "S," "(S)," or "D" result requires the owning player to make a cohesion roll for the stand. Success allows it to continue moving. Failure forces the stand to stop on the minefield. If the stand is a vehicle, an "E" results in a Wreck marker being placed on the minefield.

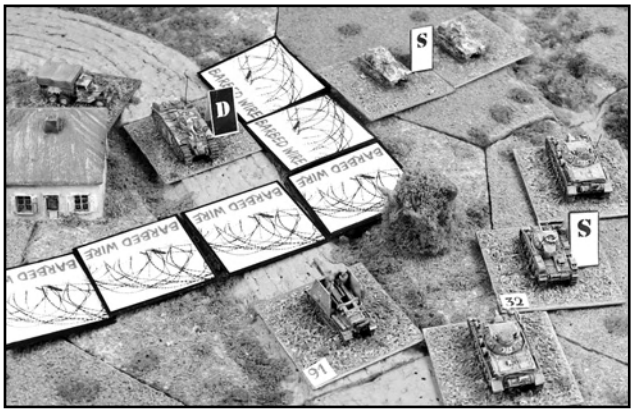
Note: *it is possible to leave one minefield and immediately enter another.*

The stand repeats this combat process every time it attempts to leave the minefield until it successfully moves off or is destroyed.

Minefields may be "breached" only by engineers (11.5.3), or mine clearing vehicles (11.5.4). See specific sections for details.

Note: *Moving non-engineer stands into and through minefields does not reduce their effectiveness or eliminate them. Also, during World War II it seems most countries concluded that it took too much ammunition and time to use artillery for this purpose. Using artillery on a minefield also made it harder for mine clearing teams to remove the mines from a shelled area later.*

11.1.7 Stands may pass unscathed through "friendly" minefields. They must, however, pay the appropriate movement for the terrain that the minefield occupies, stop and pass a cohesion die roll to continue moving. If the roll fails the stand stops moving for the remainder of the turn.



Remnants of a French DCR have established a barbed wire roadblock around their headquarters at a farmstead.

[11.2] Barbed-Wire Obstacles

Barbed-wire markers are deployed as part of a player's initial forces and cost 2 points per 1 inch marker. They may be removed by armoured vehicles passing over them or action by engineer stands (see 11.5.5).

11.2.1 Any stand moving onto a barbed-wire marker must pay the movement cost for its movement class and may not move further that turn.

11.2.2 To move off a barbed-wire marker, a cohesion roll must be passed. Personnel stands add a +3 modifier to this cohesion roll.

11.2.3 Whenever a tracked vehicle successfully moves off a barbed-wire marker, that marker is removed from play. Engineers may clear barbed wire obstacles per rule 11.5.5 below.

[11.3] Anti-Tank Ditches

The ditch, or dry moat, in the path of enemy forces to slow their advance and kill them can trace its origins back to one of pre-historic man's earliest hunting techniques and is as old as organized warfare itself. The anti-tank ditch of World War II was used for exactly the same purpose, to block or channel the advance of enemy vehicles and personnel, preferably into a killing zone.

11.3.1 Anti-tank ditch markers are deployed as part of a player's initial forces and cost 2 points per 1 inch marker. They may be placed anywhere on the board except in woods or buildings or over any type of water, marsh, or swamp.

11.3.2 No personnel stand may enter and exit an anti-tank ditch in the same Movement Phase. In order to cross, infantry stands must stop on the ditch marker. They may attempt to exit on the following Movement Phase. A successful movement cohesion die roll must be achieved. An anti-tank ditch stand has the same movement costs and terrain effects as soft sand or mud.

11.3.3 Wheeled and tracked vehicles may not enter or cross an anti-tank ditch until it is breached or bridged by engineers. See 11.5.6 and 11.5.7 for details.

[11.4] Improved Positions

Improved Positions come in Light, Medium, and Heavy types. All types of improved position are 1 square inch markers and are placed on the playing surface as part of a player's initial forces. Improved positions are placed on existing terrain. The Terrain Effects Chart lists relevant die roll modifiers for each type of improved position. Improved positions may not be moved.

Note: *All terrain effects are cumulative! This means an infantry stand in a medium improved position, in light buildings adds +9 to the "to fire" cohesion die roll, and if successful +9 to the CRT die roll of the attacking stand, and if successful +9 to the CRT roll as well.*

11.4.1 Light improved positions are temporary, ad hoc constructions and are removed from play if they are

unoccupied at the end of a Movement Phase. They may be eliminated by artillery fire or bombing mission Air strikes. When attacking a stand in a light improved position apply the rolls to the position as well. The light improved position has a defense value of 5 and the artillery attack must achieve an "E" result on the CRT to eliminate the marker. Light improved positions cost 3 points each to deploy.

11.4.2 Medium improved positions represent the likes of trenches or similar prepared and somewhat reinforced positions with overhead cover. They may only be removed from play if they are attacked and destroyed by artillery fire or bombing airstrike missions. When attacking a stand in a medium improved position apply the rolls to the position as well. The medium improved position has a defense value of 8. Two "E" results on the CRT removes the improved position and its former location becomes the equivalent of "Rough Terrain 1." Medium improved positions cost 6 points each to deploy.

11.4.3 Heavy improved positions represent reinforced fortifications with plenty of overhead cover and typically may not be removed or destroyed without prolonged barrages or bombings. Scenarios may or may not allow the destruction or removal of this type of position during game play.

11.4.4 If a stand is deployed in a medium or heavy improved position at the start of the game and changes facing at any time, it loses all benefits of this position. It may change back to its original facing and regain these benefits.

11.4.5 Any stand, firing at medium or heavy improved positions may use their "AP" value rather than their "HE" value at the player's discretion. In this instance the improved position's defense is equal to its "Personnel" cohesion die roll modifier on the Terrain Effects Chart.

[11.5] Combat Engineers and Engineering Vehicles

Generally actions such as clearing, breaching or bridging the various types of battlefield obstacles would be done outside the combat zone. In some cases the engineering personnel would work at night, when the actions would be safer or better concealed. However there are many examples of combat engineers working under fire throughout the war and in every theater of operations. These rules are provided to help simulate battlefield operations that might be required to complete a scenario's objective.

Combat engineers are much like other infantry stands. However, their training includes a familiarity with explosives and the destruction of fortifications. Their equipment includes incendiary weapons (especially flame-throwers), explosives, and mine setting and clearing equipment. These factors result in their having special abilities.

Engineering vehicles were designed and employed by many of the participants of World War II to support the needs of the new highly mobile forces of this conflict.

11.5.1 When performing a close assault, engineer stands receive an additional -3 to their CRT die rolls.

11.5.2 Unless otherwise noted in the weapons charts, Engineer stands cost 10 points more than a standard infantry stand. Engineering vehicles (tanks with mine clearing devices, bridging devices, dozer blades, hedgerow cutters etc. may be purchased for the base unit's cost multiplied times 1.3 (unit cost x1.3).

11.5.3 Breaching Minefields

Engineers may "breach" or clear paths through minefields. Breaching minefields is accomplished by the engineer stand starting the turn on the mine marker and performing no other action that turn. It must remain in place, working on clearing a path through the minefield for a number of turns based on the concentration of the minefield. During the turns in which the engineer stand is attempting to create the breach it may be in any posture.

Hasty or Standard minefields require three successful cohesion rolls, during the Marker Removal Phase of three different turns, to successfully create the breach. Concentrated minefields require five successful cohesion rolls over five turns. The successful turns need not be consecutive. Unsuccessful rolls simply delay the clearing process. If any of the cohesion rolls is a natural (unmodified) 1, the minefield is cleared immediately, on a roll of 20 the engineer stand is attacked by the mines as if it had attempted to move off them and the marker remains in place.

Note: *The engineer stand may remain in place, pausing in their breaching attempt for any reason (i.e. to conduct fire on enemy stands) for as long as the player cares too, with no interruption to their progress towards completion. The engineer stand may move off the mine marker before breaching is completed (and must roll to see if they are attacked by the mines when they do so). If the engineer stand that started the breaching process returns to the marker its progress is not lost (as long as the player keeps written record of it). If a different engineer stand enters a 'partially cleared' minefield it must start the breaching process from the beginning.*

A "breached" minefield marker is removed from play. It represents the engineers successfully clearing and marking a path through the obstacle.

11.5.4 Mine Clearing Vehicles

Mine clearing armoured vehicles are those designed or modified to counter mines. The presence of these vehicles will be noted in the Order of Battle section of a scenario. Adding mine rollers, flails, plows etc., to armored vehicles costs 1.3 times the unit's base cost (e.g. if a tank stand cost 70 points, deploying the anti-mine flail variant would cost 91 points).

Breaching minefields with these vehicles is accomplished by the vehicle driving onto the mine marker, stopping on it and performing no other action that turn. It must remain in place, working on clearing a path through the minefield for a number of turns based on the concentration of the minefield. During these turns the mine clearing vehicle must be in the movement posture.

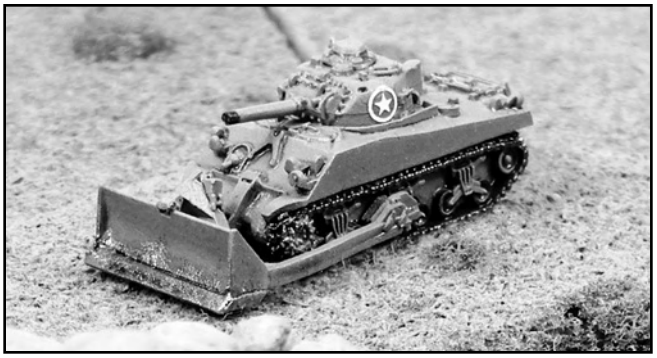
When the engineering vehicle moves onto the minefield, the minefield's concentration is revealed. If the marker represents a hasty minefield it may be "breached" after one successful clearing attempt, two turns are required for standard minefields, while three turns are required for concentrated fields. During the Marker Removal Phase of each turn on the minefield, a cohesion roll is made. If the roll succeeds, the stand has made progress in clearing a pathway through the minefield. If multiple successes are required, the successful turns need not be consecutive. Unsuccessful rolls simply delay the clearing process. If any of the cohesion rolls results in a natural (unmodified) 1, the minefield is cleared immediately, on roll of 20 the mine clearing vehicle stand is attacked by the mines as if it had attempted to move off them and the marker remains in place.

11.5.5 Breaching Barbed Wire Obstacles

Engineers may clear barbed wire markers. The clearing process begins by the engineer stand moving onto the barbed wire and performing no other action that turn. A successful cohesion roll, during the Marker Removal Phase, clears a path through the barbed wire obstacle. The engineer stand must be in the movement posture while performing this function. An unsuccessful roll simply delays the clearing process.

11.5.6 Breaching Anti-Tank Ditches

Engineers or vehicles with bulldozer blades may attempt to collapse an anti-tank ditch with their explosives and tools. To do this the engineer or vehicle stand must start the turn adjacent to the anti-tank ditch marker and may perform no other action that turn. The engineer stand is in the "firing" posture for this function. A vehicle with a dozer blade requires two turns of successful cohesion rolls, while an Engineer stand requires 4 turns. Successful cohesion rolls, during the Marker Removal Phase are required to breach the anti-tank ditch. Unsuccessful rolls simply delay the work. Once "breached," the anti-tank ditch marker is removed from play.



11.5.7 Bridging Obstacles

Bridging tanks and engineer stands with accompanying transports carrying bridging materials, may erect temporary bridges over small streams, anti-tank ditches, and other obstacles. Scenario special rules will clarify what terrain features may be bridged and indicate the presence of these vehicles in the Order of Battle section.

Note: *Building bridges over obstacles wider than 1 inch (100m) are not possible during typical scenario lengths and thus are not modeled in game terms. Bridging tanks typically only carried equipment to span about a 9m obstacle. Bridging columns of an engineer battalion could cross wider obstacles but likely require construction times outside the duration of any of the scenarios in these rules.*

To bridge an obstacle, the bridging tank or engineer stand must begin its turn adjacent to (in base to base contact with) the obstacle, and in the movement posture. If the bridge is being built by Engineers a transport, carrying bridging materials must begin its turn adjacent to the "bridging engineer" stand performing the construction. The transport's posture is irrelevant to the bridge building process.

A bridge marker may be placed over the obstacle after 2 turns of successful cohesion rolls for bridging vehicles and 4 turns of successes in the case of engineer personnel. The cohesion die roll for bridge building is conducted during the Marker Removal Phase of each turn.

The bridge simply remains incomplete if the roll fails. The bridging stand, and supply transport, must remain in place until the bridge is complete. If the engineer stand moves away before the bridge is complete it must begin the building process over again.

Bridge markers are considered "clear" terrain for spotting and combat effects purposes but Rough Terrain 2 for movement purposes.

Marker Name	Movement Cost			Firing unit cohesion & CRT die roll effect for target in this turn	LOS blocked?
	Track	Wheel	Foot		
Engineer Bridge	2	5	1.5F	none	no

11.5.8 Destroying Bridges
Destroying, or preventing the destruction of a bridge is a common objective in any theatre of conflict. The decision to destroy a bridge is an important one as it limits both the enemy's and your own options for movement. The weight of this decision is determined by the size of the obstacle being crossed; the size and materials used in the bridge itself and of course the resources available to effect the destruction. Consider a wooden beam foot bridge over a creek compared with a 4 lane steel and concrete truss or suspension bridge over a major river. The resources needed to destroy these two example bridges are different. Game scenarios, concerned with this topic, may need special rules concerning when, how, and with what a bridge may be destroyed.

To destroy a bridge built by combat engineers (as in 11.5.7 above) an attack must be directed against the bridge itself (not stands on the bridge). The bridge has an unarmoured Defense Value of 2, and will be unusable on a "D" or "E" result.

11.5.9 Clearing Wrecks
Recovery vehicles equipped with dozer blades or wrecker booms may clear roads or tracks that are obstructed by wreck markers. Non-engineering vehicles may also do so, as detailed below.

11.5.9.1 To clear wrecks with a wrecker, or recovery vehicle move its stand onto a wreck marker and pay the movement penalty for its movement class. It may not move further that turn. On the following turns, during the marker removal phase, a cohesion roll may be made to clear the road. If successful, the road is cleared, otherwise not. The wrecker vehicle is considered in the movement posture during all turns in which it is attempting to clear the road.

11.5.9.2 Unloaded transports with a transport capacity of 10 or higher and fully tracked armoured fighting vehicles (basically tanks) with an defense value of [5] or higher may also clear roadways of wrecks. Move the clearing stand onto a wreck marker and pay the movement penalty for its movement class. It may not move further that turn. It must remain in place for two additional turns in the movement posture. At the end of the second turn, and thereafter, during the marker removal phase, a cohesion roll may be made to clear the road. If successful, the road is cleared, otherwise it is not.

11.5.9.3 After the road is cleared, the wreck marker remains in place but is marked to note that the road is cleared. The wreck still provides its terrain effects if a stand is moved into it (by paying the appropriate costs) but now moving stands may resume using the road movement rate through this area.

[11.6] Flame Throwing Vehicles
Some vehicles are designated as "flame thrower" types. These should not be confused with the man-packed flame-throwers used by combat engineers. They are special-purpose high-pressure types mounted on tracked vehicles.

11.6.1 Whenever one of these weapons fires, the defender must make a successful cohesion roll. Failure requires the defender to retreat at the end of the phase. This retreat must be at least one inch and place the defender one inch farther away from the flame-thrower than it started. If this is not possible, the defender is eliminated. (They surrendered!)

11.6.2 If one of these vehicles performs an overrun, the defender suffers an additional +3 penalty to its required cohesion roll.

[12.0] OPTIONAL RULES

[12.1] Unit Determination
The standard rules have no control mechanism to deal with "unit" or "force" cohesion or morale. Essentially, players may "fight to the last platoon" without any consequences, yet this extreme was a very rare conclusion to engagements in WWII. The following rules provide an effective set of mechanics, known as Unit or Formation Determination, to simulate a force's willingness to stay in the fight. Their use is optional but highly recommended.

A unit's "determination" is based on the percentage of casualties that formation can endure before self-preservation asserts itself. Much post-war research and analysis has shown that once a WWII unit (really, any combat unit) fell below 65% of its starting strength, its combat effectiveness dropped dramatically. The basic

35% determination level may be modified to reflect certain conditions or national philosophies but should be done so sparingly and carefully by scenario designers.

Changing the determination level may have a big impact on a unit that really is beyond the scope of a tactical war game, yet these consequences were very important to higher commands. For example, both the Soviets and Germans at Stalingrad fought with great courage and savagery. The determination levels for both sides should reflect this, rising to as much as sixty or even seventy percent.

A broken formation will remain unreliable in combat for the foreseeable future. These units were often described as brittle, as they could rarely be counted to bear much more strain. Any formation which continues fighting until it is down to only thirty or forty percent of its original strength will require a great deal of time to replace and retrain, as too many of its experienced NCOs and talented junior officers have become casualties.

Both the Soviets and Germans often "disbanded" such shattered units and redistributed the remaining soldiers to other units or formed cadres for a new unit altogether. Despite the high cost of this level of commitment, it was asked for and received, on numerous occasions throughout the war.

Simply put, each unit in play will have a "break point" value. Every time that unit loses a stand the player draws a poker card. When the total drawn exceeds the unit's break point it begins behaving very differently. The specifics are detailed in the following rules

12.1.1 The "Unit Determination" rules require the use of one poker deck of playing cards, for each GHQ in play. The decks are not mixed, but kept separate for each GHQ. Remove the jokers. The values of the numbered cards are as printed (Ace = 1). "Face" cards have the following values J=11, Q=12, K=13.

12.1.2 The scenario designer must calculate the units' break point as follows: first count the number of armed combat stands in each formation for which a value will be used, add 2 for HQs and 3 for a GHQ. Disregard unarmed stands. Record the "total combat stand points" for each formation. Next, using 35% as a base and possibly modifying it based on criteria in table 12.1.9 below, convert the percentage to decimal notation (e.g. 35% becomes .35). This is the "force determination level." Then multiply each unit's "combat stand points total" by the force determination level. Finally multiply this product by 7 to arrive at the unit's break point.

Example: A force has 32 infantry, tank, and artillery stands, 3 HQs, and 1 GHQ. It also has 16 unarmed transports. This unit has a break point of 100 and was calculated as follows: 32+6+3 =41. 41*.35 = 14.35. 14.35 * 7 = 100.45 rounded = 100. For another example see the Scenario Design rules.

12.1.3 When a stand is "Eliminated" for any reason, draw a card from the deck. Draw two cards if the stand was an HQ or three cards if it was a GHQ. Players are not required and encouraged not to show opponents the drawn cards. They may show them to allied players if desired.

12.1.4 When the total value of the cards in a player's hand exceeds the break point of the unit it has reached a "crisis of command" and is "broken."

12.1.5 On the next turn, after "breaking," the following conditions go into effect:

1. The cohesion value of all components of the broken formation is reduced by 5 (-5) for all purposes except movement for the rest of the game.

2. Stands of a broken formation may only fire if fired upon that turn. They may fire at any enemy units within 5 inches.

3. Off-map artillery belonging to the broken formation may complete any multi-turn fire missions. No further indirect fire may be plotted by units of the broken formation.

4. Any unused air strikes assigned to that formation are canceled.

5. The cohesion of units of a broken unit is increased by 2 (+2) for movement purposes for remainder of the game.

6. Units belonging to the broken formation must move towards a friendly map edge, as agreed upon by the players, they must use their full movement allowance if possible.

7. Units of the broken formation are assumed to be in the Movement Posture, even if they fire during the Fire Phase. Recall they may only fire if fired upon (per 2 above) and may not move if they fire (per standard rules).

8. If and when all formations of one side have broken, the opposing side must make a successful cohesion roll at the beginning of each ensuing turn to keep fighting. This die roll is modified by +2 for each additional turn. If the opposing player fails this cohesion roll the game is over as everyone has ceased fire.

12.1.6 In games where one side has more than one GHQ, the forces under the command of each GHQ are assigned separate break points.

12.1.7 More than one formation may exceed its break point in the same turn.

12.1.8 All players must reveal their cards at the end of the game regardless of whether anyone exceeded their break point or not.

12.1.9 The casualty percentage sustainable by a specific force may be difficult to decide upon. Below you will find some suggested modifications to the 35% base determination rule, based on troop quality and situation.

1. A force on the defense in an "assault on a prepared position" scenario: +5%

2. A force taking part in a "meeting engagement" scenario: -5%

3. A force on the offense in a "reconnaissance in force" scenario: -5%

4. Any force starting a scenario with less than 75% of its authorized (TO&E) strength: -10%

5. Any 'Green' or 'Militia' force on the offense in a scenario: -10%

6. Any force facing enemy tanks in a scenario of 1939 or 1940: -10%

7. US forces in North Africa during 1942: -5%

8. Italian forces on the offense: -5%

9. Soviet forces before Sept. '41: -10%

10. Soviet force on the defense Nov. '41 or later: +5%

11. Soviet force in '44: +5%

12. Soviet force in '45: +10%

13. USMC force in Pacific Theater: +10%

14. Japanese force: +10%

15. Japanese force on a Pacific Island: +5%

[12.2] Unmodified or "Natural" Cohesion Roll Options

12.2.1 Hot Shot

When a player makes a cohesion roll for firing purposes and rolls an unmodified "1," it means that this stand has achieved a remarkable success. Shift the attack <u>two</u> columns to the <u>right</u> on the CRT before determining combat results.

12.2.2 We're Running Low Sir

When a player makes a cohesion roll for firing and rolls an unmodified "20" the stand is nearly out of ammo and may only fire at enemy stands which have fired at it previously in the current Fire Phase. This result stays in effect for the duration of the game.

12.2.3 Communications Breakdown

When a player makes a cohesion roll for deviation of artillery fire, and rolls an unmodified or natural "20," it means there has been a serious error in fire direction control. The fire deviates 1D20/2 inches from the original plotted target!

12.2.4 Intuitive Action

For forces with a cohesion level of 15 or higher, if a movement cohesion roll for a group moving with an order, results in an unmodified "1," the leadership of this group has anticipated your intentions and has the group moving on its own initiative. The "order" intended for this group is not spent and may be used to assist another group during the player's next movement action this turn.

12.2.5 Conflicting Orders

If a movement cohesion roll for a group, results in an unmodified "20," the leaders have received conflicting orders and are in doubt about their superiors intentions. This group may not move for the remainder of the turn.

[12.3] Air Strikes

The Germans pioneered the coordination of air and ground forces during the Spanish Civil War and it was one of the "shocking" tenets of Blitzkrieg in WWII. Close air support was in its infancy at the start of WWII and by the end had matured considerably as experience, techniques, and technology were brought to bear by Axis and Allied air forces. The effects of aircraft involved with attacking ground forces ranged from "disastrous to friendly forces" to "devastating total destruction of

helpless targets." The occurrence of aircraft attacking ground forces during active tactical operations between engaged opponents was fairly low, as the risk to friendly forces was rather high. The following rules are provided to allow for the use of air strikes in the game.

12.3.1 Basics
The specifications for various aircraft are provided in the Aircraft Data Tables. Aircraft may have a Strafing value, an Ordnance value, and an Ordnance Load value.

The Strafing value is used to perform one strafing attack while over the battlefield. The appropriate value for HE or AP must be used based on the unarmoured or armoured defense of the target.

The Ordnance value is used for conducting bomb/rocket attacks. Planes may only perform the number of bombing attacks specified by the Ordnance Load value in the aircraft's data. Aircraft are purchased during scenario creation, for the points specified in the aircraft data tables. They are then listed in the scenarios' Order of Battle section.

12.3.2 Duration and Limits
Each aircraft may be in play for no more than 3 turns. At the end of the Movement Phase of a plane's last or 3rd turn overhead, remove it from play. An aircraft may strafe a ground target once during any one of the three turns it may be present. An airplane may only bomb targets during its second or third turns of activity. A plane may not conduct strafe and bomb attacks in the same turn. A plane is only subject to AA fire on turns in which it is present and bombing or strafing a ground target.

12.3.3 Plotting Air Strikes
12.3.3.1 Before the game begins, players must write down the turn of arrival for each available aircraft.

12.3.3.2 Each bombing airstrike impact location must be plotted, after map set up and before force deployment. If the plane is capable of a second bombing attack, this second attack location must be plotted as well. See 12.3.7 for more details.

12.3.3.3 The Germans, throughout the war, US Marines from mid '43 on, and western Allied players from mid '44 on, employed "Forward Air Support Coordinators" (FASC) teams. These teams allowed much more responsive control of battlefield air strikes.

The number of FASC teams allowed is dependent on a successful modified cohesion roll and scenario type as follows:

Scenario Type	Cohesion Modifier	Teams
Meeting Engagement	not available	n/a
Attack on Prepared Position	-4 die roll modifier	1 FASC per Regt/ Brigade sized combat group
All Other Scenarios	-2 die roll modifier	1 FASC per Regt/ Brigade sized combat group

The scenario Order of Battle may specify the presence of an FASC team(s) regardless of the above table. A regimental/brigade sized combat group would consist of 3 or more battalion sized elements (totaling approximately 50 stands or more).

If a force has an FASC, the player need not pre-plot the bombing airstrike locations before play begins. They may plot bombing missions during the Joint Plot Phase one turn prior to the recorded turn of arrival of the aircraft. If the aircraft is capable of conducting two bombing attacks, the second attack may be plotted during the Joint Plot Phase of the "turn of arrival" of the aircraft. This second attack then occurs in the third and final turn of the aircraft's availability.

An FASC team is assigned to a host stand just like an FO (see 7.6.4). To plot an airstrike, an FASC must have a clear LOS to the potential target during the Plot Phase. The FASC may be in the movement or firing posture during the turn of the plot. If the FASC stand is eliminated at any point in the game, Air strikes that have not arrived are canceled.

Example: Max is controlling a US Marine force in '44. The scenario instructions indicate the Marine player should roll to see if an FASC is available. It also indicates his force cohesion level is 17 and the scenario is a reconnaissance in force. So Max rolls an 18 and applies the -2 resulting in a 16, so his Marines have an FASC team available to help out the three air strikes the scenario also indicates he has available.

12.3.4 Anti-Aircraft Guns
Anti-aircraft gun stands may affect aircraft in the following way. Each AA gun stand that has not fired previously in the turn, is within their range of the air strike impact marker, and is in the firing posture, may attempt AA fire. Each successful cohesion roll by an AA gun stand adds a modifier to the attacking aircraft's cohesion rolls as follows:

AA stand of 40mm or less: +2 to air strike cohesion rolls

AA stands larger than 40mm: +1 to air strike cohesion rolls

These airstrike modifiers are cumulative for each successful AA stand roll. AA stands that "fire" at aircraft may not fire in another phase of the same turn.

12.3.5 Conducting Air Strikes
To conduct an airstrike of any type, the player must make a successful cohesion roll, modified by AA fire and the target's terrain. If unsuccessful, the attack doesn't occur. If successful, a second, modified cohesion roll is made to prevent deviation. If successful the attack occurs where it was plotted to arrive. If unsuccessful, roll 1D8 to determine direction of the deviation. Roll 1D6 to determine its distance from the original plot location. The airstrike attacks any stand at this new location (friend or foe). If unoccupied the airstrike has no effect. For the complete step-by-step guide see the procedures included with the rules.

12.3.6 Strafing Runs
Strafing attacks are not pre-plotted; they represent the pilot's initiative to attack targets of opportunity. The aircraft must still have its turn of arrival recorded prior to the start of game.

To conduct a strafing run, the attacker declares a target stand to be strafed and the defender may then conduct AA fire prior to the strafing run as detailed in 12.3.4 above. The attacker must then conduct an air strike as in 12.3.5 above, however if a deviation occurs during a strafing attack only use 1D6/2 for distance determination. For the complete step-by-step process use the "Strafing Procedure" included with the rules.

If the aircraft is attacking a column or linear formation of (adjacent) stands and the first cohesion roll to attack succeeds, the airplane may attempt to attack the next stand in the line with a +3 to the cohesion roll. Only one such second target may be attempted and only if the first succeeds. Only one turn of the three permitted may be used to conduct a strafing attack.

12.3.7 Bomb Attacks
Bomb attack locations must be plotted with the following in mind: the first bomb attack may occur in the second turn after arrival on board and if equipped, a second bomb attack may occur in the third turn after arrival. Dropping both bomb loads on one location, during either the second or third turn, is permitted.

Airplanes may carry multiple bomb loads and may thus bomb one location with both bomb loads in one turn or make two bombing attacks, one per turn. Bombing attacks use the airplane's Ordnance value against the target's defense value (HE vs. unarmoured, AP vs. ½ the armoured value) to determine the differential column on the CRT. Bombing attacks may only be conducted in the second and or third turn after the airplanes turn of arrival.

To conduct a bomb attack, the attacker places the impact marker at the pre-plotted location. The defender may then conduct AA fire prior to the bombing run as detailed in 12.3.4 above. The attacker must then conduct an airstrike as in 12.3.5 above. For the complete step-by-step process use the "Bombing Procedure" included with the rules.

12.3.8 Artillery impact markers are used to note the location of a bombing mission airstrike, but these are removed at the end of the Artillery Fire Phase in which they are placed. Bomb attacks do not persist into the Movement Phase as artillery does.

12.3.9 Armoured vehicles retain 50% of their defense value whenever attacked by air strikes. Open topped armoured vehicles retain 25% of their defense values whenever attacked by air strikes.

[12.4] Charge for the Guns!
For each "armed" stand that exits anywhere along your opponent's map edge, one enemy off-map artillery stand is rendered inactive for the remainder of the scenario. This reflects the dislocation that would result from the appearance of enemy combat troops in the rear areas. Their artillery would be forced to either displace to a safer position or deploy to deal with the new threat, thus rendering it unavailable.

[12.5] Tank Marines!
Players may use armoured fighting vehicles as transport. In this case, the AFV stand has a transport capacity of 8 points. Any combat result suffered by the AFV forces any personnel stands or towed weapons to dismount immediately with an automatic "S" combat result.

The "cargo" may be attacked separately from the AFV. In this case the defense value of the cargo stands is "1" (unarmoured).

If the AFV, with a mounted stand, fires during any phase of a turn, the mounted stand may automatically dismount. The AFV pays no movement cost to do this. The newly dismounted stand pays 50% of its movement points to do this. If the carried stand is to remain mounted on the AFV it must pass a cohesion check with a +3 die roll modifier.

[12.6] Nobody Moves 'til I Say So, Get me?
In the standard rules, the players alternate moving stands at the option of the player with initiative. If either player opts to "pass," it means that he wishes to cease movement for the turn.

Under this optional rule, a player may "pass" by declaring a "stand fast" action. This simulates the GHQ broadcasting an order to all troops under its command to hold their present positions until receipt of further instructions.

A "stand fast" action requires the expenditure of a movement order. If he passes the required cohesion roll, he may pass the movement requirement to his opponent. If he fails, he must select a movement group and move it, thus preventing it from moving at some later point!

[12.7] Loaded and Overloaded Transports
Army trucks, halftracks, and even tanks, loaded with troops or towing weapons were much slower when they were full, or towing equipment. Subtract the following movement point modifiers from the vehicle's Movement Point value prior to moving the units when loaded and/or overloaded.

LOADED AND OVERLOADED VEHICLE MOVEMENT MODIFIERS

Terrain	Tracked	Wheeled	Foot
Any Road	-4	-4	0
Track	-4	-6	-2
All other terrain	-6	-8	-3
For each point above capacity overloaded	-1 MP	-2 MP	0
Apply a +2 cohesion roll modifier to all overloaded transports' movement roll.			

[12.8] Pour It On!
Tanks and anti-tank gun weapons (towed or self-propelled), may fire a second time. To do so they must be in the normal cohesion state and in the fire (not the fire/move) posture. Furthermore, they must first make a successful attack against an enemy vehicle stand. If the first attack succeeds they may attempt to fire again at a new target in the same turn. To make this attack, a second "to fire" cohesion roll must be made with a +3 to the die roll. Only a single second attack may be made in this manner.

Tanks with multiple gun systems, described in rule 10.9, may fire both weapons using the "Pour it on!" rule. As long as the first attack is successful, the second attack may be attempted with the cohesion modifier. Both attacks may be with the same weapon or both types of weapons may be used to attack enemy vehicle stands. The targets of both attacks must be valid for the weapon type used (meeting range, LOS, facing requirements etc).

Note: *While this rule adds more combat it slows the game down. Originally I planned to make this for anti-tank guns only due to a perceived weakness of that weapon system. However players argued it should be available to both.*

[12.9] That'll Leave a Mark!
Late war western tank and anti-tank guns of 57mm and larger had limited access to more effective types of armour piercing ammunition beginning in September of 1944. Stands equipped with this ammo increase their weapons' AP firepower by 1.5 (rounded down). These stands cost 15% more than normal. On a CRT roll less than or equal to 5, the stand making the attack depletes its stock of this ammo after this attack is complete. This "depleted" stand may fire using the standard AP firepower for the rest of the game. Mark the stand in some way to note this change or record it on paper.

[12.10] Big Game Hunters
By improvisation and desperation the Soviets learned that large, low velocity artillery guns could often disable or destroy German "big game" tanks and assault guns from very close range.

The SU-152 and JSU-152 as well as any country's 150mm or larger artillery weapons may conduct a direct fire attack, in the standard Fire Phase, against armoured fighting vehicles with their HE firepower instead of their AP value. The maximum range of this attack is 4 inches. If the range is 2 inches or less apply a -2 to the CRT die roll. The attacking vehicle or stand may not have fired previously in the turn.

[12.11] A Little HEAT
After January 1941 Germany began supplying units with the 75mm L24 cannon (these included the PzIV A-F1, PzIII N, StuG IIIA-E, SdKfz 233, 234/3, 251/9, 250/8 and the 75mm lIG) with HEAT rounds. Units with these guns were intended for and were used for HE support, but were equipped with very limited amounts of HEAT ammunition to defend themselves against enemy tanks.

Using this optional rule each stand is allowed to make one direct fire attack per game, in the standard Fire Phase, against armoured vehicles. This attack has an AP firepower of 8 and a maximum range of 10 inches. Unlike normal artillery attacks, this attack does not automatically suppress and does incur CRT range modifiers. The attacking stand may not have fired previously in the turn. Recording the expenditure of this ammo by stand number is required.

It did not take long for the Allies to reverse engineer this technology and supply it to their forces. Scenarios may allow other weapons to use similar technology.

[12.12] The Registered Fire Mission
A Registered Fire Mission is an artillery fire mission that has been prepared and fired previously during the game. Any Support or Adjusted fire mission may be declared a Registered Fire Mission, as long as it hits the target coordinates accurately (that is, it did not deviate).

The Registered Fire Mission is available to both attacker and defender in any scenario and is called for as the pre-registered fire mission is called for. The Support mission plot that the registered mission is based upon should be given a name and contain all the plot information needed as required for a Pre-registered fire mission (see7.6.2.2). The "calling" FO or HQ must be able to trace a clear LOS to at least one of the mission's impact locations on the turn of call. On the turn of the call, the player records the turn of call, the unique mission name, the calling FO's or HQ's ID, turn of impact, and duration.

The turn of arrival may be one or more turns after the turn the mission was called for. This is true for all nations' forces.

The batteries designated to conduct a Registered fire mission may not move between the establishment of the mission (turn of creation) and the "Turn of Arrival." If they do move, the Registered mission is canceled.

Note: *Using registered missions allows one to respond faster than the limits imposed by 7.8 National Artillery Efficiency.*

Apply -2 only to the deviation cohesion checks roll for Registered fire missions. (This is different from the Pre-registered fire mission.)

A player may create as many Registered fire missions as they want during the course of game play.

[12.13] The Polar Artillery Plotting Method
The Polar Plot is simple and is available to any nation's artillery plotting units.

Support and Adjusted fire missions may be plotted using this method.

The Polar Plot method is based on the known position of the calling FO or HQ's position. If the plotting FO or HQ move between the turn of plot and the turn of arrival the Polar plot(s) are canceled.

Plotting using the Polar system requires the following information:

1. The turn of plot. (e.g. "3")
2. The ID of the plotting unit. (e.g. "FO in stand #212")
3. The type of mission (e.g. "Support")
4. The IDs of the firing units (e.g. "105mm battery #1, off board")
5. The turn of arrival. (e.g. "5")
6. The duration of the mission (e.g. "1")
7. The location of the impact including: the distance from the FO or HQ unit in inches to the intended initial point of impact and the direction from the plotting FO or HQ unit (using the compass directions established by the compass rose on the board). Example: "8" North East"
8. Note the sheaf pattern for the mission. Make sure to note the direction an open sheaf is to be laid out in. It is also a good idea to note how many impact markers to deploy. For example, "Open 2N" means an open sheaf of two markers, one at the impact point, and the other 1" North of the first.
9. The type of ammunition used (Smoke or HE)

Note: *If you like or prefer this plotting method you are free to make an improved compass rose with 16 points on it, or even use a protractor for more precision.*

AUTHOR'S NOTES

I'm just going to go through the rules sections and call out a few things that differ from the original rule book.

[3.0] Equipment
I added a few clarifying statements and added playing cards for use with the optional "Unit Determination" morale rules.

[4.0] Sequence of Play
I moved the sequence of play to section 4.0 and the cohesion rules to section 5.0. This seemed to read better in my opinion. As I read it there were a number of "rules" in the "posture determination" step. I tried to move those rules to [8.0] "Movement" while retaining a good description of what happens in this phase of the turn sequence.

[5.0] Cohesion
It seemed to me that there was a good deal about this issue that should be in the rules rather than simply left to be inferred from charts or experience. One of the biggest issues with cohesion that players struggle with is that adding to the die roll is "bad" and subtracting from the die roll is "good." To those that struggle with this, just remember:

"When it comes to cohesion and combat, lower rolls are better"

This is almost universally true in the game. The only exception is encountered when rolling to determine the number of orders a GHQ provides. In this instance rolling high is good, but in all things cohesion and combat, the above council does seem to help.

I have been asked "Why didn't you reverse the 'Movement Orders' chart to be consistent with the 'lower rolls are better' concept?" I did in fact produce such a chart. It turns out one must then make GHQs have a negative number to be "better than average" and a positive number to be "worse than average." This was even more confusing to players (and me) in play-testing.

[6.0] Spotting
I have experienced and witnessed a bit of confusion and misunderstanding around the terrain and LOS rules in games. So section 6.0 received a good deal of expansion, a bit of re-ordering of the rules, and more examples compared to the first edition.

[7.0] Combat
This received the most change of all. The introduction section contains a brief outline of where in the sequence of a turn combat events may occur. John had a paragraph at the beginning of section [7.1] "Basic Principles" which described every occasion in which a stand could be attacked. I thought this confused readers both by what it said and where it was located so I deleted it. Instead I added a bit of the coaching that occurs regularly at games with new players who are just learning how the standard fire rules work. I focused on the procedure of the standard fire phase rather than just leaving it to the procedure card. In the section regarding the CRT I expanded the wording and hopefully everyone will now know how to say (S) correctly. I wanted readers to be clear on what happens when a second D result occurs. I didn't think it was clear enough in the original rules.

Then there is artillery. In [7.4] "Artillery Fire (General)" I cover the basics of artillery fire. The biggest change I made to the basic rules of artillery is that all artillery fire is no longer "simultaneous." The original rules said that "Although the effects of artillery fire are simultaneous, artillery attacks take place alternately." What this meant in a game with John was that everyone put all their artillery markers on the board at the same time. Then players took turns resolving the possible deviation and combat effects. Experienced players are still welcome to do this, as it does speed play a bit. For less experienced players or those learning the game solely by reading the rule book I did not think this was particularly clear, especially with all the types of artillery fire available to players. In this edition, each player "places" and "resolves" one artillery attack before the next player does so. This produces no difference in the outcome of artillery combat between the first and second editions. I just think it makes play a little clearer but a bit slower.

I introduced a rule to differentiate between enclosed and open topped armored vehicles under artillery fire. While many open topped armored vehicles don't have very high defense values to begin with, implying that the first edition rules handled the situation, I heard about this lack of distinction from enough players that I put it in.

The "Direct Artillery Fire" rules are pretty close to the first version. The biggest difference is that terrain does not affect the "to fire" cohesion role, only the Combat Results Table (CRT) roll. Range does not affect the CRT roll either. The first edition, as written, is not this specific. I argue that artillery weapons are being aimed at a location not a specific target even in the case of "direct" fire.

With the inclusion of the fire/move posture and considering the scale of this game I decided that even self-propelled artillery units (batteries) may not use the fire/move posture.

The "Indirect Artillery Fire" rules, at first glance may seem a lot more complicated than the original rules but in most situations they really aren't that different. Just as in "Direct Artillery Fire," I specify what can modify the cohesion and CRT rolls in this edition's rules.

The various fire missions evolved from the rules found in both the first edition WWII rules and in the modern rules. The support mission is very similar to the standard artillery attack of the first edition rules. I will even go so far as to say that one could play the game with this type of mission alone.

One issue that came up in play as John's original edition was published was that players would fire an open sheaf in such a way that the first impact marker was visible to a valid spotter, but the rest of the markers would land in town, wood, or other concealing terrain. John didn't like this so he tried to rule it out in the modern rules. But I believe forces brought down artillery shells on "suspected" enemy positions fairly routinely in world war two. So I introduced the "barrage" fire mission, which permits unobservable locations to be fired upon, but with some conditions and not being as effective when they do arrive. Artillery manuals suggest units that could accurately assess the threat they were dealing with were given priority of artillery fire. Furthermore, without an observer correcting and adjusting the fire it wouldn't be as effective as it could be. All indirect artillery attacks suppress and barrages are not denied this trait but getting effective "eliminating" fire is much less likely.

The "pre-registered" mission is an option for the defending force in several scenario types. I felt that a force in an established position was really hampered by the delay from "plot" to "arrival" introduced in [7.8] "National Artillery Efficiency." The defending force would have phone lines in place, and they could have done the liaison work establishing planned defensive fires, and these would be "dialed in." Because of this, pre-registered missions may arrive one turn after the turn in which they are plotted.

The pre-registered mission very rarely deviates as it has been fired and corrected before. This gives slow forces a better artillery component. To limit this I restrict the number of this type of mission they may create.

The "adjusted" fire mission is really just a support mission with simpler plotting, as it is an adjustment to a set of coordinates for a pre-registered mission..

Speaking of plotting, one of the most frequent questions from new players has been "How do I plot artillery?" The Micro Squad rules by George Chrestensen had an excellent section on this so I borrowed it (thanks George). I made the "grouping" artillery units' fire (section 7.4.9), "Duration Fire" (section 7.6.5), "National Artillery Efficiency" (section 7.8) and "Fire Support Allocation" (section 7.9) rules all standard in the this edition. I wanted them all in the "Artillery" section of the rule book as they were all good ideas.

One topic I thought about moving to the artillery section was the "Infantry Close Support Artillery Vehicle" rules. These are artillery weapons and fire in the artillery fire phase. I tried a few changes to these systems in play testing but went back to the standard rules for this edition except I allow these weapons to use the fire/move posture.

[8.0] Movement

I rewrote and reorganized the rules about movement groups and ordered and unordered movement to clarify them. I tried to illustrate how multiple stands, each with differing cohesion states, rolling for cohesion as a group, may succeed and move or fail to move separately in my example. If readers ask more questions about this once the rules go to print I will work with GHQ to publish another example or two if need be.

Movement mechanics are unchanged from the original edition with the exception of the fire/move posture. I did change the terminology to aid understanding of the rules. Rather than a "speed" characteristic, a weapon has "movement points." These are spent as the unit moves across the game board and through various terrain types.

I moved the "Opportunity Fire" and "Covering Fire" rules from the "Combat" section to [8.0] "Movement" which is where these events occur in the sequence of play. They remain unchanged from the first edition rules. "Overrun" and "Close Assault" are also completely intact from the first edition. I expanded the overrun rules to include conditional modifiers per the modern and squad rules. I added an example as well.

I did include new rules for amphibious movement and amphibious infantry movement (section 8.9). I included all new parachute landing rules as well as new glider landing rules ([8.10] "Airborne Landings"). The airborne rules are detailed but produce statistically realistic results in terms of percentage of troops arriving in the combat area of a given game. They can also easily over do it, denying a player enough force to achieve scenario objectives. Scenario designers are encouraged to try the various combinations of modifiers to get the right range of variation they think appropriate for their scenario.

[9.0] Terrain
I expanded the introductory section in hopes of making it easier to understand. I added the bocage terrain type, based on the Micro Squad rules but adjusted them a little for this scale. I added more detail to buildings and included new sections on water and weather. The weather rules are based on the rules found in the modern game rules. Some of these are more for scenario designers, but I felt they should be in the rule book.

[10.0] Special Weapons
I started with HQs and GHQs because I felt these units needed all the rules consolidated into one place to make them easier to use. I thought about removing the [R] or recon designation, but left it in with a bit more explanation and added a cost to it which was not in the first edition. I included the rules from the free fast-play Micro Armour Tank Rules ("Beer & Pretzel" rules) with multiple weapons (such as the Char B1 or M3 Medium Tank "Grant") and I borrowed the cavalry rules from Micro Squad. I also put in a section on bicycle infantry. My bicycle infantry rules are a bit more specific or detailed than those of the first edition.

[11.0] Engineering
Besides the "Combat" rules, the "Engineering" section received the most attention and modification. As I looked through many of the original engineering rules I kept seeing rules that felt incomplete to me. For example, a given rule might instruct one what to do if a cohesion roll was successful but not what to do if it was unsuccessful. I tried to add a sentence or two explaining what the consequence was. I made mines harder to get rid of. Engineering vehicles such as dozers, bridging tanks, mine clearers, etc. are treated more methodically than in the first edition. All this detail will slow games down so use at your own comfort level.

[12.0] Optional Rules
I played one game of another set of platoon scale rules and my battalion of heavy Soviet tanks lost one stand to a battery of 88mm guns over half way across the board. In the "Morale" phase, my battalion "broke" and then the Soviet force commander rolled badly and the whole Soviet force "broke." I think it was turn two. I know it was bloody unlucky dice rolls, but it completely soured me on the game system and "larger unit" morale systems in general. Recently I played a small "thrown together" tank-on-tank game. My opponent insisted on playing to his last Panther on the board and I only had a couple of Soviet tanks left. Both of these situations called out for "good" unit "morale" rules.

John's "Unit Determination" rules add this feature in a dynamic and fun way. I was so close to putting these in as regular rules but left them as optional in the end. I highly recommend them. Yes, it means doing a little more math before the game can start, but the drama of the card draw is so fun. I plan to make MS Excel spread sheets available that will "do the math for you."

I grouped all the various "natural" cohesion roll rules into one section, but each may or may not be included in play, as players wish.

I had air strikes in the combat section in many early drafts but in the end I put it back in optional rules. These rules are based on the first edition of the Micro Armour and Micro Squad air rules more than the modern rules. I modified them for the scale and changed the anti-aircraft gun rules somewhat. I struggled with the concept of pre-plotting aircraft attacks. I freed up the "strafing attack" from this requirement but require it for bombing. For countries without forward air control this basically limits them to bombing static targets, which I'm ok with. A few more innovations from the Micro Squad game include "Pour It On" and "That'll Leave a Mark!" I originally adopted "Pour It On" only for anti-tank guns due to the ATGs not being quite as effective as I think they should be. In the Micro Squad rules they had to succeed with an ever increasing cohesion penalty, but as long they kept getting lucky rolls they could keep firing. In the end I adopted it for both tank and anti-tank guns but with only one additional shot allowed. Even this slows play down and leaves a lot of markers on the table.

"That'll Leave a Mark!" is an example of a special rule that deals with the introduction of high-velocity armor-piercing" ammunition types. I liked it enough that I

added my own special rule called "A Little HEAT" to deal with the introduction of "High Explosive Anti-Tank" rounds. Another case of a historical circumstance inspiring a special rule was the "Big Game Hunters" rule which gives a little better kill probability to the large caliber artillery used in self-propelled mounts against enemy tanks. These are all "flavor" rules and more will appear in scenarios as designers see fit. They can slow the game down or imbalance games if checks or costs aren't introduced to counter balance or restrict them. But they can also be a lot of fun.

Weapons Data

I recalculated all of the "points" values for each weapon in the this edition. I used a spreadsheet "calculator" with formulas derived from those produced by John in his document "Producing Weapon Statistics for Micro Armour®:The Game." My formulas are very close to those published by John. I know this because they produce very similar costs to those of the original edition when I use those original stats. My formula tends to output values that disagree with the first edition numbers only when the points are very small. I only had to adjust a couple of values by hand for systems like jeeps or kubelwagens, but I'd estimate 98 to 99% of the second edition points are right off my spreadsheet. My intent is to rework the spreadsheet's layout a bit, to make it easier for others to use and then give it to GHQ to put up on their website. If players feel the need or desire to make their own units this spreadsheet will help. For example, some may wish to play with artillery stands with more or less "sheaf" values than those published. The spread sheet will facilitate this.

John had established a system of special characters in given columns to represent various additional characteristics of a weapon stand. For example the "**" sign after the defense value meant that the value was halved when the stand was in the movement posture. These were around even in his earliest lists when he was desktop publishing the rules. I changed this system in the current edition to a single column titled "Notes" and I replaced all the various special characters with letters, which are often the first letter of the descriptive word of the characteristic. For example, "R" stands for "restricted field of fire." If I knew that a weapon had a minimum range I noted it with the letter "M" followed by the minimum range, e.g. "M3." A guide to each of the codes precedes the weapons data tables and a legend is on each page of the tables themselves. I hope these mnemonics in the single column are easier for old and new players alike.

If you find data that suggests our published values are "off" then by all means fix it in your own games. None of us that worked on this project are perfect. Despite our efforts, I'm certain there is an error somewhere in the data tables, and probably more than one.

The aircraft data were harder for me. As I didn't have a good guide from John on how to establish their points I had to do more research and cross reference his 1st edition data with the models and configurations I wanted to include and found data on. This proved to be challenging as some of his values didn't match the configurations I was finding data for. Another challenge was fitting aircraft with bomb or rocket loads into the system I had for aircraft. This last problem was solved by simply offering multiple "configurations" of the same plane. And at the last minute I felt my firepower values were a little too high so I resumed analyzing the data. In the end I made the best decisions I could and began a crash course of play testing to make sure they worked well on the table. I hope you enjoy the results.

My final words to you all are simple: Have fun.

- Leif Edmondson
aka RedLeif

DESIGNING SCENARIOS

Most wargamers enjoy "balanced" scenarios where both sides have an equal chance of winning. Unfortunately, balanced battles rarely occurred during the Second World War. It's a simple fact of life that any commander who attacks the enemy without being reasonably sure of victory in advance is basically gambling with his men's lives, so balanced battles seldom occur. However, balanced games are not difficult to create if you are willing to make the necessary effort. The following instructions make designing balanced scenarios not only possible, but also a straightforward and enjoyable exercise in its own right.

Micro Armour: The Game - WWII includes several pre-generated scenarios to get you started. You may also use historical orders of battle or scenarios from other rules sets as well. However, sooner or later you will find yourself wishing to design your own scenarios. This is a great way to make the rules truly fit your taste and explore the history of the war in a "hands-on" way. The following text describes what you'll have to do and how to do it to construct balanced battle simulations. Don't be put off by the math. The process is actually quite easy once you get the hang of it.

Tables of Organization and Equipment (TO&Es) represent various company and battalion level organizations as well as support units that can be drawn from Regiment/Brigade, Division, or Corps assets. The units and any fortifications you want to use will count toward the total cost of your force, so will air strikes, and off-map artillery. The Micro Squad TO&Es, published online, may also be used by simply using platoon-sized units and larger organizations while disregarding the smaller squad level detail.

PREPARATION

Paper, a pencil, as well as six-sided and twenty-sided dice may all come in handy when developing scenarios. Spreadsheet software and/or a calculator are very useful as well.

DEFINITIONS

Friendly board edge: The side nearest you as you face the enemy.

Center line: A line drawn down the center of the playing area, between the two "friendly" edges.

Base points: The number of points a player is given to purchase forces, unmodified by the force cohesion level or other conditions.

1. SELECT SCENARIO TYPE

All scenarios must include the following information:

Description: Information on the nature of the battle

Force Ratio: The ratio of Player A (the Attacker) to Player B's (the Defender) "base" forces

Force Composition: Denotes the types and quantities of fortifications, air support, artillery missions, etc.

Deployment: Where forces are placed and/or when they arrive on the playing surface

Objectives: Specific areas on the playing surface you might have to occupy in order to win

Game Length: The maximum number of turns

Victory: How you win this particular scenario!

TYPE A: "MEETING ENGAGEMENT"

Description: Meeting engagements usually occur either at the beginning of a campaign, (the so-called "Battle of the Frontiers"), or when an attacker is exploiting a "breakthrough" and the defender is determined to close the breach. This kind of action is fluid, confused, and desperate; a real test of experience and cohesion.

Force Ratio: Player A and Player B receive equal "base" points.

Force Composition: No types of mines or field fortifications are allowed for either player. Off-map artillery and/or air strikes are not allowed. On-board artillery may only employ support missions plotted on or after turn 1.

Deployment: Each player's force enters anywhere along his "friendly" board edge.

Objective: Any agreed-upon terrain feature (river crossing, village, or high ground located in the center of playing area)

Game Length: 10 turns

Victory: Both sides attempt to occupy the "objective" at the end of the game.

TYPE B: "RECONNAISSANCE IN FORCE"

Description: Once a new front line has been established in a series of meeting engagements, there is usually a short pause while both sides reorganize. This does not necessarily mean a lull in the action, however. Both sides will begin active patrolling, both to establish security and to gauge enemy capabilities and intentions. This may often escalate into skirmishes and sometimes to more serious engagements. If one side wants information badly enough, a major raid may be ordered to obtain it.

Force Ratio: Player A (The Attacker) and Player B (The Defender) each receive equal "base" points.

Force Composition: Player B is allowed to purchase light improved positions for his personnel and weapons stands only. Player A only may purchase air strikes. Both sides may employ support and barrage indirect artillery fire missions. Player B may use pre-registered and adjusted missions.

Deployment: Player B deploys anywhere on his side of the center line. Player A deploys anywhere on his side of the center line and at least five (5) inches from it.

Objective: A marker placed in the center of a significant terrain feature located close to the center of the map (agreed upon in advance).

Game Length: 15 turns

Victory: Player A: Enter or pass through the "objective" with one or more of your stands by the end of turn twelve. Player B: Prevent a Player A victory.

TYPE C: "HASTY ATTACK"

Description: There are various reasons for a "hasty" attack. One side may hope to throw the enemy off balance and drive him out of a newly occupied position before he can dig in properly. The Attacker may have found some weak point and wants to crack it before the enemy can strengthen it. Or, higher headquarters may hope to surprise the enemy by not making the normal preparations for a major assault, which often tip the Defender off to the danger he is in. Whatever the reason, a hasty attack can sometimes be more effective than a prepared one, and allows the momentum of the offensive to be maintained.

Force Ratio: Player A (The Attacker) receives twice as many "base" points as Player B (The Defender).

Force Composition: Player B is allowed to purchase hasty and normal minefields only, barbed wire, an light or medium improved positions only. Both sides may employ support and barrage indirect artillery fire missions. Player B may use pre-registered and adjusted missions. Barrage missions may not be plotted before the start of the game.

Deployment: Player B deploys to defend the objective, anywhere on his side of the center line. Player A deploys at least fifteen (15) inches in front of the Defender's most forward stand.

Objective: A previously agreed-upon terrain feature (river crossing, village, or high ground two-thirds of the battlefield length from Player A's friendly edge).

Game Length: 15 turns

Victory: Player A/Player B: Occupy the "objective" at the end of the game.

TYPE D: "ASSAULT ON A PREPARED POSITION"

Description: This is the grunt's nightmare. The bad guys know you're coming. They know where you're coming from. They may even know when you're coming. And, they're ready!

Force Ratio: Player A (The Attacker) receives three times as many "base" points as Player B (The Defender).

Force Composition: Player B is allowed to purchase all types of minefields, anti-tank ditches, barbed wire, and all types of improved positions. Both sides may employ support and barrage indirect artillery fire missions. Player B may use pre-registered and adjusted missions.

Deployment: The Defender deploys to defend the objective. The Attacker deploys at least fifteen (15) inches in front of an imaginary line drawn along the Defender's most forward stands.

Objective: A terrain feature. For example: river crossing, village, or high ground two-thirds of battlefield length from the Attacker's edge.

Game Length: 20 turns

Victory: Player A/Player B: Occupy the "objective" at the end of the game.

TYPE E: "DELAYING ACTION"

Description: The Attacker has broken the line. The Defender has nothing to close the gap with and must fight for time. The Attacker is fighting against time to maintain his forward momentum. A skillfully executed delaying action can mean the difference between a simple defeat and complete disaster.

Force Ratio: Player A (The Attacker) receives three times as many "base" points as Player B (The Defender).

Force Composition: Player B is allowed to purchase all types of minefields, anti-tank ditches, barbed wire, and light improved positions only. Both sides may employ support and barrage indirect artillery fire missions. Player B may use pre-registered and adjusted missions.

Deployment: Player B deploys at least 25% of the battlefield length from the enemy edge. Player A's forces enter anywhere along his "friendly" board edge.

Objectives: The Defender's (Player B's) board edge

Game Length: 20 turns

Victory: Player B must prevent Player A from exiting 10% of his stands off Defender's edge as long as possible.

< 11 Turns - Decisive Attacker (Player A) Victory
< 16 Turns - Tactical Attacker (Player A) Victory
< 20 Turns - Minor Attacker (Player A) Victory
> 10 Turns - Minor Defender (Player B) Victory
> 15 Turns - Tactical Defender (Player B) Victory
> 19 Turns - Decisive Defender (Player B) Victory

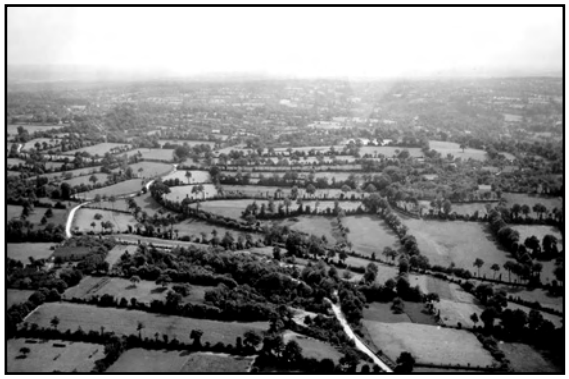
2. DETERMINE HISTORICAL CONTEXT

You must now agree on the nationality of the forces involved and where and when the battle takes place. The TO&E data provides the information you'll need to do this. Simply pick a country, a combat theater, and a time frame.

The designer or players must now decide what their force cohesion levels will be. The TO&E section provides a range of these for the historical context you have decided on.

3. LAYOUT BATTLEFIELD MAP

The layout of the battlefield should be considered carefully. Battlefield size should be in proportion to the size of the action you want to simulate. A rule of thumb would be to lay out about a foot of frontage for each defending battalion to be deployed. A second "rule of thumb" is that the map should be long enough to allow for the deployment of infantry support weapons at their normal tactical range. Four feet is a good working size. A 2'x3' or 2'x4' board makes for a great battalion on battalion action. This size works for a pair of reinforced battalions as well. A 4'x4' or 4'x6' board can accommodate a regiment or brigade sized action.



"Terrain density" determines what percentage of the total battle area will include some sort of terrain feature. There are three levels of terrain density: "Open," "Mixed," and "Closed." Each allows a specific range of terrain density and a maximum sighting distance as follows:

Open - 2 x 2D6% various terrain features. Maximum sighting distance = 40"
Mixed - 4 x 2D6% various terrain features. Maximum sighting distance = 20"
Closed - 7 x 2D6% various terrain features Maximum sighting distance = 10"

Terrain features should be made up by the players as they wish, with the qualification that the area taken up by a given piece of terrain should be recorded. (i.e. a woods of 12 sq. inches, a town of 4 sq. inches, a section of river one inch wide by 24 inches long equaling 24 sq. inches, a single level hill of 36 sq. inches etc.) Players may alternate placing terrain features until they reach the agreed upon terrain density or the designer may determine all of this.

Example: A 24"x36" battlefield with a 25% terrain density would require 216 sq. inches of terrain features.

The "Artillery Deviation" template should be placed on the map at this time.

4. ESTABLISH FORCE POINT VALUES

If an ad-hoc game is being created by players they should agree on a "point base" based on the board size. Players using Micro Armour 1/285 scale figures, where 1 model or stand = 1 platoon and where 1" = 100 meters, should allocate each defending battalion about 10 to 12 inches of frontage. This will prevent units from being outflanked

easily or allow the enemy to break through a line so thin as to be indefensible. In addition, you should keep in mind that it would be a good idea to provide for some sort of reserve, if possible. A good ratio of "line" to "reserve" units is 2 / 1. That is, for every two battalions in the line, it is prudent to have one in reserve.

With all this in mind, calculate how many points one will need to cover the width of the board with a reasonable force density. Each player may then secretly record a Point Base "bid" he thinks he can win with, based on the above criteria. When these bids are revealed, the lowest bid will be the one used in the scenario.

At the top of each TO&E, you will find the four pieces of information necessary for building a force you will commit to battle: year(s) in which the TO&E is applicable, nationality of the force (and theater), and finally the suggested force cohesion levels for the forces used. **Example:** The players agree on a point base of 1000 points.

4.1 Alternate Method -Using an Historic Source

As an alternative to the above method, a designer may pick an attacking or defending force based on a historical situation and then build its opposing force based on the force ratio for the type of scenario being portrayed. In this case the point base is determined by finding the sum of all of the stands called for in the historical unit, plus any field works and special units, as detailed below.

5. DETERMINE MAP ORIENTATION

For ad-hoc designed scenarios each player now secretly bids a portion of his "point base" to decide the orientation of the battlefield. When these bids are revealed, the highest bidder chooses which board edge he wants as his "friendly" edge. All points used in the bidding are forfeit by both sides, so bid carefully. (In case of ties, roll the dice to decide.)

Example: Player A bids 50 points, Player B 100 points. Player A's point base is now 950 points, Player B's is now 900 points.

***Note**: This "auction" to decide who gets to deploy on which side of the map can be extremely important. The players must not be allowed to know what the map orientation will be until after the battlefield is laid out.*

6. ACQUIRE FORCES

Purchasing Player A's Force

Player A now gets to "buy" forces for the scenario based on his "point base." The point costs for various weapons are listed in the Weapons Data Tables An additional list below shows the cost of items other than weapons.

6.1 HQs and GHQs

Headquarters Stands: Scenario designers should assign one HQ for each battalion-sized unit in a scenario. An infantry HQ stand may be used for this at the printed cost listed in the Weapons Data Tables. A weapon stand may be designated as an HQ, at 1.5x the cost of that stand. HQs don't have a "quality level," as that property is unique to GHQs.

General Headquarter Stands: Scenario designers should assign one GHQ for each regiment or brigade in play. Infantry HQ stands and weapons may be used for this function at the printed cost multiplied by the cost modifier below, based on the GHQ's quality.

GHQ Quality	Cost Modifier
-2 GHQ	x 1.2 points
-1 GHQ	x 1.6 points
0 GHQ	x 2 points
+1 GHQ	x 2.4 points
+2 GHQ	x 2.8 points
+3 GHQ	x 3.2 points

6.2 Engineers and Field Works

Engineers: Combat engineer stands maybe purchased by paying the given infantry stands printed point cost plus ten points (+10) each. Engineering vehicles equipped with dozer blades, mine clearing devices, or bridging devices may be procured at a cost of the units base cost multiplied by 1.3 (cost x 1.3).

Example: A designer wishes to add a platoon of Churchills with bridging devices to the attackers force. This stand would cost 44 x 1.3 = 57 points. The designer also wants to add a company of three engineer stands to the force. His scenario is set in 1944 so the standard British infantry stand costs 13 points. So each stand is 13 + 10 = 23 points and there are 3 stands so 23 x 3 = 69 points total.

Improved Positions: "Improved Position" markers may be purchased at the rates shown below:

Improved Position Type	Cost
Light	3 points
Medium	6 points
Heavy	10 points

Mines: Minefields may be purchased at the rates shown below:
The number of dummy minefield markers may be equal to or less than the number of actual minefields purchased.

Minefield Concentration	Cost	CRT Column
Hasty	2 points	-2
Standard	4 points	+1
Concentrated	10 points	+7

Barbed-Wire: Barbed-wire markers cost 2 points per 1" marker.

Anti-Tank Ditches: Anti-tank ditch markers cost 2 points per 1" marker.

6.3 Other Weapons and Units

Off-Map Artillery: Off-map artillery is purchased at the standard cost but never requires transport. Off-map artillery may not be purchased in increments smaller than single two-gun sections.

Air Strikes: Air strikes are purchased based on the Aircraft Data Table. If the scenario calls for a force to include an FASC unit it must be designated as being in another stand in the players force at no additional cost.

Forward Observers: Forward observers (FOs) are <u>not</u> separate stands. A stand designated as an FO performs this function in addition to its other capabilities. The number of FOs each force has depends on the nationality of the force. For details see [7.8] "National Artillery Efficiency" and 7.6.4 for complete details.

US, UK & Commonwealth after January 1944	Battalion HQ may act as FO	1 per every 3 infantry stands in the OOB	Each non-transport stand in a recon unit may act as an FO	15 points for each addtional
German, UK & Commonwealth before January 1944	Battalion HQ may act as HQ	1 per every 3 artillery stands capable of indirect fire in the OOB	1 per every 3 non-transport stands in a recon unit may act as an FO	25 points for each additional
All Others	Battalion HQ may act as HQ	1 per every 9 artillery stands capable of indirect fire in the OOB	1 per every "recon" battalion in the OOB	35 points for each addtional

Forward Observers must be designated as "in" another stand in the player's force at no additional cost.
Note: *The total force fielded may <u>never</u> exceed the total number of points allocated.*

Purchasing Player B's Force
To begin with, divide Player A's Force Cohesion Level (FCL) by Player B's FCL and multiply the number obtained by Player B's "point base." Next, he should consult the scenario type to see what the "Force Ratio" for that scenario is and modify this number accordingly.

Example: Player A's FCL is 15, Player B's is 13. 15/13 = 1.153 (round to 1.15).
1.15 x 900 (B's Point Base) =1035.
The scenario is a "Hasty Attack." B's point base is multiplied by .5. 1035 x .5 = 518 (rounded up).
Player B gets to purchase a force of 518 points.

Alternate Method:
If the scenario is being designed using a "historical," or pre-determined Order of Battle (OOB), calculate the point base for the known force (Player A) by totaling the points for all of the stands in the OOB (values from the Weapons Data Tables), plus any field works and any other special units, as detailed above.

Next decide on a cohesion level for the known force (Player A) as well as the cohesion of the (uncreated) opposing force (Player B). Once both cohesions are determined, divide Player A's cohesion by Player B's to determine the "cohesion ratio."

Finally use the following formulas:

Player B is defending and the scenario is a:

- Meeting Engagement or Recon in Force (1:1 Force Ratio): Cohesion Ratio x Player A's Point Base = Player B's Points
- Hasty Attack (1:2 Force Ratio): (Cohesion Ration x Player A's point base) x .5 = Player B's Points
- Assault on Prepared Position or Delaying Action (1:3 Force Ratio): (Cohesion Ration x Player A's point base) x .33 = Player B's Points

Player B is attacking and the scenario is a:

- Meeting Engagement or Recon in Force (1:1 Force Ratio): Cohesion Ratio x Player A's Point Base = Player B's Points
- Hasty Attack (2:1 Force Ratio): (Cohesion Ratio x Player A's point base) x 2 = Player B's Points
- Assault on Prepared Position or Delaying Action (3:1 Force Ratio): (Cohesion Ration x Player A's point base) x 3 = Player B's Points

Alternate method example:
Force Point Calculator

Player A's Point Base:900

Player A's Cohesion:	15
Player B's Cohesion	13
Cohesion Ratio	1.15

Player B is Defending:	Player B is Attacking:
1:1 force ratio = 1035	1:1 force ratio = 1035
1:2 force ratio = 518	2:1 force ratio = 2070
1:3 force ratio = 342	3:1 force ratio = 3105

After each player has finished their order of battle it is convenient to calculate the "break points" if using the optional Unit Determination rules.

The Unit Determination rules introduce another level of imbalance between forces. So if you care to create fully balanced scenarios the following procedure will compensate for the differences introduced by the unit determination rules.

Before "buying" Player A's forces, but after Player B has determined his own force point total:

1. Multiply Player B's total by his Determination Factor (DF) expressed as a decimal.
2. Multiply this number by his cohesion level. (Next, reverse the process.)
3. Divide by Player A's cohesion level.
4. Divide by Player A's DF expressed as a decimal.
5. Apply whatever modifier the scenario requires.

The result is the total points Player A may spend on his forces. See the example below for more details.

7. DETERMINE INITIAL DEPLOYMENT

In scenarios where one or both players begin on the battlefield, the Defender always places his forces first. In meeting engagements roll for initiative and the winner decides which side moves first. The placement of stands, which are not visible to the Attacker due to blocking or concealing terrain, may be secretly recorded if desired. This will slow the game and is not recommended for beginning players or large scenarios.

That's all there is to building your own scenarios. Once you've done it a few times, it becomes quite easy, and fun!

AN EXAMPLE OF SCENARIO DESIGN

To illustrate the scenario design process we're going to build an example scenario, going through the process step-by-step.

1. SELECT SCENARIO TYPE

The players have chosen a "Hasty Attack." Player A will be the Attacker. Player B will be the Defender.

2. DETERMINE HISTORICAL CONTEXT

For our example we have chosen France, 1944. Player A has agreed to play the Americans (United States) as the attacker fielding an reinforced armoured infantry battalion with a force cohesion level of 16. Player B will be the German defender fielding a supported infantry battalion with a force cohesion level of 15.

3. LAY OUT THE BATTLEFIELD MAP

The players agree that the battlefield will be 24 inches wide by 48 inches long.

3a. TERRAIN DENSITY AND PLACEMENT

Since our battle is taking place in Southern France, we're going to make the terrain “mixed.” Player A agrees to roll the dice and obtains a seven. This means that 28% of the battlefield will be covered by some type of terrain (a total of 322 square inches).

Player A picks an area of "Woods" 6" by 12" (a total of 72 square inches) and places it where he likes. (72")

Player B picks a "Town" that is 4" by 7" (28 square inches) and places this near the center of the board. (100")

Player A adds a 24" long good road (24 square inches) from the edge of the board to the town. (124")

Player B picks out a "River" that is 1" wide and 24" long (24 square inches) and runs it from one board edge to another, placing it wherever he likes. (148")

Player B places a "Ridge" (12" by 6") and places that on the map. (220")

Player A picks another area of "Woods" 6" by 8" (a total of 48 square inches) and places it where he likes. (268")

Player B finishes the map off by adding one more ridge (6" by 9") right where he wants it. (322")

The battlefield is ready to go!

4. ESTABLISH FORCE POINT VALUES
Given a battlefield width of 24 inches, the theater, and the time frame involved, as well as the amount of time the players actually have to play, the players agree to a point base of 1500.

5. DETERMINE MAP ORIENTATION
Now we auction off "Map Orientation." Player A bids 40 points. Player B bids 50. As winner of the auction, Player B gets to decide which side of the map will be his "friendly" side. Player A forfeits 40 points, reducing his base to 1460. Player B forfeits 50 points. The players agree to make the town on Player B's side of the board as the scenario objective. The Americans must have at least one combat stand in the town by the end of turn 15.

6. ACQUIRE FORCES
Player A (The US attacker) has 1460 points to spend and "buys" the following:

Organization	Point Cost	Sub Total
1 x Battalion Headquarters -		195
1 x Infantry GHQ(0) /M3 Halftrack ("HT")	40 + 22	
1x Recon Infantry/ Jeep, 1x M8 HMC [1]	10 + 6, 54	
1x M21 81mm Mortar[1], 1x Inf. Support/M3 HT	27,14 + 22	
Company A		202
3x Arm. Inf/M3 HT's, 1x Inf Support/M3 HT	3 x (14 + 22), 17 + 22	
1x 57mm ATG/M3 HT	33 + 22	
Company B		202
3x Arm. Inf/M3 HT's, 1x Inf Support/M3 HT	"	
Company C		202
3x Arm. Inf/M3 HT's, 1x Inf Support/M3 HT	"	
Battalion Total		**801**

He then adds some supporting units:

Medium Tank Company		
4 x M4 Sherman	72 x4	288
Armoured Engineer Company		
3 x Engineer Infantry/ M3 Halftrack	3 x (24 + 22)	198
2x 4.2" Mortars [2] /Medium trucks	2 x (71 + 10)	162
Support Total		**648**
Player A's Force Total (11 unused points)		**1449**

Before we can purchase Player B's troops we have to "balance" his forces against those of Player A as follows:

First Player B determines his force point number by subtracting his map bid from the base point value (1500-50 = 1450). Then he determines the Cohesion Ratio (16/15) is 1.07. Next he multiplies his current force point value by the cohesion ratio (1450 *1.07) for a sub total of 1552. Finally he adjusts this for the scenario type. He is defending in a Hasty Attack and thus gets half his sub-total (1552/2) for a force point total of 776 points. Player B gets to spend 776 points to defend the objective and chooses the following:

Organization	Point Cost	Sub Total
Battalion Headquarters -		48
1x Infantry GHQ (0)	24 x 2	
1st Company		59
3x '44 Infantry, 1x 81mm Mortar [1]	(3 x 14) + 17	

Organization	Point Cost	Sub Total
2nd Company		59
3x '44 Infantry, 1x 81mm Mortar [1]	(3 x 14) + 17	
3rd Company	59	
3x '44 Infantry, 1x 81mm Mortar [1]	(3 x 14) + 17	
Heavy Company		
3x Infantry Support, 1x 120mm Mortar [2]	(3 x 15) + 109	154
Battalion Fortifications		
17 light improved positions	(17 x 3)	51
15 standard mine fields (and up to 15 dummies)	(4 x 15)	60
Battalion Sub Total		**490**
Support Units:		
Panzerjaeger detachment		
2x STuG IIIF	74 x 3	148
Anti-Tank Gun Unit		
2x 75mm Pak40/Med. Improved Position	(49 + 6) x 2	110
Anti-Aircraft Detachment		
1x Quad 20mm AAG/Med. Improved Position	22 + 6	28
Additional Units Sub Total		**286**
Player B Points Total (All points were used):		**776**

The example above is a good size for a 2 player game on a small board. It was put together as an example of how you can build an effective force by combining battalion level units with support units. Note that some of the components are under strength. Historically, units were seldom at authorized strengths, having sustained losses that have not been made good or having units detached for other duties.

UNIT DETERMINATION CALCULATIONS
If you wish to use Optional Rule 12.1 "Unit Determination" it is best to do the calculations while setting up the scenario as follows:

Determine the number of each player's combat units (disregard unarmed stands and factor in any HQs [+2] and the GHQ [+3]):

- Player A's force (from above) has 51 combat stand points
- Player B's force has 24 combat stand points

Determine each player's “force determination factor”:

- The attacking American's will have a .3 (they don't need this town that badly)
- The defending German's will get the standard .35

Multiply the stands by the force determination factor for each force and then multiply the sum by 7 to arrive at each force's “breaking point”:

- The American force gets a Break Point of ([51 x .3] x 7) 107
- The German force gets a Break Point of ([24 x .35] x 7) 59

FORCE BALANCE WITH UNIT DETERMINATION
If one desires to further balance the scenario, considering Player A's less determined force, one should use the following procedure:
Before "buying" Player A's forces, but after player B has determined his own force point total:

1. Multiply Player B's total by his Determination Factor (DF) expressed as a decimal.
2. Multiply this number by his cohesion level. (Next, reverse the process.)
3. Divide by Player A's Cohesion level.
4. Divide by Player A's DF expressed as a decimal.
5. Apply whatever modifier the scenario requires.

The result is the total points Player A may spend on his forces.

Example: Using the values from above - Player A's DF = 30% and Player B's DF = 35%. First Player B determines his force point total. Then Player A does the calculations below:

776 (Player B's Total) x .35 (Player B's DF) = 271
272 x 15 (Player B's Cohesion) = 4080
4080 / 16 (Player A's Cohesion) = 255
255 / .3 (Player A's DF) = 850
850 x 2 (Hasty Attack) = 1700

So, now Player A gets 1700 force points and player B still gets 776. Player A gets an additional 240 points (1700 - 1460) due to the difference in determination factors. The difference in the two sides "Determination Factors" can make a big difference in the number of points received. In this case, Player A gets an additional 240 points. Remember, this is due to the fact that Player B must sustain approximately 35% casualties before breaking. Player A's force will generally break after suffering only 30% casualties. Hence, Player A needs more troops for the scenario to be balanced.

Note: *Balancing the scenario for the effects of Unit Determination will make it more competitive between players of evenly matched experience. If a very experienced player is opposing a very inexperienced player, disregarding the balancing process is certainly an option players may consider. As a further balancing tool, you may "tweak" the Determination Factor of any force, up or down, by as much as five percent (5%). This allows you to modify the point totals used to purchase troops by factoring in the ability to sustain casualties. Again using a spreadsheet to perform all the math quickly makes it much easier to employ these aspects of scenario design.*

7. DETERMINE INITIAL DEPLOYMENT
Player B deploys to defend the town. (Remember, he cannot place any stands on Player A's half of the board.) His advantages are the terrain (town) and his allotment of improved positions and mine fields. He should take every advantage of terrain. The Americans must occupy the town to win, so he would be well served to set up a series of crossfires to blunt the main American spearhead. His minefields, mortars, Panzerjaegers, and anti-tank guns should be used to slow down and channel the American advance, forcing him away from the objective if possible. The sight of up to 30 square inches of "possible" minefields is quite dramatic.

Player A will try to advance with his armour, in a sweep around one flank. He hopes to draw German artillery and tank fire away from the town. Once this is set in motion, he plans to advance his infantry under cover of a smoke screen, provided by his mortars. Using this cover he intends to assault and occupy the town before the German player can stop him. He also has a company of combat engineers, which will come in handy for any close assaults. He could very well pull this off. Each side has an even chance to win.

INTRODUCTION TO THE WEAPONS DATA

In the following pages you will be presented with with a wide variety of weapons, vehicles, and personnel. For clarity's sake, the various data pertaining to these unit stands have been put into chart form. Each chart column details a different aspect of a specific stand's performance in the game.

WEAPON: The nomenclature, name or designation of the stand. Artillery stands include a number in brackets, e.g. [1], [3]. This is the number of sections the stand represents and the number of impact markers it places when it fires. Aircraft names, followed by a number in parentheses, e.g. P-47D Thunderbolt (1), represent different armament or ordnance loads of the same aircraft.

POINTS: A comparative value or "price" for the stand to be used during the scenario design process as a means of "balancing" scenarios.

FIREPOWER: There are two firepower values possible for a stand: an "Armour Piercing" firepower (AP), and a "High Explosive" or "small arms" firepower (HE). The "AP" value is used when firing at "Armored Vehicle" stands. The "HE" value is used for all other attacks. An "F"in the firepower column indicates a flame throwing weapon (see rule section 11.6).

RANGE: This is the maximum range in inches at which a weapon may be used.

DEF: "Defense." This number represents the basic "Defense Value" of the stand. If the "Defense Value" of the stand is in brackets, e.g. [8], the stand is an "armoured" vehicle. A value without brackets refers to "unarmoured" vehicles, weapons, or equipment.

MOV POINTS: "Movement Points." The maximum number of "Movement Points" the stand may expend in one "Movement Phase." There are three movement classes: Wheeled (W), Tracked (T), and Foot (F). Some stands are capable of "swimming" and have an amphibious movement rate designated with an "A", e.g. 10T/3A.

CARGO CAP: **"**Cargo Capacity." If a stand is capable of "transporting" other stands there will be a number in this column representing the stand's maximum capacity.

TRAN REQ: "Transportation requirement." If a stand may be "transported" by another stand, this is the amount of "Cargo Capacity" required to do this. See above.

NOTES: If the stand has restrictions, limitations, or other issues that affect play, the appropriate mnemonic code is entered in the "Notes" column. See below.

YEAR: This represents the year of introduction of the weapon system.

MODELS: Recommended GHQ product number(s) for this unit. Product numbers in parentheses, e.g. (G141), are <u>suggestions</u> of GHQ models that may not be nationally correct or are a close variant of the specified vehicle in the data. For example, a player may choose to use G141 (German Motorcycles with Sidecars) to model Soviet Motorcycle Infantry as GHQ (at time of this writing) does not produce a Soviet version of motorcycles with sidecars.

"NOTES" SYMBOL KEY

R = Restricted Field of Fire: The weapon may only fire at targets to the model's front, in the bounds of the "Firing Arc Template."

R1 = The weapon may only fire at targets to the model's rear, in the bounds of the "Firing Arc Template."

R2 = The weapon may engage targets to either the side or rear but not the front.

I = Indirect Fire: The weapon may conduct indirect fire artillery attacks.

U = Open-Topped Armoured Vehicle: The armoured defense value is quartered (x .25) and rounded up when attacked by artillery or air strikes.

S = Smoke: The weapon may place smoke markers rather than artillery markers.

P = Personnel: The weapon value represents a small, low weight, crew-served weapon (i.e. a small anti-tank gun) the defense value is halved and rounded down whenever the stand is in the movement posture.

T = "Two Guns" or multiple guns: The vehicle has multiple offensive anti-tank weapons which usually have different firing arcs and fire power values (e.g. The US M3 "Grant" medium tank). Only one weapon may be used per turn.

M# = Minimum Range: The weapon may not fire on targets equal to or closer than the minimum range (inches) specified. For example a mortar with the note "M6" could not target any stand equal to or closer than 6 inches.

SR = Slow Reload: Weapons noted as "SR" may only fire one every "3" of turns. For example, a 150mm Nebelwerfer [2] has the note "SR2." The weapon may conduct an attack every other turn. The note "SR3" is used for weapons which may fire once every 3 turns, the turn it fires included.

D# = Depletion Number: Whenever the stand attacks using its AP firepower value, compare the unmodified CRT die roll with the numeric value after the D (e.g. D7). If the die roll is equal to or less than the die roll the stand may not use its AP Firepower again for the rest of the game.

Weapons Data: BELGIUM

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
BELGIAN Tanks												
T-13 Type III	**23**	5	3	10	5	[1]	8T	-	-		36	
T-15	**16**	1	5	5	5	[1]	8T	-	-		35	
ACG-1 (Fr. AMC35)	**34**	5	3	12	5	[3]	13T	-	-		39	
FT-17/18 (37mm Gun)	**10**	2	3	8	5	[1]	2T	-	-		19	FR15
BELGIAN Anti-Tank Guns												
47mm FRC M'31 ATG	**19**	5	3	10	15	4	0	-	6	R	32	(FR18)
BELGIAN Artillery												
76mm Inf Gun (FRC) [2]	**33**	0	5	20	20	5	1F	-	4	R, I, P	40	(R38)
75mm M34 Mtn Gun [2]	**92**	1	5	74	74	4	0	-	6	R, I	35	(P10)
75mm "GP 111" Gun [2]	**109**	1	5	88	88	4	0	-	6		19	(P10)
75mm "Canon 75 M TR" [2]	**98**	1	5	79	79	4	0	-	6	R, I	19	(P10)
105mm GP How [2]	**150**	2	8	74	74	3	0	-	8	R, I	19	(FR16)
105mm M13 Gun [2]	**201**	2	8	100	100	1	0	-	12	R, I	14	FR16
120mm M31 Gun [2]	**287**	3	8	144	144	1	0	-	12	R, I	31	
155mm M17 How [2]	**236**	4	9	90	90	2	0	-	10	R, I	17	
155mm M24 Gun [2]	**320**	4	9	136	136	1	0	-	14	R, I	24	
BELGIAN Anti-Aircraft Guns												
AAMG	**12**	1	4	5	10	4	1F	-	4	P	38	
40mm Bofors AAG	**26**	4	6	12	12	3	0	-	6		30	(UK54)
75mm AAG (Vick.)	**23**	1	5	20	20	2	0	-	10		38	
BELGIAN Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	39	(FR6)
Infantry	**11**	1	4	0	5	6	3F	-	8	P	39	(FR6)
Bicycle Infantry	**12**	0	4	0	5	6	3F(5F)	-	8	P	39	
Infantry Support	**15**	0	4	1	10	6	3F	-	4	P	39	(FR7)
Bicycle Infantry Support	**16**	0	4	1	10	6	3F(5F)	-	4	P	39	
Cavalry	**11**	1	4	0	5	5	8F	-	-	P	39	(R32)
Cavalry Support	**15**	0	4	1	10	5	8F	-	-	P	39	
Motorcycle Infantry	**16**	0	4	0	5	6	20W	-	-	P	39	(G141)
BELGIAN Transports												
Minerva Off-Road Car	**5**	-	-	-	-	1	20W	4	-		39	
Marmon Herrington	**9**	-	-	-	-	1	24W	8	-		39	(roughly US87)
VCL Lt Tractor Cavalry	**10**	-	-	-	-	1	8T	8	-		39	Ugly little Vickers Carden
VCL Lt Tractor Infantry	**9**	-	-	-	-	1	6T	8	-		39	Lloyd Chassis
F.N. 3T Halftrack Kegrasse	**10**	-	-	-	-	1	8T	8	-		39	(UNIC P107 from FR12)
Brossel TAL Art. Tractor	**10**	-	-	-	-	1	10W	12	-		38	
Chevy RD Med Truck	**8**	-	-	-	-	1	18W	8	-		39	(R43)
F.N. 63C (5T)	**12**	-	-	-	-	1	24W	12	-		36	(UK24)

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Weapons Data: FINLAND

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
FINNISH Tanks												
T-26	**19**	5	3	10	5	[2]	8T	-	-		41	R25
BT-5	**30**	5	3	10	5	[1]	15T	-	-		41	R25
BT-7 Models 1935, 37	**30**	5	3	10	5	[1]	15T	-	-		41	R33
T-34a	**57**	7	5	12	12	[8]	12T	-	-		41	R1
T-34c	**70**	8	5	16	16	[8]	12T	-	-		42	R17, R18, R58
T-34–85	**94**	10	6	20	20	[9]	12T	-	-		44	R2
KV-1 Models 1941, 42	**59**	7	5	12	12	[10]	10T	-	-		42	R24
PzKpfw IV Ausf. J	**80**	9	5	20	20	[7]	10T	-	-		44	G545 or G548
FINNISH Anti-Tank Guns												
45 PstK/32 (Sov. 45L46)	**19**	4	4	10	10	5	1F	-	4	R, P	39	R38
50 PstK/38 (PaK 50)	**25**	6	3	15	15	4	0	-	6	R	40	G120
75 PstK/97-38	**25**	6	5	12	12	4	0	-	6	R	42	
75 PstK/40	**49**	9	5	20	20	4	0	-	8	R	42	G109
STuG III Ausf. G (75L46)	**82**	9	5	20	20	[8]	10T	-	-	R	43	G23
FINNISH Artillery												
8cm Mortar [1]	**18**	0	6	25	25	6	2F	-	4	R, I, S, P	39	G80
8cm Mortar [2]	**33**	0	6	25	25	6	2F	-	6	R, I, S, P	39	G80
120mm Mortar [2]	**109**	2	9	48	48	4	0	-	8	R, I, S, M6	41	R68
120mm Mortar [3]	**162**	2	9	48	48	4	0	-	8	R, I, S, M6	41	R68
76 K 02-30 Gun [2]	**101**	1	5	82	82	4	0	-	8	R, I, S	30	(FR12)
76 K 36 Gun [2]	**120**	1	5	108	108	4	0	-	8	R, I, S	39	(R13)
as ATG	**120**	5		20								
105 H/33 How [2]	**182**	2	8	90	90	2	0	-	10	R, I, S	44	G54
105 H/37 How [2]	**202**	2	8	100	100	2	0	-	10	R, I, S	43	
105 K/29 Gun [2]	**232**	2	8	115	115	2	0	-	12		41	
122 H/38 How [2]	**207**	3	8	93	93	2	0	-	10	R, I, S	42	R19
150 H/40 How [2]	**275**	4	9	105	105	1	0	-	12	R, I, S	41	G134
152 H/37 How [2]	**332**	4	9	127	127	1	0	-	14	R, I, S	41	
FINNISH Infantry Close Support Artillery												
BT-42 (114L15)	**117**	2	8	53	53	[1]	7T	-	-	R, I	43	FN3
FINNISH Armoured Cars / Recon												
BA-6	**10**	5	3	10	5	[1]	17W	-	-		40	(R45)
BA-10	**11**	5	3	10	5	[1]	19W	-	-		40	R45
FINNISH Anti-Aircraft Guns												
AAMG	**13**	0	3	1	10	6	3F	-	8	P	39	
20mm ITK/39 M	**15**	2	5	10	10	5	0	-	4	P	39	
40 ITK 39 (Bofors)	**24**	4	6	12	12	3	0	-	10		36	G122
Landsverk Anti II (40mm)	**42**	4	7	12	12	[2]	12T	-	-		42	H3
75mm AAG (Vickers)	**23**	1	5	20	20	2	0	-	12		39	
FINNISH Personnel												
Infantry HQ	**22**	0	4	0	5	6	3F	-	8	P	41	FN1, (G144, G525)
Infantry '41	**11**	1	4	0	5	6	3F	-	8	P	41	FN1, (G144, G525)
Infantry Support	**12**	0	4	1	10	6	3F	-	4	P	41	FN2, (G145, G80)

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
FINNISH Personnel, continued												
ATR Infantry '40	**12**	3	3	1	10	6	3F	-	8	P	41	FN2
Panzerjaeger Infantry '43	**13**	6	6	0	5	6	3F	-	8	P	43	FN1, (G144, G525)
Panzerjaeger Infantry '45	**14**	6	6	1	5	6	3F	-	8	P	44	FN1, (G144, G525)
Bicycle Infantry '41	**11**	1	4	0	5	6	3F(5F)	-	8	P	41	(G144, G525)
FINNISH Transports												
Car	**5**	-	-	-	-	3	25W	4	-		35	G40 or R12
Lt Truck Daimler-Steyr	**9**	-	-	-	-	1	27W	8	-		40	G37,G79, R42
Md Truck Opel	**10**	-	-	-	-	1	25W	10	-		36	G25, G66, R43

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Weapons Data: FINLAND (WINTER WAR)

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
FINNISH (WINTER WAR) Tanks												
FT-17 (MG)	**9**	0	5	1	5	[1]	2T	-			19	FR15
FT-17 (Gun)	**10**	2	3	8	5	[1]	2T	-	-		19	FR15
Vickers Mk E	**16**	3	3	5	5	[1]	8T	-	-		39	
T-26	**20**	3	3	8	5	[2]	8T	-	-		39	R25
OT-130	**16**	9F	9F	1	1	[2]	8T	-	-		39	R25
FINNISH (WINTER WAR) Anti-Tank Guns												
37 PstK/36 (Bofors)	**13**	4	2	7	10	5	1F	-	4	R, P	39	UK79
25 PstK/37 (Fr.25)	**9**	3	1	7	5	5	1F	-	4	R, P	40	FR13
45 PstK/32 (Sov. 45L46)	**19**	4	4	10	10	5	1F	-	4	R, P	39	R38
FINNISH (WINTER WAR) Artillery												
8cm Mortar [1]	**19**	0	6	25	25	6	2F	-	4	R, I, S, P	39	G80
8cm Mortar [2]	**33**	0	6	25	25	6	2F	-	6	R, I, S, P	39	G80
76 RK27–39 IG [2]	**38**	0	5	34	34	5	1F	-	8	R, I, S	40	R38
75 K97 Gun [2]	**79**	1	5	63	63	4	0	-	8	R, I, S	40	P10
76 K 02–30 Gun [2]	**101**	1	5	82	82	4	0	-	8	R, I, S	30	(FR12)
105 K13 Gun [2]	**194**	2	8	96	96	2	0	-	10	R, I, S	40	(P9)
114 H 18 How [2]	**108**	2	8	53	53	2	0	-	8	R, I, S	40	
122 H 10/30 How [2]	**134**	3	8	60	60	2	0	-	10	R, I, S	40	
150 H 14J How [2]	**136**	3	9	56	56	1	0	-	12	R, I, S	19	
152 H 10/09-30 How [2]	**181**	4	9	69	69	1	0	-	12	R, I, S	30	
FINNISH (WINTER WAR) Infantry Close Support Artillery												
T-28	**61**	1	5	34	34	[5]	10T	-	-		40	R29
FINNISH (WINTER WAR) Armoured Cars / Recon												
BA-20 & FAI	**12**	0	3	0	5	[1]	24W	-	-		40	R53
BA-6	**10**	5	3	10	5	[1]	17W	-	-		40	(R45)
BA-10	**11**	5	3	10	5	[1]	19W	-	-		40	R45
FINNISH (WINTER WAR) Personnel												
Infantry HQ	**18**	0	3	0	5	6	3F	-	8	P	39	FN1, (G144, G525)
Infantry ‘39	**10**	1	3	0	5	6	3F	-	8	P	39	FN1, (G144, G525)
ATR Infantry ‘40	**11**	3	3	1	10	6	3F	-	8	P	40	FN2
Infantry Support	**15**	0	4	1	10	6	3F	-	4	P	39	FN2, (G145, G80)
Ranger Infantry (R)	**22**	2	4	0	5	6	3F	-	8	P	39	FN1, FN2
Cavalry ‘39	**12**	0	3	0	5	6	8F	-	-	P	39	(G73, G74)
Cavalry Support	**17**	0	4	1	10	6	8F	-	-	P	39	(G80)
FINNISH (WINTER WAR) Transports												
Car	**5**	-	-	-	-	3	25W	4	-		35	G40
Lt Truck e.g. Daimler-Steyr	**9**	-	-	-	-	1	27W	8	-		40	G37, G79, R42

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Weapons Data: FRANCE

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
FRENCH Tanks												
AMC-35 (47L32)	**34**	5	3	12	5	[3]	13T	-	-		38	
AMR-35 (7mm MG)	**22**	0	4	5	5	[1]	16T	-	-		33	FR20
AMR-35 ZT (25mm)	**26**	2	3	5	5	[2]	16T	-	-		33	FR20
Char B1 (bis) 75L17 How.	**53**	1	5	15	15	[6]	7T	-	-	R, T	36	FR1
B1 Turret (47L34)		5	3	12	5			-	-	T		
FCM-36 (37L21)	**21**	2	3	8	5	[4]	7T	-	-		38	
Char D2 (47L34)	**31**	5	4	12	5	[4]	7T	-	-		37	
FT-17 (MG)	**9**	0	5	1	5	[1]	2T	-	-		17	FR15
FT-17 (37L21)	**10**	2	3	8	5	[1]	2T	-	-		17	FR15
H-35 (37L21)	**20**	2	3	8	5	[3]	8T	-	-		36	
H-39 (37L21)	**25**	2	3	8	5	[4]	11T	-	-		39	FR3
H-40 (37L35)	**30**	4	3	10	5	[4]	11T	-	-		40	FR9
R-35 (37L21)	**20**	2	3	8	5	[4]	6T	-	-		36	FR5
R-40 (37L35)	**27**	4	3	10	5	[4]	8T	-	-		40	FR8
S-35 (47L34)	**33**	5	3	12	5	[4]	10T	-	-		36	FR2
FRENCH Anti-Tank Guns												
25mm ATG	**9**	3	1	7	5	5	1F	-	4	R, P	34	FR13
47mm ATG (Fr. APX)	**19**	5	3	12	12	4	0	-	6	R	37	FR18
75mm 97/33 ATG	**36**	5	5	20	20	4	0	-	4	R	40	
W-15 TCC	**18**	5	2	12	5	2	15W	-	-	R	38	FR19
FRENCH Artillery												
75L36 Canon M97 [2]	**67**	1	5	54	54	4	0	-	6	R, I, S	97	P10
75L36 Canon M36 [2]	**67**	1	5	54	54	4	0	-	6	R, I, S	36	FR12
75L36 Canon M36 [3]	**99**	1	5	54	54	4	0	-	6	R, I, S	36	FR12
Cavalry 60mm Mortars [2]	**13**	0	4	10	10	5	8F	-	-	P, S	35	FR10, FR11
81mm Mortar [2]	**33**	0	6	24	24	6	2F	-	6	R, I, S	27	FR11
105L17 Howitzer [2]	**166**	2	8	82	82	2	0	-	8	R, I	36	
105L28 Canon M13 [2]	**194**	2	8	96	96	2	0	-	8	R, I, S	13	FR16
155L14 M17 Howitzer [2]	**218**	3	9	90	90	2	0	-	10	R, I	16	
155L14 M17 Howitzer [3]	**326**	3	9	90	90	2	0	-	10	R, I	16	
155L38 GPF Canon M17 [2]	**301**	3	9	156	156	2	0	-	14	R, I	17	
155L38 GPF Canon M17 [3]	**451**	3	9	156	156	2	0	-	14	R, I	17	
FRENCH Anti-Aircraft Guns												
13mm AAMG (Hotchkiss)	**13**	1	4	5	10	5	0	-	6		39	
25mm AAG (Hotchkiss)	**18**	2	6	10	10	4	0	-	6		38	(IT12)
75mm AAG M39	**23**	1	5	20	20	2	0	-	12		39	
FRENCH Armoured Cars / Recon												
Panhard AMD-178	**18**	3	4	7	5	[2]	20W	-	-		37	FR4
FRENCH Armoured Personnel Carriers												
UE Chenillette	**15**	0	4	1	5	[1]	9T	-	-	R	32	RA4, FR13
Lorraine 37L	**11**	-	-	-	-	[2]	10T	8	-		39	FR7

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
FRENCH Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	39	FR10, FR11
Infantry	**11**	1	4	0	5	6	3F	-	8	P	39	FR10, FR11
Mech Infantry	**13**	0	6	0	5	6	3F	-	8		39	FR10, FR11
MMG	**14**	0	4	1	10	6	3F	-	4	P	39	FR10, FR11
Motorcycle Infantry	**17**	0	4	0	5	6	20W	-	-	P	39	(G141)
Motorcycle MMG	**20**	0	4	1	10	6	20W	-	-	P	39	(G141)
Cavalry	**11**	0	4	0	5	5	8F	-	-	P	39	(R32), FR10
Cavalry MMG	**15**	0	4	1	10	5	8F	-	-	P	39	(R32), FR11
FRENCH Transport												
Peugeot Staff Car	**5**	-	-	-	-	4	25W	4	-		36	
Laffly V15T	**5**	-	-	-	-	4	18W	4	-		39	
Citroen C4F	**5**	-	-	-	-	4	16W	4	-		31	
Light Truck- Laffly S/W15T	**6**	-	-	-	-	3	16W	6	-		39	FR18
Light Truck- Laffly S15R	**7**	-	-	-	-	3	20W	6	-		39	
Light Truck- Laffly S20TL	**8**	-	-	-	-	2	16W	8	-		39	
Light Truck- Citroen Type 23	**8**	-	-	-	-	2	18W	8	-		35	(R42)
Light Truck- Renault AHS	**8**	-	-	-	-	2	18W	8	-		41	FR14
Light Truck- Renault AGC	**8**	-	-	-	-	2	16W	8	-		39	(US9)
Med. Truck- Citroen Type 32	**9**	-	-	-	-	1	16W	10	-		34	(R43)
Heavy Truck- Renault AGR	**11**	-	-	-	-	1	14W	12	-		39	
Heavy Truck- Berliet GRDA	**11**	-	-	-	-	1	14W	12	-		39	
UE Chenillette	**7**	-	-	-	-	[1]	9T	4	-		33	FR13, RA4
Somua MCG-5 Halftrack	**10**	-	-	-	-	1	8T	8	-		39	FR16
Unic P107 Halftrack	**12**	-	-	-	-	1	12T	10	-		35	FR12

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Weapons Data: GERMANY

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
GERMAN Tanks												
Panzer I (MG)	**18**	0	4	1	5	[1]	12T	-	-		34	G115
Panzer II C (20L55)	**23**	2	5	5	5	[2]	12T	-	-		36	G113
Panzer II D–E (20L55)	**22**	2	5	5	5	[2]	11T	-	-		36	(G113)
Panzer II F (20L55)	**24**	2	5	5	5	[3]	11T	-	-		41	G114
Panzer II L (20L55)	**29**	2	5	5	5	[3]	16T	-	-		43	G504
Panzer 35T (37mm)	**22**	3	3	8	5	[2]	10T	-	-		39	G131
Panzer 38T (37L48)	**30**	5	3	10	5	[3]	11T	-	-		39	G7
Panzer III Befehlswagen	**22**	0	3	1	5	[4]	11T	-	-		40	
Panzer III Flamethrower	**27**	9F	9F	1	1	[6]	11T	-	-		41	G27
Panzer III D–E (37L45)	**30**	4	4	8	5	[4]	12T	-	-		38	G142
Panzer III F–G (50L46)	**43**	5	4	12	12	[5]	11T	-	-		41	G4
Panzer III H (50L46)	**45**	5	4	12	12	[6]	11T	-	-		41	(G4)
Panzer III J–L (50L60)	**53**	6	4	15	15	[6]	11T	-	-		41	G28, G83, G560
Panzer III M (50L60)	**55**	6	4	15	15	[7]	11T	-	-		42	G27, G560
Panzer IV F2-H (7.5cm)	**80**	9	5	20	20	[7]	10T	-	-		42	G548, G549, G545
Panzer V (75L70)	**112**	11	5	25	25	[10]	12T	-	-		43	G19, G81
Pz VI A (88L56)	**111**	10	6	25	25	[11]	9T	-	-		42	G6, G68
Pz VI B (88L70)	**125**	12	6	25	25	[13]	9T	-	-		44	G32, G78
GERMAN Anti-Tank Weapons												
28mm 41LE	**11**	5	2	5	5	5	2F	-	4	R, P	41	G515
37mm ATG PaK 35/36	**12**	4	2	8	5	5	1F	-	4	R, P	34	G56
50mm ATG PaK 38	**23**	6	4	12	12	5	0	-	6	R	40	G120
75mm ATG PaK 97	**25**	6	5	12	12	4	0	-	6	R	42	
75mm ATG PaK 40	**49**	9	5	20	20	4	0	-	8	R	42	G109
76mm ATG PaK 36 (r)	**45**	8	5	20	20	4	0	-	8	R	42	G516
88mm PaK 43 ATG	**85**	11	6	30	30	3	0	-	10		43	G526
88mm PaK 43/41 ATG	**71**	11	6	25	25	3	0	-	10	R	43	G130
128mm PaK 44	**115**	14	7	30	30	2	0	-	14		44	G566
PzJaeger I (cz.47)	**32**	5	4	12	12	[1]	12T	-	-	R	40	G119
Marder I (Fr. Chas)	**63**	9	5	20	20	[2]	10T	-	-	R	42	(G116)
Marder II–III (PaK 40)	**64**	9	5	20	20	[2]	11T	-	-	R	42	G116, G58, G89
Marder III (PaK 76r Cz. chas)	**60**	8	5	20	20	[2]	11T	-	-	R	42	G112
Hetzer	**76**	9	5	20	20	[8]	12T	-	-	R	44	G43
STuG III F–G	**74**	9	5	20	20	[8]	10T	-	-	R	42	G23
STuG IV	**74**	9	5	20	20	[8]	10T	-	-	R	44	G47
75mm SPATG RSO	**59**	9	5	20	20	[1]	8T	-	-	R	43	G72
Jagd Pzr IV B (75L70)	**95**	11	5	25	25	[8]	9T	-	-	R	44	G49
Elephant (88L70)	**122**	12	6	25	25	[18]	9T	-	-	R	43	G11
Nashorn	**95**	12	6	25	25	[3]	10T	-	-	R	43	G111
Jagd Panther (88L70)	**112**	12	6	25	25	[11]	12T			R	44	G26
Jagd Tiger (128L55)	**139**	14	7	30	30	[20]	9T			R	44	G38

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
GERMAN Anti-Tank Weapons, continued												
SdKfz 234/4 (75mm ATG)	**60**	9	5	20	20	[3]	16W	-	-	R, U	45	G61
SdKfz 251/22 (75mm ATG)	**68**	9	5	20	20	[3]	14T	-	-	R, U	44	G128
GERMAN Artillery												
75mm IG [1]	**20**	1	5	27	27	5	0	-	6	R, S	32	G56
75mm IG [3]	**52**	1	5	27	27	5	0	-	6	R, S	32	G56
75mm Mountain Gun [2]	**92**	1	5	74	74	4	0	-	8	R, I, S	35	
150mm sIG [1]	**50**	4	9	37	37	2	0	-	10	R, I, S	27	G124
81mm Mortar [1]	**17**	0	6	21	21	6	2F	-	4	R, I, S, P	34	G80
81mm Mortar [3]	**42**	0	6	21	21	6	2F	-	8	R, I, S, P	34	G80
8cm K (Stummelwerfer) [1]	**10**	0	6	9	9	6	3F	-	4	R, I, S, P	42	G513
SdKfz 250/7 [1] (81mm)	**24**	0	6	21	21	[2]	16T	-	-	R, I, S, U	42	G93
SdKfz 251/2 [1] (81mm)	**24**	0	6	21	21	[3]	15T	-	-	R, I, S, U	41	G104, G125
120mm Mortar [2]	**109**	2	9	48	48	4	0	-	8	R, I, S, M3	42	G564
75mm RR LG40 [2]	**96**	3	6	52	52	3	1F	-	4	R, I	40	
105mm RR LG41 [2]	**171**	4	9	65	65	2	0	-	6	R, I	41	
105mm RR LG42 [2]	**184**	5	9	65	65	2	0	-	6	R, I	42	
10cm (105mm) sK18 [2]	**245**	2	8	152	152	2	0	-	12	R, I, S	34	G135
105mm IFH18 [2]	**170**	2	8	84	84	3	0	-	10	R, I, S	39	G54
105mm Wespe [3]	**260**	2	8	84	84	[2]	10T	-	-	R, I, S, U	43	G117
150mm sFH 18 [2]	**248**	4	9	105	105	2	0	-	12	R, I, S	34	G134
150mm Hummel [3]	**377**	4	9	105	105	[3]	9T	-	-	R, I, S, U	42	G110
150mm Panzer I B sIG	**141**	3	9	37	37	[1]	11T	-	-	R, I, S, U	40	G121
150mm sIG 33 PzII Bison [3]	**141**	3	9	37	37	[2]	10T	-	-	R, I, S, U	42	G59
15cm sFH13/1 Lorraine [3]	**252**	3	9	68	68	[1]	10T	-	-	R, I, S, U	41	G527
150mm sIG 33/1 H/M Grille	**141**	3	9	37	37	[2]	10T	-	-	R, I, S, U	43	G555
170mm Field Gun [2]	**440**	4	10	196	196	1	0	-	20	I	41	G519
210mm Morser M18 [2]	**315**	4	11	116	116	1	0	-	20	I	39	G500
GERMAN Rocket Artillery												
150mm Nebelwerfer [4]	**145**	3	10	55	55	3	0	-	6	R, I, S, SR2, M12	41	G116
150mm Nebelwerfer [6]	**217**	3	10	55	55	3	0	-	6	R, I, S, SR2, M12	41	G116
210mm Nebelwerfer [4]	**204**	4	12	63	63	3	0	-	8	R, I, S, SR3, M12	43	(G116)
210mm Nebelwerfer [6]	**305**	4	12	63	63	3	0	-	8	R, I, S, SR3, M12	43	(G116)
SdKfz 251 sWuR 40 nw41 [4]	**83**	5	15	18	18	[3]	15T	-	-	R, I, S, SR3, U, M3	41	G106
SdKfz 251 sWuR 40 nw42 [4]	**155**	5	15	36	36	[3]	15T	-	-	R, I, S, SR3, U, M3	43	G106
PanzerWerfer 42 [4]	**156**	3	10	55	55	[3]	15T	-	-	R, I, S, SR3, M3	43	G143
GERMAN Infantry Close Support Artillery												
Panzer III N (75L24)	**64**	3	5	27	27	[7]	11T	-	-		42	G561
Panzer IV C–D (75L24)	**56**	3	5	27	27	[3]	11T	-	-		39	G5
Panzer IV E (75L24)	**60**	3	5	27	27	[5]	11T	-	-		40	(G5)
Panzer IV F1 (75L24)	**63**	3	5	27	27	[7]	10T	-	-		41	G64
SdKfz 250/8 (75L24)	**52**	3	5	27	27	[2]	15T	-	-	R, U	42	G90
SdKfz 251/9 (75L24)	**54**	3	5	27	27	[3]	15T	-	-	R, U	42	G104, G125

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
GERMAN Infantry Close Support Artillery, continued												
SdKfz 233 (75L24) 8w	**45**	3	5	27	27	[3]	16W	-	-	R, U	43	G138
SdKfz 234/3 (75L24) 8w	**45**	3	5	27	27	[3]	16W	-	-	R, U	44	G53
STuG III A–E (75L24)	**56**	3	5	27	27	[6]	11T	-	-	R	40	G17
Sturm Haubitz '42	**77**	2	8	30	30	[8]	10T	-	-	R	42	G23
Brummbar (150mm)	**93**	3	9	37	37	[7]	8T	-	-	R	42	G48
SturmTiger	**128**	9	18	20	20	[13]	8T	-	-	R, SR5	44	G70
GERMAN Anti-Aircraft Weapons												
Flak 38 20mm AAG	**17**	2	6	10	10	3	0	-	6		35	G96
SdKfz 10/4 20mm AAG	**34**	2	6	10	10	2	16T	-	-		38	G92
SdKfz 251/17 20mm	**37**	2	6	10	10	[3]	15T	-	-	U	41	G127
Flak Panzer (38t) 20mm	**32**	2	6	10	10	[2]	12T	-	-	U	43	G60
20mm Quad AAG	**22**	2	9	10	10	2	0	-	8		41	G123
SdKfz 7/1 Quad 20mm	**40**	2	9	10	10	1	14T	-	-		41	G95
Pz IV Wirbelwind Quad 20	**42**	2	9	10	10	[5]	10T	-	-	U	45	G553
Flak 36/37 37mm AAG	**22**	3	6	12	12	3	0	-	6		36	G122
SdKfz 7/2 37mm AAG	**39**	4	6	12	12	1	14T	-	-		42	G94
Pz IV Ostwind 37mm AAG	**44**	4	6	12	12	[5]	10T	-	-	U	45	G554
Flak 36 88mm AAG	**90**	10	6	30	40	3	0	-	10		36	G14, G69
GERMAN Armoured Car / Recon												
SdKfz 221 or 223 (MG only)	**12**	0	4	1	5	[1]	18W	-	-		38	G15
SdKfz 222 (2cm)	**13**	2	4	5	5	[1]	18W	-	-		38	G15
SdKfz 221/222 (2.8cm)	**15**	4	4	5	5	[1]	18W	-	-		38	G15
SdKfz 231 6w	**15**	2	4	5	5	[2]	15W	-	-		34	G503
SdKfz 231 8w	**17**	2	4	5	5	[3]	18W	-	-		38	G137
SdKfz 232 6w	**13**	0	4	5	5	[2]	15W	8	-		41	G503
SdKfz 263 8w	**13**	0	4	5	5	[2]	18W	8	-		38	G138
SdKfz 234/1 (2cm)	**18**	2	4	5	5	[3]	20W	-	-		44	G53
SdKfz 234/2 (5cm)	**37**	6	4	12	12	[4]	18W	-	-		44	G52
SdKfz 250/9 (2cm)	**26**	2	4	5	5	[2]	16T	-	-		42	G34, G91
SdKfz 251/16 Flamethrower	**25**	9F	9F	1	1	[3]	14T	-	-	R	40	G105
Pz38(t) SdKfz 140/1	**24**	2	4	5	5	[3]	12T	-	-		43	G88
GERMAN Armoured Personnel Carriers												
SdKfz 247	**11**	0	0	0	0	[1]	25T	6	-	U	37	
SdKfz 250/1	**16**	0	6	1	5	[2]	16T	6	-	U	42	G17
SdKfz 251/1	**18**	0	6	1	5	[3]	15T	8	-	U	40	G99, G107
SdKfz 251/5 or /7 (Eng.)	**16**	0	4	1	5	[3]	15T	8	-	U	41	G102
SdKfz 250/10	**13**	3	2	5	5	[2]	16T	6	-	U	42	G17
SdKfz 251/10	**17**	3	2	5	5	[3]	15T	8	-	U	41	G99
SdKfz 251/3	**16**	0	4	1	5	[3]	15T	8	-	U	40	G103
GERMAN Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	36	G144, G525, G542
Infantry '39	**12**	1	5	0	5	6	3F	-	8	P	36	G144, G507, G525, G521
Infantry '41	**12**	1	6	0	5	6	3F	-	8	P	41	G144, G507, G525, G521

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
GERMAN Personnel, continued												
Infantry '43	**13**	6	5	0	5	6	3F	-	8	P	43	G144, G515, G525, G521
Infantry '44	**13**	6	6	0	5	6	3F	-	8	P	44	G144, G511, G525, G521
Infantry '45	**14**	6	6	1	5	6	3F	-	8	P	44	G144, G511, G525, G521
Recon Infantry	**10**	1	3	0	5	6	4F	-	6	P	43	G144, G525
Infantry Support	**15**	0	4	0	10	6	3F	-	4	P	36	G80, G145, G508, G542
PzGrenadier Infantry '42	**12**	1	6	0	5	6	3F	-	8	P	41	G98, G101, G525
PzGrenadier Infantry '43	**13**	6	6	0	5	6	3F	-	8	P	43	G101, G515, G525
PzGrenadier Infantry '44 AT	**16**	8	6	2	5	6	3F	-	8	P, D8	44	
PzGrenadier Infantry '44	**15**	6	6	1	5	6	3F	-	8	P	44	G101, G511, G541
PzGrenadier Sturm '45	**15**	6	7	1	3	6	3F	-	8	P	45	
VolksGren "A"	**12**	6	4	0	5	6	3F	-	8	P	44	G541, G542, G515, G144
VolksGrren "B"	**14**	6	6	1	5	6	3F	-	8	P	44	G511, G541, G542
Fallschirmjäger '39	**13**	1	6	0	5	6	3F	-	8	P	39	G512, G525
Fallschirmjäger '43	**14**	6	6	0	5	6	3F	-	8	P	43	G512, G525
Fallschirmjäger '45	**15**	6	7	1	5	6	3F	-	8	P	44	G512, G511, G541
Fallschirmjäger Support	**19**	0	6	1	10	6	3F	-	8	P	39	G512
Bicycle Infantry HQ	**20**	0	3	0	5	6	3F(5F)	-	8	P	39	
Bicycle Infantry	**12**	1	5	0	5	6	3F(5F)	-	8	P	36	
Bicycle Support	**15**	0	4	1	10	6	3F(5F)	-	6	P	36	
Motorcycle HQ	**25**	0	3	0	5	6	20W	-	-	P	36	
Motorcycle Infantry "A"	**17**	0	5	0	5	6	20W	-	-	P	38	G40, G141
Motorcycle Infantry "B"	**18**	1	6	0	5	6	20W	-	-	P	38	G40, G141
Motorcycle Support	**22**	0	3	1	10	6	20W	-	-	P	38	G141
Cavalry HQ	**20**	0	3	0	5	5	8F	-	-	P	34	G73, G74
Cavalry	**12**	1	4	0	5	5	8F	-	-	P	34	G73, G74
Cavalry Support	**17**	0	4	1	10	5	8F	-	-	P	34	G80
GERMAN Transports												
Kubelwagen	**5**	-	-	-	-	3	25W	4	-		40	G40
Schwimwagen	**6**	-	-	-	-	3	20W/2A	4	-		42	G67
Horch Hvy Car/ Lt Truck	**8**	-	-	-	-	1	30W	6	-		36	G77, G551
Daimler-Steyr Lt Truck	**9**	-	-	-	-	1	27W	8	-		36	G37, G79
Krupp Protze Md Truck	**10**	-	-	-	-	1	21W	10	-		36	G97
Opel Blitz Md Truck	**10**	-	-	-	-	1	25W	10	-		36	G25, G66
Einheitsdiesel Md Truck	**10**	-	-	-	-	1	21W	10	-		36	G514, G518
Büssing-Nag Hvy Truck	**13**	-	-	-	-	1	20W	14	-		39	G148
RSO Light Tractor	**10**	-	-	-	-	1	9T	8	-		42	G71
SdKfz 10 Lt. Halftrack	**10**	-	-	-	-	1	20T	6	-		38	G108
SdKfz 251/4 Lt Halftrack	**14**	-	-	-	-	[3]	15T	8	-		39	G99, G107
SdKfz 11 or 7 Md Halftrack	**13**	-	-	-	-	1	16T	10	-		38	G54, G64, G132
Heavy Tractor (SdKfz 8)	**15**	-	-	-	-	1	14T	12	-		39	
Heavy Tractor (SdKfz 9)	**16**	-	-	-	-	1	10T	14	-		38	G136, G133
Maultier Md Halftrack	**12**	-	-	-	-	1	11T	10	-		42	G65, G502
Maultier Hvy Halftrack	**16**	-	-	-	-	1	10T	14	-		42	G524

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Weapons Data: HUNGARY

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
HUNGARIAN Tanks												
Turan I (40L51)	**40**	5	4	10	10	[5]	12T	-	-		42	H1
Turan II (76L25)	**58**	6	5	10	20	[5]	12T	-	-		43	H1
Toldi I or II (20mm)	**24**	2	4	5	5	[2]	14T	-	-		39	H2
Toldi II a (40mm)	**31**	5	3	10	5	[3]	12T	-	-		43	H2
L3/35	**13**	0	4	1	5	[1]	8T	-	-	R	35	IT22
Panzer 38T (37L48)	**32**	5	4	10	5	[3]	12T	-	-		41	G7
Panzer IV F2–H (7.5cm)	**80**	9	5	20	20	[7]	10T	-	-		42	G548,G549, G545
Panzer V (75L70)	**112**	11	5	25	25	[10]	12T	-	-		43	G19, G81
Pz IV a (88L56)	**111**	10	6	25	25	[11]	9T	-	-		42	G6, G68
HUNGARIAN Anti-Tank Guns												
37mm ATG m36	**14**	4	2	8	10	5	1F	-	4	R, P	41	(G56)
40mm ATG m40	**17**	4	3	10	10	5	1F	-	4	R, P	41	
50mm PaK 38	**25**	6	3	15	15	4	0	-	6	R	42	G120
75mm PaK 97	**25**	6	5	12	12	4	0	-	6	R	42	
75mm PaK 40	**49**	9	5	20	20	4	0	-	8	R	42	(G109)
Hetzer	**76**	9	5	20	20	[8]	12T	-	-	R	44	G43
STuG III F–G	**74**	9	5	20	20	[8]	10T	-	-	R	42	G23
HUNGARIAN Artillery												
8cm Mortar [2]	**35**	0	6	24	24	6	2F	-	6	R, I, S, P	39	
75L15 m15 Mtn How [1]	**43**	1	5	66	66	5	1F	-	4	R, I, P	19	
76L33 FK M18 Gun [2]	**119**	1	5	97	97	3	0	-	8	R, I	19	
100L19 How m14/19 [2]	**136**	2	8	67	67	3	0	-	8	R, I	19	IT20
105mm IFH18 [2]	**170**	2	8	84	84	3	0	-	10	R, I, S	39	G54
149L14 m14 How [2]	**170**	3	9	70	70	2	0	-	10	R. I	19	
149L20 m15 How [2]	**223**	3	9	92	92	2	9	-	12	R, I	19	
210L22 m35 How [2]	**378**	5	12	123	123	1	0	-	14	R, I	38	
HUNGARIAN Infantry Close Support Artillery												
Zrinyi II	**59**	2	8	20	20	[7]	11T	-	-	R	44	H4
Panzer III N (75L24)	**52**	1	5	27	27	[7]	11T	-	-		42	G561
Panzer IV F1 (75L24)	**51**	1	5	27	27	[7]	10T	-	-		41	G64
HUNGARIAN Anti-Aircraft Guns												
20mm AAG	**17**	2	5	10	10	3	0	-	6		35	G96
40mm AAG (Bofors)	**24**	4	6	12	12	3	0	-	6		30	UK54
76.5mm AAG (Skoda)	**26**	1	6	20	20	1	0	-	12		28	
80mm AAG m.29 (Bofors)	**23**	1	5	20	20	1	0	-	10		30	
88mm AAG	**118**	10	6	40	40	3	0	-	10		36	G14, G69
Nimrod	**42**	4	7	12	12	[3]	10T	-	-		42	H3
HUNGARIAN Armoured Cars / Recon												
Csaba	**14**	2	4	5	5	[1]	20W	-	-		39	H5
SdKfz 222 (2cm)	**13**	2	4	5	5	[1]	18W	-	-		38	G15

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
HUNGARIAN Armoured Personnel Carriers												
SdKfz 250/1	**16**	0	6	1	5	[2]	16T	6	-	U	42	G17
SdKfz 251/1	**18**	0	6	1	5	[3]	15T	8	-	U	40	G99, G107
HUNGARIAN Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	41	H8, H9
Infantry '41	**11**	0	4	0	5	6	3F	-	8	P	41	H8, H9
Infantry '44	**13**	3	5	1	5	6	3F	-	8	P	44	H8, H9
Infantry Support	**16**	2	4	3	10	6	3F	-	4	P	41	H8, H9
Mountain Infantry	**12**	0	5	0	5	6	4F	-	8	P	41	
Bicycle Infantry	**13**	0	5	0	5	6	3F(5F)	-	8	P	41	
Bicycle Support	**17**	2	4	3	10	6	3F(5F)	-	4	P	41	
Motorcycle Infantry	**17**	0	5	0	5	6	20W	-	-	P	41	(G141)
Motorcycle Support	**21**	2	4	3	10	6	20W	-	-	P	41	(G141)
Cavalry	**12**	0	4	0	5	6	8F	-	-	P	41	(G73)
Cavalry Support	**17**	2	4	3	10	6	6F	-	-	P	41	(G73)
Cavalry MMG	**16**	0	4	1	10	6	6F	-	-	P	43	(G73)
MMG	**15**	0	4	1	10	6	3F	-	4	P	41	H8, H9
HUNGARIAN Transports												
Car (Kubelwagen)	**5**	-	-	-	-	3	25W	4	-		41	G40
Lt Truck, Botond	**7**	-	-	-	-	1	22W	6	-		38	H7
Lt Truck, Daimler-Steyr	**9**	-	-	-	-	1	27W	8	-		41	G37, G79
Medium Truck	**9**	-	-	-	-	1	14W	12	-		41	(R43)

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Weapons Data: ITALY

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
ITALIAN Tanks												
L3/35	**13**	0	4	1	5	[1]	8T	-	-	R	35	IT22
L3/35 Flamethrower	**13**	9F	9F	1	1	[1]	8T	-	-	R	36	
L6/40	**24**	2	4	5	5	[3]	12T	-	-		40	IT6
M11/39 Hull 37L40	**25**	3	4	8	8	[3]	8T	-	-	R, T	39	IT8
M11/39 Turret		0	4	1	8			-	-	T		
M13/40	**28**	4	4	10	5	[4]	8T	-	-		40	IT1
M15/42	**50**	6	4	15	15	[4]	12T	-	-		43	
P40	**63**	7	5	20	20	[6]	10T	-	-		43	
ITALIAN Anti-Tank Guns												
37mm ATG PaK 35/36	**12**	4	2	8	5	5	1F	-	4	R, P	36	
47/32 M35 IG/ATG [2]	**22**	4	3	10	20	2	0	-	6	R	36?	IT13
Semovente 47	**27**	4	4	10	10	[2]	10T	-	-	R, U	42	IT9
Semovente 47/B	**29**	4	4	10	10	[3]	10T	-	-	R, U	42	IT9
Semovente 75/34	**58**	7	5	20	20	[4]	10T	-	-	R	43	IT3
Semovente 90	**80**	9	6	25	25	[3]	8T	-	-	R, U	41	IT4
90mm Portee	**72**	9	6	25	25	1	12W	-	-	R^2	41–42	
102/35 Portee	**90**	9	8	25	25	1	12W	-	-	R^1	40	
ITALIAN Artillery												
45mm Mortar [3]	**11**	0	4	5	5	6	3F	-	8	P, S	35	IT17
81mm Mortar [2]	**43**	0	6	32	32	6	2F	-	6	R, I, P, S	35	IT17
81mm Mortar [4]	**81**	0	6	32	32	6	2F	-	8	R, I, P, S	35	IT17
65/17 Gun (mtn/IG) [2]	**54**	0	4	68	68	5	1F	-	4	R, I, P, S	13	
65mm Gun, Portee [2]	**60**	0	4	68	68	1	14W	-	-	R^1, I	42–43	
75/18 M34 How (mtn) [2]	**94**	1	5	76	76	4	0	-	8	R, I	34	
75/27 M11 Gun [2]	**68**	1	5	54	54	4	0	-	6	R, I	6	IT28
75/27 Gun, Portee [2]	**70**	1	5	54	54	1	12W	-	-	R^1, I	42–43	
75/32 M37 Gun [2]	**123**	1	5	100	100	4	0	-	8	R, I	37	
as ATG		7		20				-	-			
100/17 M14 How (mtn) [2]	**160**	2	8	79	79	3	0	-	8	R, I	19	IT20
100/17 How Portee [2]	**162**	2	8	79	79	1	11W	-	-	R^1, I	42–43	
105/28 M13 Gun [2]	**194**	2	8	96	96	2	0	-	10	R, I	19	IT25
149/13 M14 How [2]	**170**	3	9	70	70	2	0	-	10	R, I	15	
149/19 M37 How [2]	**248**	3	9	114	114	2	0	-	12	R, I	37	
149/40 M35 How [2]	**366**	3	9	190	190	1	0	-	14	R, I	35	
210/22 M35 How [2]	**344**	4	11	123	123	1	0	-	14	R, I	38	
ITALIAN Infantry Close Support Artillery												
Semovente 75/18	**90**	1	5	70	70	[4]	8T	-	-	R, I	42	IT3
Semovente 105	**146**	2	8	70	70	[6]	10T	-	-	R, I	43	
ITALIAN Armoured Cars / Recon												
Autoblinda-40	**11**	0	4	1	5	[1]	18W	-	-		40	
Autoblinda-41	**13**	2	4	5	5	[1]	18W	-	-		41	IT2

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
ITALIAN Armoured Cars / Recon, continued												
Autoblinda Lynx	**16**	0	3	1	5	[3]	22W	-	-	U	43	UK50
SPA Sahariana MG/ATR	**23**	2	6	5	10	2	24W	-	-		42	IT24
SPA Sahariana AA/AT	**25**	4	4	10	10	2	24W	-	-		42	IT24
ITALIAN Anti-Aircraft Guns												
20mm AAG/ATG	**17**	2	5	10	10	3	0	-	6		36	IT12
20mm AA Portee	**23**	2	5	10	10	2	18W	-	-		36	IT14
75/46 M34 AAG	**45**	7	5	20	20	2	0	-	10		34	
90mm AAG	**69**	9	6	25	25	1	0	-	12		37	IT26
ITALIAN Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	36	IT16
Infantry '36*	**10**	0	4	0	5	6	3F	-	8	P	36	IT16, IT17
Bersaglieri Infantry '36	**13**	0	4	0	5	6	4F	-	8	P	36	IT18
MMG '36	**15**	0	4	1	10	6	3F	-	6	P	36	IT17
N.A. Mot. Infantry '41	**10**	1	3	0	5	6	3F	-	8	P	41	
N.A. Infantry '42	**12**	1	5	0	5	6	3F	-	8		42	
Bersaglieri Infantry '42	**13**	1	6	0	5	6	4F	-	8	P	42	IT18
ATR Infantry	**11**	3	3	1	5	6	3F	-	4	P	42	IT17?
MMG '42	**13**	0	3	1	10	6	3F	-	6	P	42	
Alpini Infantry	**11**	1	4	0	5	6	3F	-	8	P	36	IT16, IT17
Bicycle Infantry HQ	**20**	0	3	0	5	6	3F(5F)	-	8	P	36	
Bicycle Infantry	**11**	1	4	0	5	6	3F(5F)	-	8	P	36	
Bersaglieri Motorcycle	**17**	1	5	0	5	6	20W	-	-		36	
Bersaglieri Motorcycle MMG	**22**	0	5	1	10	6	20W	-	-		36	
Motorcycle HQ	**28**	0	3	0	3	6	20W	-	8	P	36	(G141)
Motorcycle Infantry	**16**	1	4	0	5	6	20W	-	-	P	36	(G141)
Motorcycle Support	**22**	0	5	1	10	6	20W	-	-	P	36	(G141)
Cavalry HQ	**22**	0	3	0	5	6	8F	-	-	P	36	
Cavalry	**12**	1	4	0	5	5	8F	-	-	P	36	
Cavalry MMG	**16**	0	4	1	10	5	8F	-	-	P	36	
Paratroopers HQ	**18**	0	4	0	3	5	3F	-	8	P	39	
Paratroopers	**12**	0	6	1	3	5	3F	-	8	P	39	
ITALIAN Transport												
Car, Fiat 508	**5**	-	-	-	-	1	27W	4	-		36	
Lt Truck, TL 37	**6**	-	-	-	-	1	15W	6	-		38	IT20, IT25
Lt Truck, CL 39	**6**	-	-	-	-	1	11W	6	-		39	IT12, IT13
Med. Truck (SPA 35, FIAT 626)	**10**	-	-	-	-	1	18W	10	-		36	IT15
Heavy Truck	**11**	-	-	-	-	1	20W	12	-		39	
Heavy Truck	**10**	-	-	-	-	1	12W	12	-		37	(G148)
Heavy Truck (3RO)	**11**	-	-	-	-	1	14W	12	-		38	IT5
Lt Artillery Tractor	**9**	-	-	-	-	1	5T	8	-		35	

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Weapons Data: JAPAN

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
JAPANESE Tanks												
Type 92 Tankette	**16**	0	6	1	5	[1]	8T	-	-		33	
Type 94 Tankette	**14**	0	4	1	5	[1]	8T	-	-		32	
Type 97 Tankette Teke T1	**18**	0	4	1	10	[1]	8T	-	-		37	
Type 97 Tankette Teke T2	**19**	3	4	8	5	[1]	8T	-	-		38	
Type 95 Kyu-Go	**22**	3	4	8	5	[1]	11T	-	-		36	J1
Type 97 Chi-Ha	**24**	3	5	8	5	[2]	12T	-	-		38	J10
Type 97 Shinoto Chi-Ha	**31**	6	4	10	5	[2]	11T	-	-		42	J2
Type 89b	**20**	3	4	8	5	[2]	7T	-	-		31	
Type I Ka-Mi	**23**	3	4	8	5	[1]	11T/1A	-	-		43	J5
Type I Chi-He	**34**	6	4	10	5	[4]	10T	-	-		43	
Type III Chi-Nu	**44**	7	4	15	5	[4]	10T	-	-		45	
JAPANESE Anti-Tank Guns												
37mm ATG Type 94	**16**	4	2	10	10	5	1F	-	4	R, P	35	
37mm ATG Type 97	**12**	4	2	8	5	5	1F	-	4	R, P	34	G56
47mm ATG Type 1	**23**	5	3	15	15	4	0	-	6	R	42	
Ho-Ni	**44**	7	4	15	15	[4]	8T	-	-	R	44	
JAPANESE Artillery												
81mm Mortar [2]	**33**	0	6	24	24	6	2F	-	8	R, I, P	38	J7
90mm Mortar [2]	**51**	1	7	38	38	5	0	-	8	R, I, M6	34	
150mm Mortar T96/97 [2]	**78**	2	10	31	31	5	0	-	6/4	R, I, M6	36	
70mm How. T92 [1]	**15**	0	5	22	22	6	1F	-	4	R, I, P	32	J4
75mm Mtn How T41 [1]	**42**	1	5	65	65	4	0	-	6	R, I	08	J7
75mm Gun T38 [2]	**81**	1	5	65	65	4	0	-	8	R, I	05	(P10)
105mm Mtn How T99 [2]	**98**	2	8	48	48	3	0	-	6	R, I	39	
105mm How T91 [2]	**174**	2	8	86	86	3	0	-	8	R, I	27	(P9)
105mm Gun T92 [2]	**265**	2	8	146	146	1	0	-	12	R, I	32	(G135)
150mm How T4 [2]	**199**	4	9	76	76	1	0	-	12	R, I	37	
150mm Gun T89 [2]	**363**	4	9	174	174	1	0	-	14	R, I	29	
JAPANESE Infantry Close Support Artillery												
Ho-Ro (150mm) [1]	**115**	3	9	47	47	[2]	11T	-	-	R	41	
JAPANESE Anti-Aircraft Guns												
20mm AA/ATG	**19**	2	5	10	10	5	1F	-	4	P	39	
40mm AA/ATG (Vickers)	**24**	4	6	12	12	4	0	-	8		32	
25mm AAG	**16**	2	5	10	10	4	0	-	6		37	
Dual 25mm AAG	**18**	2	6	10	10	4	0	-	-		37	
Triple 25mm AAG	**20**	2	7	10	10	4	0	-	-		37	
75mm AAG Type 88	**43**	7	5	20	20	2	0	-	10		28	
JAPANESE Armoured Cars / Recon												
Sumida	**17**	0	5	1	10	[1]	18W	-	-		34	
JAPANESE Armoured Personnel Carriers												
Ho-Ki	**13**	-	-	-	-	[1]	12T	10	-		44	

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
JAPANESE Personnel												
Infantry HQ	**20**	0	3	1	5	6	3F	-	8	P	36	J7
Infantry	**12**	0	5	1	5	6	3F	-	8	P	36	J6, J7
ATR Infantry	**14**	3	3	1	5	6	3F	-	8	P	36	J7?
Infantry Support	**15**	0	4	1	10	6	3F	-	8	P	36	J4, J7
Cavalry HQ	**20**	0	3	1	5	5	8F	-	-	P	36	
Cavalry	**11**	0	4	1	5	5	8F	-	-	P	36	
Cavalry Support	**15**	0	4	1	10	5	6F	-	-	P	36	
JAPANESE Transports												
Car, Type 95	**6**	-	-	-	-	2	25W	4	-		37	
Lt Truck, Isuzu Type 95/97	**8**	-	-	-	-	1	22W	8	-		35	
Md Truck, Nissan Type 94	**10**	-	-	-	-	1	18W	10	-		34	J9
Hvy Truck, Isuzu Type 2	**12**	-	-	-	-	1	16W	14	-		42	
Amph. Truck (Su-Ki)	**9**	-	-	-	-	1	20W/1A	8	-		43	
Med Artillery Tractor I-Ke	**11**	-	-	-	-	1	7T	10	-		31	
Hvy Artillery Tractor Ne-Ku	**13**	-	-	-	-	1	3T	12	-		32	
JAPANESE Boats												
Shohatsu Class (10m)	**9**	0	3	1	5	2	4A	8	-		27	
Daihatsu Class (14m)	**15**	0	3	1	5	2	5A	16	-		30	
Daihatsu Class (14m)	**18**	2	5	5	5	2	5A	16	-		30	
Daihatsu Class (14m)	**20**	4	6	12	12	[4]	5A	8	-	U	30	
Toku Daihatsu Class (17m)	**22**	0	3	1	5	[3]	6A	24	-	U	40	(J11)
Toku Daihatsu Class (17m)	**25**	2	5	5	5	[3]	6A	24	-	U	40	

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Weapons Data: POLAND

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
POLISH Tanks												
7TP-D (2 MGs)	**17**	0	5	1	5	[2]	8T	-	-		34	P2
7TP-J (37mm)	**23**	2	4	8	5	[4]	8T	-	-		36	P3
TKS (MG)	**11**	0	4	1	5	[1]	6T	-	-	R	33	P1
TKS (20mm)	**11**	2	2	5	5	[1]	6T	-	-	R	33	P1
Vickers-E “A” (2 MGs)	**16**	0	5	1	5	[1]	9T	-	-		36	
Vickers-E “B” (47mm)	**23**	4	4	10	5	[1]	9T	-	-		36	R25
POLISH Anti-Tank Guns												
37mm ATG m.36 (Bofors)	**13**	4	2	7	10	5	1F	-	4	R, P	36	P11
POLISH Armoured Cars/Recon												
WZ-29 (37L21)	**12**	2	3	8	5	[1]	11W	-	-		29	P4
WZ-34 (MG only)	**8**	0	4	1	5	[1]	11W	-	-		34	P5
WZ-34 (37L21)	**12**	2	3	8	5	[1]	11W	-	-		34	P5
POLISH Artillery												
81mm Mortar [2]	**42**	0	6	30	30	6	2F	-	6	R, I, P	31	P7
75mm/76mm Inf. Gun [2]	**30**	1	5	5	20	5	0	-	4	R, S	20	G56 or R38
75L36 M97 Gun [2]	**67**	1	5	54	54	4	0	-	6	R, I, S	26	P10
100mm M14/19 How [2]	**160**	2	8	79	79	3	0	-	8	R, I, S	33	(IT20)
105L28 Gun M28 [2]	**194**	2	8	96	96	2	0	-	8	R, I, S	20	P9
155L14 M17 How [2]	**217**	3	9	90	90	1	0	-	12	R, I	20	
POLISH Anti-Aircraft Guns												
40mm Bofors AAG	**21**	4	6	12	12	3	0	-	6		30	UK54
POLISH Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	20	P6, P7
Infantry	**11**	1	4	0	5	6	3F	-	8	P	20	P6, P7
Infantry Support	**15**	3	3	1	10	6	3F	-	4	P	20	P6, P7
MMG	**15**	0	4	1	10	6	3F	-	4	P	20	
Bicycle Infantry	**13**	1	5	0	5	6	3F/5F	-	8	P	20	
Bicycle Support	**16**	0	4	1	10	6	3F/5F	-	4	P	20	
Bicycle Recon	**9**	0	2	0	5	6	3F/5F	-	4	P	20	
Motorcycle Infantry	**16**	1	4	0	5	6	20W	-	-	P	20	(G141)
Motorcycle Recon	**14**	0	2	0	5	6	20W	-	-	P	20	
Cavalry HQ	**22**	0	3	0	5	6	8F	-	-	P	20	R33
Cavalry	**11**	3	4	1	5	5	8F	-	-	P	20	P8
Cavalry Support	**16**	0	4	1	10	5	8F	-	-	P	20	P8
Cavalry Recon	**10**	0	2	0	5	5	8F	-	-	P	20	
Taczanka (Support)	**11**	0	4	1	10	3	8F	-	-	R	20	P12
Motorized Cavalry Support	**11**	0	2	1	10	3	3F	-	-	R	20	P12
POLISH Transports												
Lt Truck, PzinZ 302, PF 508	**5**	-	-	-	-	1	18W	4	-		36	P11
Lt Truck, PF 618	**8**	-	-	-	-	1	18W	8	-		37	(R42)
Md Truck, Ursus PF 621	**9**	-	-	-	-	1	16W	10	-		28	(R43)
Lt Halftrack, Ctrn Keg	**10**	-	-	-	-	1	8T	8	-		32	(FR12)
Med Halftrack, C4P	**12**	-	-	-	-	1	11T	10	-		36	(FR6)
Lt Tractor, C2P	**8**	-	-	-	-	1	12T	6	-		30	(RA4 or UK98)
Hvy Tractor, C7P	**15**	-	-	-	-	[1]	8T	12	-		34	(R59)

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Weapons Data: ROMANIA

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
ROMANIAN Tanks												
FT Light Tank (MG)	**9**	0	5	1	5	[1]	2T	-	-		19	FR15
FT Light Tank (37L21)	**10**	2	3	8	5	[1]	2T	-	-		19	FR15
R-1 (AH-IV-R)	**13**	0	5	1	5	[1]	7T	-	-		38	
R-2 (Czech vz. 35)	**25**	4	4	8	5	[2]	11T	-	-		37	G131
T-38 (Ger. Pz 38t)	**32**	5	4	10	5	[3]	12T	-	-		43	G7
R-35/45 “Vanatorul de Care”	**26**	5	2	10	5	[4]	6T	-	-		44	FR5
T4 (Pz IV G)	**74**	9	5	20	20	[8]	10T	-	-		42	G545
ROMANIAN Anti-Tank Guns												
25mm ATG (Fr.)	**9**	3	1	7	5	5	1F	-	4	R, P	41	FR13
37mm ATG (Bofors)	**13**	4	2	7	10	5	1F	-	4	R, P	42	P11
47mm M35 (It. IG/ATG)	**23**	4	3	10	20	4	0	-	6	R	41	RA3
50mm PaK 38 (Ger.)	**25**	6	3	15	15	4	0	-	6	R	42	G120
75mm PaK 97 (Ger./Fr.)	**25**	6	5	12	12	4	0	-	6	R	42	
75mm Resita M43	**49**	9	5	20	20	4	0	-	6	R	44	
75mm PaK 40 (Ger.)	**49**	9	5	20	20	4	0	-	8	R	44	G109
TACAM T-60 (Zis3 on T60)	**61**	8	5	20	20	[3]	10T	-	-	R, U	44	
TACAM R2 (Zis3 on R2)	**58**	8	5	20	20	[2]	8T	-	-	R, U	44	
Tas (STuG III G)	**74**	9	5	20	20	[8]	10T	-	-	R	44	G23
ROMANIAN Artillery												
47mm Infantry Gun [2]	**30**	2	4	10	56	5	1F	-	4	R, I, P	41	IT13
81mm Mortar [3]	**38**	0	6	30	30	6	2F	-	8	R, I, S, P	41	G80
65L17 Gun [2] It.	**58**	0	4	68	68	5	1F	-	4	R, I, S, P	41	
75L16 Mtn How [2]	**82**	1	5	66	66	4	0	-	6	R, I, S	41	
75L36 Gun [2] Fr.	**68**	1	5	54	54	4	0	-	6	R, I, S	41	P10
76L46 Gun [2] Sov.	**120**	1	5	108	108	4	0	-	8	R, I, S	42	R13
105L24 Mtn How [2] Cz.	**178**	2	8	88	88	3	0	-	6	R, I, S	41	
105L28 How [2] Ger.	**170**	2	8	84	84	3	0	-	10	R, I, S	42	G54
105L37 M36 [2] Fr.	**232**	2	8	128	128	2	0	-	12	R, I, S	41	
149L27 M34 [2] Cz.	**261**	3	9	120	120	2	0	-	12	R, I	41	
155L30 M17 [2] Fr.	**218**	3	9	90	90	2	0	-	12	R, I	41	
ROMANIAN Infantry Close Support Artillery												
T3 (PzIII M 75L24)	**52**	1	5	27	27	[7]	11T	-	-		42	G561
PzIV F1	**51**	1	5	27	27	[7]	10T	-	-		42	G64
SdKfz 251/9 (75L24)	**48**	1	5	27	27	[3]	15T	-	-	R, U	42	G104, G125
ROMANIAN Anti-Aircraft Guns												
AAMG (Fr.)	**12**	1	4	5	10	4	1F	-	4	P	39	(IT20)
20mm AAG (Oerlikon)	**17**	2	5	10	10	3	1F	-	4	P	39	(IT20)
25mm AAG (Fr.)	**17**	2	5	10	10	3	0	-	6		39	(IT20)
37mm AAG (FlaK 36/37)	**21**	4	6	12	12	3	0	-	6		41	G122
40mm AAG (Bofors)	**21**	4	6	12	12	3	0	-	6		39	UK54

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
ROMANIAN Anti-Aircraft Guns, continued												
75mm AAG (Vickers)	**23**	1	5	20	20	2	0	-	10		39	
88mm FlaK 36 AAG	**118**	10	6	40	40	3	0	-	10		41	G14, G69
ROMANIAN Armoured Cars / Recon												
OA vz30	**17**	0	4	1	5	[1]	18W	-	-		34	
BA-10	**25**	5	3	10	5	[1]	16W	-	-		41	R45
AB (SdKfz 222)	**13**	2	4	5	5	[1]	18W	-	-		43	G15
AB 41 (Autoblinda '41)	**13**	2	4	5	5	[1]	18W	-	-		43	IT2
ROMANIAN Armoured Personnel Carriers												
T (SdKfz 250)	**16**	0	6	1	5	[2]	16T	6	-	U	42	G17
TB (SdKfz 251)	**18**	0	6	1	5	[3]	15T	8	-	U	40	G99, G107
ROMANIAN Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	39	RA1, RA2
Infantry '41	**11**	0	4	0	5	6	3F	-	8	P	41	RA1, RA2
Infantry '42	**12**	1	5	0	5	6	3F	-	8	P	42	RA1, RA2
Infantry '44	**13**	3	5	1	5	6	3F	-	8	P	44	
Infantry Support	**15**	0	4	1	10	6	3F	-	4	P	39	RA1, RA2
Mtn. Infantry	**12**	0	5	0	5	6	4F	-	8	P	39	
Mot. Infantry '41	**12**	0	5	0	5	6	3F	-	8	P	41	
Mot. Infantry '42	**13**	1	6	0	5	6	3F	-	8	P	42	
Mot. Infantry '44	**14**	3	6	1	5	6	3F	-	8	P	44	
Motorcycle Infantry	**17**	0	5	0	5	6	20W	-	-	P	41	(G141)
Cavalry	**11**	0	4	0	5	5	8F	-	-	P	39	
Cavalry Support	**15**	0	4	1	10	5	6F	-	-	P	39	(R32 or G73)
ROMANIAN Transports												
Kubelwagen	**5**	-	-	-	-	3	25W	4	-		41	G40
Praga RV Light Truck	**9**	-	-	-	-	1	20W	8	-		35	
Opel Blitz Medium Truck	**10**	-	-	-	-	1	25W	10	-		41	G25, G66
Malaxa Tractor	**7**	-	-	-	-	[1]	9T	4	-		39	RA4
Lt Tractor (Konsomoletz)	**6**	-	-	-	-	1	10T	4	-		42	R38
Hvy Tractor (STZ)	**13**	-	-	-	-	1	6T	12	-		42	

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Weapons Data: SOVIET UNION

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
SOVIET Tanks												
T-26 ('33)	**20**	3	3	8	5	[2]	9T	-	-		33	R25
T-26 ('38)	**24**	5	3	10	5	[2]	9T	-	-		37	R25
BT-5-8	**30**	5	3	10	5	[1]	16T	-	-		33	R27, R33
T-35 Turrets w/ 45L46	**48**	5	3	10	5	[6]	8T	-	-	T	35	R52
T-35 Turret w/ 76L16		1	5	25	25			-	-	T		
T-37a	**18**	0	3	1	5	[1]	13T/1A	-	-		35	
T-40	**24**	2	3	5	5	[2]	15T	-	-		40	
T-60	**29**	2	3	5	5	[3]	15T	-	-		42	R15
T-70	**36**	5	3	10	5	[4]	16T	-	-		43	R20
T-34a	**57**	7	5	12	12	[8]	12T	-	-		41	R1
T-34c	**70**	8	5	16	16	[8]	12T	-	-		41	R17, R18, R58
T-34/85	**94**	10	6	20	20	[9]	12T	-	-		44	R2
KV-1 M40	**58**	7	5	12	12	[9]	11T	-	-		40	R24
KV-1 M41	**72**	8	5	16	16	[11]	8T	-	-		41	R3
KV-1s	**71**	8	5	16	16	[9]	11T	-	-		42	R26
KV-85	**94**	10	6	20	20	[10]	11T	-	-		43	R7
JS-II	**105**	11	7	20	20	[12]	10T	-	-		44	R5
M3 Stuart	**41**	5	4	10	10	[4]	15T	-	-		42	US4
M3 Grant, Hull	**70**	7	5	20	20	[6]	10T	-	-	R, T	42	US3
M3 Grant, Turret		5	4	10	10			-	-	T		
M4A2 (75)	**72**	7	5	20	20	[7]	10T	-	-		43	(US74)
M4A2 (76)	**76**	9	5	20	20	[7]	10T	-	-		44	(US96)
Matilda Mk II (40mm)	**35**	5	3	10	5	[8]	6T	-	-		41	UK4
Valentine Mk III (40mm)	**33**	5	3	10	5	[6]	8T	-	-		41	UK18 or UK25
Valentine Mk IX (57mm)	**41**	6	3	15	5	[6]	8T	-	-		43	UK25
Churchill Mk IV (57mm)	**44**	6	4	15	5	[8]	6T	-	-		42	UK10
SOVIET Anti-Tank Guns												
37mm ATG	**12**	3	3	8	5	5	1F	-	4	R, P	37	(R38)
45mm '32 ATG	**15**	4	3	10	5	5	1F	-	4	R, P	32	R38
45mm '42 ATG	**19**	6	4	10	5	5	1F	-	4	R, P	42	R38
57mm ATG	**33**	8	4	15	15	5	0	-	6	R	43	R46
76mm ATG	**45**	8	5	20	20	4	0	-	8	R	42	R59, R13
100mm ATG	**76**	11	7	25	25	4	0	-	8	R	44	R41
SU-57	**52**	6	4	15	15	[3]	16T	-	-	R, U	42	R40
SU-76	**59**	7	5	20	20	[4]	10T	-	-	R, U	43	R21
SU-76i	**61**	7	5	20	20	[5]	11T	-	-	R	43	R37
SU-85	**93**	10	6	20	20	[8]	11T	-	-	R	44	R6
SU-100	**104**	11	7	20	20	[11]	10T	-	-	R	44	R10
ISU-122	**109**	11	7	20	20	[12]	10T	-	-	R	44	R35

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
SOVIET Artillery												
76mm IG (Rgt) [2]	**44**	1	5	34	34	5	0	-	4	R, I, S, P	28	R38
76mm Gun (M36 Div) [2]	**131**	1	5	108	108	4	0	-	8	R, I, S	37	R13
76mm Gun (M36 Div) [3]	**196**	1	5	108	108	4	0	-	8	R, I, S	37	R13
107mm Gun (M-60) [2]	**234**	2	8	129	129	2	0	-	12	R, I, S	38	
122mm How (M-30) [2]	**207**	3	8	93	93	3	0	-	10	R, I, S	38	R19, R54, R55
122mm How (M-30) [3]	**308**	3	8	93	93	3	0	-	10	R, I, S	38	R19, R54, R55
122mm Gun (A-19) [2]	**288**	3	8	163	163	1	0	-	14	R, I	36	
152mm How (M10/D1) [2]	**252**	4	9	99	99	3	0	-	10	R, I, S	38	R19, R54, R55
152mm How (M10/D1) [3]	**388**	4	9	99	99	3	0	-	10	R, I, S	38	R19, R54, R55
152mm Gun (ML-20) [2]	**290**	4	9	127	127	3	0	-	10	R, I, S	37	
203mm Hvy How (B-4) [2]	**430**	4	11	144	144	2	0	-	12	R, I, S	32	R31, R54, R55
82mm Mortar [1]	**18**	0	6	25	25	6	2F	-	4	R, I, S, P	37	R36
82mm Mortar [2]	**33**	0	6	25	25	6	2F	-	6	R, I, S, P	37	R36
82mm Mortar [3]	**48**	0	6	25	25	6	2F	-	8	R, I, S, P	37	R36
Cavalry 82mm Mortar [2]	**34**	0	6	25	25	5	8F	-	-	R, I, S, P	37	
120mm Mortar [2]	**110**	2	9	48	48	4	0	-	8	R, I, S, M6	38	R68
120mm Mortar [3]	**162**	2	9	48	48	4	0	-	8	R, I, S, M6	38	R68
SOVIET Rocket Artillery												
82mm Kat. BM-8-36/48 [4]	**98**	1	9	47	47	1	16W	-		R, I, S, SR4, M16	41	(R30)
132mm Kat. BM-13-16 [4]	**194**	3	11	68	68	1	16W	-		R, I, S, SR3, M25	41	R30, R54, R55
300mm Kat. BM-31-12 [4]	**133**	5	14	34	34	1	16W	-		R, I, SR3, M11	44	(R30)
SOVIET Infantry Close Support Artillery												
BT-7a	**58**	1	5	34	34	[1]	15T	-	-		36	
T-28a (76L16)	**46**	1	5	25	25	[3]	10T	-	-		33	
T-28b (76L26)	**61**	1	5	34	34	[5]	10T	-	-		34	R29
T-28c/e (76L26)	**65**	1	5	34	34	[7]	7T	-	-		40	R29
SU-122	**83**	3	8	30	30	[8]	10T	-	-	R	43	R8
KV-II	**81**	4	9	20	40	[10]	9T	-	-		39	R4
SU-152	**69**	4	9	20	20	[8]	9T	-	-	R	43	R28
ISU-152	**77**	4	9	20	20	[12]	10T	-	-	R	44	R35
SOVIET Anti-Aircraft Guns												
4 x 7.62mm AAMG Truck	**13**	0	6	1	8	1	18W	-	-		41	R44
7.62mm AAMG	**11**	0	4	1	8	4	1F	-	4	P	39	
12.7mm AAMG	**12**	1	4	5	10	4	1F	-	4	P	38	
37mm AAG	**24**	4	6	12	12	3	0	-	6		39	R47
76mm AAG	**45**	7	5	20	20	2	0	-	10		38	
85mm AAG	**56**	9	6	20	20	2	0	-	10		39	(G14)
M17 MGMC	**40**	1	8	10	10	[3]	16T	-	-	U	43	R39

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
SOVIET Armoured Cars / Recon												
White Scout Car	**15**	1	3	10	10	[1]	16W	6	-	U	42	US59
BA-20	**11**	0	4	0	5	[1]	16W	-	-		36	R53
BA-10	**20**	5	3	10	5	[1]	16W	-	-		34	R45
BA-64	**16**	0	4	0	5	[1]	20W	-	-		42	R14
Universal Carrier	**19**	0	4	1	5	[1]	14T	6	-	U, R	39	UK98
SOVIET Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	39	R64, R49, R60, R61
Infantry '39	**11**	0	5	0	5	6	3F	-	8	P	39	R64, R49, R60, R61
Infantry L '41	**10**	1	3	0	5	6	3F	-	8	P	41	R64, R49, R60, R61
Infantry M'42	**11**	1	4	0	5	6	3F	-	8	P	42	R64, R49, R60, R61
Infantry '43–'45	**12**	1	6	0	5	6	3F	-	8	P	43	R64, R49, R60, R61
Infantry SMG	**11**	1	6	0	3	6	3F	-	8	P	41	R48
Infantry MMG '39	**15**	0	4	1	10	6	3F	-	8	P	41	R36, R49, R61
Infantry Support L '44	**15**	1	4	1	10	6	3F	-	8	P	44	R36, R49, R61
ATR Infantry	**13**	2	3	4	8	6	3F	-	8	P	41	R64
Motorized Infantry '40	**12**	1	5	0	5	6	3F	-	8	P	40	
Motorized SMG L '43	**11**	1	7	0	3	6	3F	-	8	P	43	
Desant Infantry L '43	**11**	1	6	0	3	6	3F	-	8	P	43	
Motorized MMG	**13**	0	3	1	10	6	3F	-	8	P	42	
Recon Infantry	**12**	0	5	0	5	6	4F	-	8	P	42	
Motorcycle Infantry '39	**22**	0	4	1	5	6	20W	-	-	P	39	(G141)
Motorcycle Infantry '42	**22**	0	4	7	5	6	25W	-	-	P	39	(G141)
Cavalry Headquarters	**20**	0	4	0	5	5	8F	-	-	P	39	R32
Cavalry	**11**	1	4	0	5	5	8F	-	-	P	39	R32
Cavalry Support	**14**	0	4	1	10	5	8F	-	-	P	39	R32
Taczanka	**13**	0	5	1	10	3	6F	-	-		39	(P12)
SOVIET Transports												
GAZ 67 (Jeep)	**4**	-	-	-	-	3	25W	4	-		39	R12
Light Truck (Dodge 3/4T)	**7**	-	-	-	-	1	25W	6	-		42	US39, US54, US87
Light Truck (Dodge 1.5T)	**8**	-	-	-	-	1	25W	8	-		42	US38, US9
Light Truck (GAZ AA 1T)	**7**	-	-	-	-	1	21W	6	-		39	R42
Light Truck (GAZ AAA 1.5T)	**8**	-	-	-	-	1	20W	8	-		39	R42
Med Truck (Studebaker)	**10**	-	-	-	-	1	22W	10	-		42	R22
Med Truck (Zis 5 3T)	**11**	-	-	-	-	1	18W	12	-		39	R43
Hvy Truck (YAG 10 8T)	**12**	-	-	-	-	1	12W	16	-		39	
Lt Tractor (T20 Kons.)	**6**	-	-	-	-	1	10T	4	-		37	R38
Med Halftrack (Zis 42)	**13**	-	-	-	-	1	14T	10	-		42	R57
Med Tractor (STZ5)	**12**	-	-	-	-	1	10T	10	-		37	(G71)
Hvy Tractor (Voroshilovits)	**16**	-	-	-	-	1	10T	14	-		31	
Hvy Tractor (CHTZ 65, STZ2)	**14**	-	-	-	-	1	2T	14	-		37	R31, R19

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Weapons Data: UK / COMMONWEALTH

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
UK/ COMMONWEALTH Tanks												
Mk VI	**23**	1	4	5	5	[1]	16T	-	-		36	UK36
A-9	**27**	5	3	10	5	[3]	8T	-	-		37	UK37
A-10	**29**	5	3	10	5	[4]	8T	-	-		38	UK38
A-11 (Matilda I)	**18**	0	3	1	5	[6]	3T	-	-		37	UK95
A-12 (Matilda II)	**35**	5	3	10	5	[8]	6T	-	-		40	UK4
A-13	**28**	5	3	10	5	[2]	11T	-	-		38	UK39
Valentine II–VII (2 lbr)	**33**	5	3	10	5	[6]	8T	-	-		41	UK18
Valentine IX (6 lbr)	**41**	6	3	15	5	[6]	8T	-	-		42	UK25
Churchill II (III–IV 6 lbr)	**46**	6	4	15	5	[9]	6T	-	-		42	UK10
Churchill VII (75mm)	**78**	7	5	20	20	[12]	6T	-	-		44	UK55
Churchill “Crocodile”, Hull	**80**	9F	9F	1	1	[9]	6T	-	-	R, T	44	(UK55)
Churchill “Crocodile”, Turret		7	5	20	20			-	-	T		
Crusader I & II	**33**	5	3	10	5	[4]	12T	-	-		40	UK29
Crusader III	**41**	6	3	15	5	[4]	12T	-	-		42	UK30
Ram II (Canada)	**43**	6	3	15	5	[6]	10T	-	-		41	
Cromwell I	**45**	6	4	15	5	[6]	12T	-	-		43	
Cromwell IV	**74**	7	5	20	20	[7]	12T	-	-		44	UK20
Comet	**84**	10	5	20	20	[7]	10T	-	-		45	UK23
Challenger	**104**	11	5	25	25	[6]	12T	-	-		43	UK21
M3 Honey	**41**	5	4	10	10	[4]	15T	-	-		41	UK11
M3 Lee/Grant (Hull 75mm)	**70**	7	5	20	20	[6]	10T	-	-	R, T	42	UK7
M3 Grant (Turret 37mm)		5	4	10	10			-	-	T	42	
Sherman Mk I, II, III	**72**	7	5	20	20	[7]	10T	-	-		42	UK16 & (US74)
Sherman Mk IIa, IIIa, IVa	**80**	9	5	20	20	[7]	10T	-	-		44	US23 & US96
Sherman Mk V	**80**	9	5	20	20	[7]	10T	-	-		42	UK57, UK65
Sherman “Firefly”	**106**	11	5	25	25	[8]	10T	-	-		44	UK58
Tetrach	**30**	5	3	10	5	[1]	15T	-	-		41	
UK/ COMMONWEALTH Anti-Tank Guns												
25mm ATG (Fr.)	**9**	3	1	7	5	5	1F	-	4	R, P	39	UK64
37mm ATG (Bofors)	**13**	4	2	7	10	5	1F	-	4	R, P	41	UK79
37mm Portee ATG	**14**	4	2	10	5	4	16W	-	-	R^1	39	UK48
2 lbr (40mm) ATG	**14**	5	1	10	5	4	0	-	6		39	UK48
2 lbr Portee ATG	**15**	5	1	10	5	1	16W	-	-	R^2	41	UK80
6 lbr (57mm) ATG	**28**	6	4	15	15	4	0	-	8	R	42	UK45
6 lbr Portee ATG	**32**	6	4	15	15	1	16W	-		R^1	43	UK97
Deacon	**33**	6	4	15	15	[2]	9W	-	-	R^2	42	
T-48 GMC	**44**	6	3	15	15	[2]	15T	-		R, U	43	R40
17 lbr ATG	**71**	11	5	25	25	4	0	-	8	R	43	UK63
Achilles	**102**	11	5	25	25	[6]	10T	-	-	U	44	UK15
Archer	**90**	11	5	25	25	[6]	8T	-	-	R^1, U	44	UK53

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
UK/ COMMONWEALTH Artillery												
3" Mortar [1]	**16**	0	6	20	20	6	2F	-	4	R, I, S, P	39	UK44, UK74, UK76
3" Mortar [2]	**28**	0	6	20	20	6	2F	-	6	R, I, S, P	39	UK44, UK74, UK76
3" Mortar [3]	**40**	0	6	20	20	6	2F	-	8	R, I, S, P	39	UK44
3" Mortar [1] (Bren Carrier)	**21**	0	6	20	20	[1]	15T	-	-	R, I, S, U	39	UK98
4.2" Mortar [2]	**67**	1	9	32	32	5	0	-	8	R, I, S, M6	42	(UK44)
18 lbr Gun [2]	**133**	2	6	81	81	4	0	-	8	R, I, S	36	
25 lbr Gun/Howitzer [2]	**177**	2	7	97	97	4	0	-	8	I, S	42	UK49, UK68, UK69
25 lbr Gun/How (as ATG)		6		10				-			42	UK49, UK68, UK69
Sexton [2]	**187**	2	7	97	97	[6]	10T	-	-	R, I, S, U	43	UK56
Bishop [2]	**185**	2	7	97	97	[5]	8T	-	-	R, I, S, U	42	UK19
3.7" Mtn Howitzer [2]	**80**	2	7	43	43	4	0	-	6	R, I, S	17	
4.5" Mk I Howitzer [2]	**106**	2	8	52	52	2	0	-	10	R, I, S	39	
4.5" Gun [2]	**261**	2	8	144	144	1	0	-	12	R, I	38	(UK66)
5.5" Mk 3 Gun/How [2]	**257**	3	9	118	118	2	0	-	12	R, I, S	39	UK66, UK68, UK69
6" Howitzer [2]	**220**	4	9	84	84	1	0	-	12	R, I	36	
7.2" Mk I Howitzer [2]	**342**	4	10	135	135	1	0	-	14	R, I	39	UK72, UK68, UK69
UK/ COMMONWEALTH Infantry Close Support Artillery												
A-9 (Close Support, "CS")	**62**	1	7	30	30	[3]	8T	-	-		37	
A-10 (CS)	**64**	1	7	30	30	[4]	8T	-	-		38	
A-12 Matilda II (CS)	**46**	1	5	20	20	[8]	6T	-	-		40	
A-13 (CS)	**64**	1	7	30	30	[2]	11T	-	-		38	
Churchill AVRE	**114**	6	15	20	20	[12]	6T	-	-		44	UK32
Churchill VIII	**78**	1	7	30	30	[12]	6T	-	-		44	
Crusader (CS)	**44**	1	5	20	20	[4]	12T	-	-		40	
Cromwell (CS)	**75**	1	7	30	30	[6]	15T	-	-		45	
Sherman IIB	**73**	2	8	60	60	[7]	10T	-	-	I	42	
UK/ COMMONWEALTH Armoured Cars / Recon												
Rolls Royce	**13**	0	4	1	5	[1]	22W	-	-		36	UK92
Marmon-Herrington Mk II	**11**	0	4	1	5	[1]	16W	-	-		41	UK31
Marmon-Herrington 20mm	**13**	2	4	5	5	[1]	16W	-	-	R, U	41	(UK31)
Marmon-Herrington Mk IV	**19**	5	2	10	5	[1]	16W	-	-		43	
Morris	**12**	1	4	5	5	[1]	17W	-	-		38	
Humber Mk II	**16**	1	4	5	5	[2]	22W	-	-		41	UK52
Humber Mk IV	**24**	5	3	10	5	[2]	22W	-	-		44	UK47
Daimler "Dingo"	**16**	0	3	1	5	[3]	22W	-	-	U	39	UK50
Daimler A/C	**22**	5	2	10	5	[2]	20W	-	-		42	UK46
A.E.C. I	**23**	5	2	10	5	[3]	18W	-	-		41	UK22
A.E.C. II	**43**	6	4	15	15	[4]	16W	-	-		43	UK90
A.E.C. III	**61**	7	5	20	20	[4]	16W	-	-		44	UK91
Staghound I	**43**	6	4	15	15	[3]	24W	-	-		43	UK34
L.R.D.G. 30 cwt Truck	**16**	0	4	0	10	1	24W	4	-		40	UK82
SAS Jeep	**17**	0	4	1	10	2	22W	4	-		44	UK86
"Wasp" Flamethrower	**17**	9F	9F	1	1	[1]	13T	-	-	R	39	UK98
Carrier Scout '40	**18**	1	8	1	5	[1]	14T	4	-	R, U	39	UK98
Carrier Scout '43	**21**	5	9	1	5	[1]	14T	4	-	R, U, D4	39	UK98

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
UK/ COMMONWEALTH Armored Personnel Carriers												
Universal Carrier	**14**	0	4	1	5	[1]	14T	4	-	R, U	39	UK98
"Kangaroo"	**17**	0	4	1	10	[5]	10T	8	-	U	44	UK81
M5 Halftrack	**19**	0	3	1	10	[2]	20T	8	-	U	43	UK33, UK35
C15 TA	**8**	0	0	0	0	[1]	20W	6	-	U	43	UK41
UK/ COMMONWEALTH Anti-Aircraft Guns												
Dual .303 AAMG	**11**	0	5	1	8	4	0	-	4		40	
20mm AAG	**17**	2	6	10	10	3	0	-	4		44	
4x 20mm Polsten AAG	**22**	2	9	10	10	2	0	-	8		44	
40mm (Bofors) AAG	**24**	4	6	12	12	3	0	-	6		39	UK54
3.7" AAG	**82**	9	6	30	30	2	0	-	14		39	UK79
Staghound AA (2x .50)	**24**	1	5	5	10	[3]	24W	-	-	U	43	
40mm AAG on Morris	**31**	4	6	12	12	2	18W	-	-		44	
Vickers Mk VI AA (4x .30)	**26**	0	6	1	8	[2]	12T	-	-		42	UK36
Crusader Mk I AA (40mm)	**44**	4	6	12	12	[4]	12T	-	-	U	43	
Crusader Mk II AA (2x 2cm)	**36**	2	6	10	10	[4]	12T	-	-		44	
UK/ COMMONWEALTH Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	39	UK96
Infantry '39	**10**	0	4	0	5	6	3F	-	8	P	39	UK59, UK96, UK73, UK75
Infantry '41	**11**	1	4	0	5	6	3F	-	8	P	42	UK59, UK96, UK73, UK75
Infantry '43	**13**	5	5	1	5	6	3F	-	8	P	43	UK59, UK44
Motor Infantry '40	**11**	1	4	0	5	6	3F	-	8	P	39	UK59, UK96, UK73, UK75
Motor Infantry '43	**13**	5	5	1	5	6	3F	-	8	P, D5	39	UK59, UK96, UK73, UK75
Infantry Support	**14**	0	4	1	10	6	3F	-	4	P	39	UK44, UK60, UK74, UK76
Motorcycle Infantry	**17**	1	5	0	5	6	20W	-	-	P	39	
Paratroopers '42	**12**	2	5	0	5	6	3F	-	8	P	42	UK83
Paratroopers '43	**13**	5	5	1	5	6	3F	-	8	P, D5	43	UK84, UK44
Engineers '39–'42	**11**	2	4	0	5	6	3F	-	8	P	39	UK59, UK60
Engineers '43	**13**	5	5	1	5	6	3F	-	8	P, D5	43	UK59, UK60
Cavalry	**11**	0	4	0	5	5	8F	-	-	P	39	
UK/ COMMONWEALTH Transports												
Car, Humber Snipe	**6**	-	-	-	-	1	30W	4	-		39	
Car, Humber Utility "Tilly"	**5**	-	-	-	-	1	22W	4	-		41	
Light Truck, 15 cwt	**7**	-	-	-	-	1	20W	6	-		39	UK28, UK42
Light Truck, 30 cwt	**9**	-	-	-	-	1	20W	8	-		39	UK88
Medium Truck, 3-ton	**10**	-	-	-	-	1	20W	10	-		41	UK89, UK52, UK24, UK26
Heavy Truck, 4-ton	**11**	-	-	-	-	1	16W	12	-		41	UK94
Heavy Truck, 10-ton	**13**	-	-	-	-	1	12W	16	-		44	
Hvy Tractor, Matador, etc.	**12**	-	-	-	-	1	11W	14	-		39	UK66, UK72
Crusader Prime Mover	**18**	-	-	-	-	[1]	13T	14	-	U	44	
UK/ COMMONWEALTH Boats												
LCA	**12**	0	4	0	3	1	(6A)	10	-	R	39	
LCM 1	**22**	0	4	0	3	2	(4A)	20	-		41	
LCM 3	**23**	0	4	0	3	3	(6A)	20	-		41	
LCT Mk4	**70**	5	1	10	5	4	(4A)	60	-		41	

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Weapons Data: UNITED STATES

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
US Tanks												
M3 Stuart	**41**	5	4	10	10	[4]	15T	-	-		42	US4
M5 Stuart	**43**	5	4	10	10	[5]	15T	-	-		43	US28
M3 “Satan”	**35**	9F	9F	1	1	[4]	15T	-	-		44	(US4)
M3 Lee, Hull 75mm	**70**	7	5	20	20	[6]	10T	-	-	R, T	42	US2
M3 Lee, Turret 37mm		5	4	10	10			-	-	T		
M4 Sherman	**72**	7	5	20	20	[7]	10T	-	-		42	US90, US97, US74
M4A1 Sherman 76	**76**	9	5	20	20	[7]	10T	-	-		44	US23, US96
M4A3E2 “Jumbo”	**77**	7	5	20	20	[10]	9T	-	-		44	US22
M4A3E8 “Easy Eight”	**82**	9	5	20	20	[8]	10T	-	-		44	US1
M4 “Zippo”	**45**	9F	9F	1	1	[7]	9T	-	-		44	US90, US97, US74
M24 Chaffee	**77**	7	5	20	20	[7]	15T	-	-		44	US34
M26 Pershing	**104**	11	7	20	20	[11]	10T	-	-		45	US32
LVTA1	**32**	5	4	10	10	[2]	10T/3A	-	-		42	US45
US Anti-Tank Weapons												
37mm ATG	**21**	5	4	8	8	5	1F	-	4	R, P	40	US94
57mm ATG	**33**	6	4	15	15	4	0	-	6	R	41	US49
76mm (3”) ATG	**51**	9	5	20	20	3	0	-	8	R	43	US88
M6 GMC (37mm)	**23**	5	4	10	10	3	16W	-	-	R^1	42	
M3 GMC	**68**	7	5	20	20	[3]	14T	-	-	R, U	42	US65
M10 Wolverine	**78**	9	5	20	20	[6]	10T	-	-	U	43	US21
M18 Hellcat	**78**	9	5	20	20	[3]	16T	-	-	U	44	US43
M36 Jackson	**90**	11	6	20	20	[6]	10T	-	-	U	44	US24, US17
US Artillery												
75mm Pack How [2]	**84**	1	5	67	67	5	1F	-	4	R, I, S	27	US61
T30 HMC (75mm) [3]	**126**	1	5	64	64	[2]	15T	-	-	R, I, S, U	42	US62
81mm Mortar [2]	**36**	0	6	26	26	6	2F	-	6	R, I, S, P	41	US41
81mm Mortar [3]	**51**	0	6	26	26	6	2F	-	8	R, I, S, P	41	US41
M4 MMC [1]	**27**	0	6	26	26	[3]	16T			R^1, I, S	44	US57
M4 MMC [2]	**43**	0	6	26	26	[3]	16T			R^1, I, S	44	US57
M21 MMC [1]	**27**	0	6	26	26	[3]	16T			R, I, S	44	US57
M21 MMC [2]	**43**	0	6	26	26	[3]	16T	-	-	R, I, S	44	US57
M21 MMC w/ Bazooka [2]	**44**	5	6	1	26	[3]	16T	-	-	R, I, S, D8	44	US57
4.2” Mortar [2]	**71**	1	9	34	34	4	0	-	8	R, I, S, M5	42	
105mm M2A1 How. [2]	**181**	2	8	89	89	3	0	-	10	R, I, S	42	US8, US85, US86
105mm M2A1 How. [3]	**270**	2	8	89	89	3	0	-	10	R, I, S	42	US8, US85, US86
105mm Pack How. [2]	**124**	2	8	61	61	3	0	-	6	R, I, S	43	
T19 HMC (105mm) [3]	**278**	2	8	89	89	[3]	14T	-	-	R, I, S, U	42	US64
M7 Priest (105mm) [2]	**187**	2	8	89	89	[4]	9T	-	-	R, I, S, U	43	US5

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Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
US Artillery, continued												
M7 Priest (105mm) [3]	**276**	2	8	89	89	[4]	9T	-	-	R, I, S, U	43	US5
155mm M1 How [2]	**258**	4	9	120	120	2	0	-	12	R, I, S	42	US10, US80, US85, US86
155mm M1 Long Tom [2]	**588**	4	9	188	188	2	0	-	12	R, I, S	42	US68, US71, US85, US86
M12 HMC (155mm) [3]	**509**	4	9	160	160	[4]	9T	-	-	R, I, U	44	US27
203mm M1 How. [2]	**390**	4	11	135	135	1	0	-	14	R, I	42	US79, US85, US86
240mm M1 How. [2]	**561**	5	13	184	184	1	0	-	16	R, I	43	
5” Naval Guns [1]	**303**	4	10	216	216	-	-	-	-	I	42	
6” Naval Guns [1]	**292**	5	12	171	171	-	-	-	-	I	42	
8” Naval Guns [1]	**577**	6	14	288	288	-	-	-	-	I	42	
US Infantry Close Support Artillery												
M8 HMC (75mm)	**61**	1	5	40	40	[4]	15T	-	-	U, S	42	US29
M4 105mm [1]	**133**	2	8	60	60	[7]	10T	-	-	S	42	US75
LVTA4 (75mm)	**56**	1	5	40	40	[2]	10T/3A	-	-	U, S	44	US48
US Anti-Aircraft Weapons												
.50 cal AAMG	**12**	1	4	5	10	5	0	-	4		42	
M13 MGMC (2x .50 cal)	**33**	1	5	5	10	[3]	15T	-	-	U	42	
M16 MGMC (4x .50 cal)	**38**	1	8	5	10	[3]	15T	-	-	U	42	US55
40mm AAG M1 (Bofors)	**23**	4	6	12	12	2	0	-	8		42	
M15 A1 MGMC (37mm)	**43**	3	6	12	12	[3]	15T	-	-	U	42	US63
M15 “Special” (40mm)	**45**	4	6	12	12	[3]	15T	-	-	U	42	US66
M1A1 90mm AAG	**83**	9	6	30	30	2	0	-	12		42	
US Armoured Cars / Recon												
M20 Armoured Car	**18**	1	4	5	10	[2]	16W	-	-	U	43	US20
M8 Greyhound	**27**	5	4	10	10	[2]	16W	-	-	U	43	US19
Jeeps w/ HMG	**17**	1	4	5	10	3	18W	-	-		42	US11
M3 Halftrack w/ MMG	**32**	0	4	1	10	[3]	18T	-	-	U	42	US51, US52, US56, US53
M3 Halftrack w/ HMG	**33**	1	4	5	10	[3]	18T	-	-	U	42	US51, US52
T8 Recon Stuart	**32**	1	4	10	10	[4]	15T	-	-	U	44	US78
US Armoured Personnel Carrier												
Halftrack “Various Marks”	**36**	0	4	1	10	[3]	20T	8	-	U	42	US51, US52, US56, US53
M3 Scout Car	**17**	1	4	5	10	[1]	16W	6	-	U	42	US59
LVTA2 “Water Buffalo”	**23**	1	4	5	10	[1]	10T/3A	10	-	U	43	US44
US Personnel												
Infantry HQ	**20**	0	3	0	5	6	3F	-	8	P	42	US76, US95, US77
Infantry HQ ‘44	**22**	5	3	1	5	6	3F	-	8	P, D8	44	US76, US95, US77, US41
Infantry ‘42	**11**	1	4	0	5	6	3F	-	8	P	42	US76, US95, US77
Infantry ‘44	**13**	5	5	1	5	6	3F	-	8	P, D6	44	US76, US95, US77, US41
Infantry Support/MMG ‘42	**15**	0	4	1	10	6	3F	-	8	P	42	US77
MMG ‘44	**16**	5	4	1	10	6	3F	-	4	P, D8	44	US77, US41
Armoured Infantry ‘42	**11**	1	4	0	5	6	3F	-	8	P	42	US76, US95, US77
Armoured Infantry ‘44	**13**	5	6	1	5	6	3F	-	8	P, D5	44	US76, US95, US77, US41
Paratrooper ‘42	**12**	1	5	0	5	6	3F	-	8	P	42	US92, US93, US41
Paratrooper ‘43	**13**	5	5	1	5	6	3F	-	8	P, D6	42	US92, US93, US41
Paratrooper ‘45	**15**	5	7	1	5	6	3F	-	8	P, D5	45	US92, US93, US41

NOTE SYMBOLS

- **R** = Must obey facing restrictions
- **R1** = Weapons may only fire through rear arc
- **R2** = May engage targets to all sides except front
- **I** = May engage in indirect fire
- **U** = Open-top armoured vehicle
- **S** = Capable of firing smoke rounds
- **P** = Defense value halved when in movement posture
- **T** = Two/multiple guns, only 1 may fire/turn
- **M#** = Minimum range = #
- **SR#** = May fire once every # of turns
- **D#** = If unmodified CRT roll is less than #, stand is out of AP ammo

Weapon	Points	Firepower AP	Firepower HE	Range AP	Range HE	Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
US Personnel, continued												
Glider Infantry	**13**	5	5	1	5	6	3F	-	8	P, D6	43	US92, US41
Glider Support	**15**	0	4	1	10	6	3F	-	4	P	42	US93, US41
Ranger HQ	**20**	0	3	0	5	6	4F	-	8	P	42	US76, US95, US77
Ranger '42	**12**	1	6	0	5	6	4F	-	8	P, D6	42	US76, US95, US77
Ranger '43	**14**	5	6	1	5	6	4F	-	8	P, D6	44	US76, US95, US77
Marine '42	**11**	1	4	0	5	6	3F	-	8	P	42	
Marine '43	**13**	5	5	1	5	6	3F	-	8	P, D6	43	
Marine '44	**15**	5	7	1	5	6	3F	-	8	P, D5	44	
Marine '45	**14**	5	6	1	5	6	3F	-	8	P, D6	45	
Marine Assault '45	**15**	5	7	1	5	6	3F	-	8	P, D4	45	
Marine MMG/Support '42	**15**	0	4	1	10	6	3F	-	4	P	42	
Marine MMG '43	**17**	0	5	1	10	6	3F	-	4	P	43	
Marine MMG '44	**19**	0	6	1	10	6	3F	-	6	P	44	
US Transports												
Jeep	**6**	-	-	-	-	3	25W	4	-		42	US11
Light Truck, 3/4 Ton	**7**	-	-	-	-	1	25W	6	-		42	US39, US54, US87
Light Truck, 1/2 Ton	**9**	-	-	-	-	1	25W	8	-		42	US38, US9
MediumTruck, 2–3 Ton	**10**	-	-	-	-	1	22W	10	-		42	US7, US37
Heavy Truck, 4–10 Ton	**12**	-	-	-	-	1	16W	14	-		42	US70
Med Tractor M5	**15**	-	-	-	-	1	15T	12	-		42	US80
Amphibious Jeep	**6**	-	-	-	-	3	18W/2A	4	-		42	US67
DUKW	**13**	-	-	-	-	1	15W/3A	14	-		42	US42
M29 Weasel	**6**	-	-	-	-	3	10T/2A	4	-		42	US69
LVT 2	**24**	1	4	5	10	1	10T/3A	12	-		42	
LTV 4	**25**	1	4	5	10	1	10T/3A	16	-		43	
US Boats												
LCVP	**12**	0	4	0	3	1	(7A)	10	-	R	42	US46
LCM Mk3	**19**	1	4	1	3	3	(6A)	20	-		42	US47
LCT Mk5	**35**	2	6	5	10	[4]	(7A)	30	-	R	42	US155

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T = Two/multiple guns, only 1 may fire/turn
M# = Minimum range = #
SR# = May fire once every # of turns
D# = If unmodified CRT roll is less than #, stand is out of AP ammo

Weapons Data: ALL NATIONS

Weapon	Points	Firepower		Range		Def	Mov Points	Cargo Cap	Tran Req	Notes	Year	Models
		AP	HE	AP	HE							
Non-Motorized Transport												
Horse-drawn Wagon/Sled	**6**	-	-	-	-	1	3F	8	-		19	G75, G146
Horse-drawn Small Limber	**3**	-	-	-	-	2	3F	4	-		19	P10
Horse-drawn Light Limber	**5**	-	-	-	-	1	3F	6	-		19	
Horse-drawn Medium Limber	**8**	-	-	-	-	1	3F	10	-		19	G501
Horse-drawn Heavy Limber	**9**	-	-	-	-	1	3F	12	-		19	
Mules/Pack Horse	**3**	-	-	-	-	2	3F	4	-		19	
Mules/Pack Horse	**4**	-	-	-	-	1	3F	6	-		19	
Pack Camels	**5**	-	-	-	-	1	3F	6	-		19	
Pack Elephants	**6**	-	-	-	-	1	2F	8	-		19	
Porters	**3**	-	-	-	-	6	3F	4	-	P	19	

NOTE SYMBOLS

- **R** = Must obey facing restrictions
- **I** = May engage in indirect fire
- **U** = Open-top armoured vehicle
- **S** = Capable of firing smoke rounds
- **P** = Defense value halved when in movement posture
- **T** = Two/multiple guns, only 1 may fire/turn
- **M#** = Minimum range = #
- **SR#** = May fire once every # of turns
- **D#** = If unmodified CRT roll is less than #, stand is out of AP ammo

INTRODUCTION TO THE AIRCRAFT DATA

The aircraft data tables represent a wide array of ground attack aircraft used during this period. Each column of the chart details a different aspect of a specific stand's performance in the game.

AIRCRAFT: The name and/or model of the weapon system. Some aircraft are featured with multiple ordnance or weapons configurations. In these cases a number in parentheses has been added after the name to denote the configuration. For example, "P47D Thunderbolt (1)" and "P47D Thunderbolt (2)."

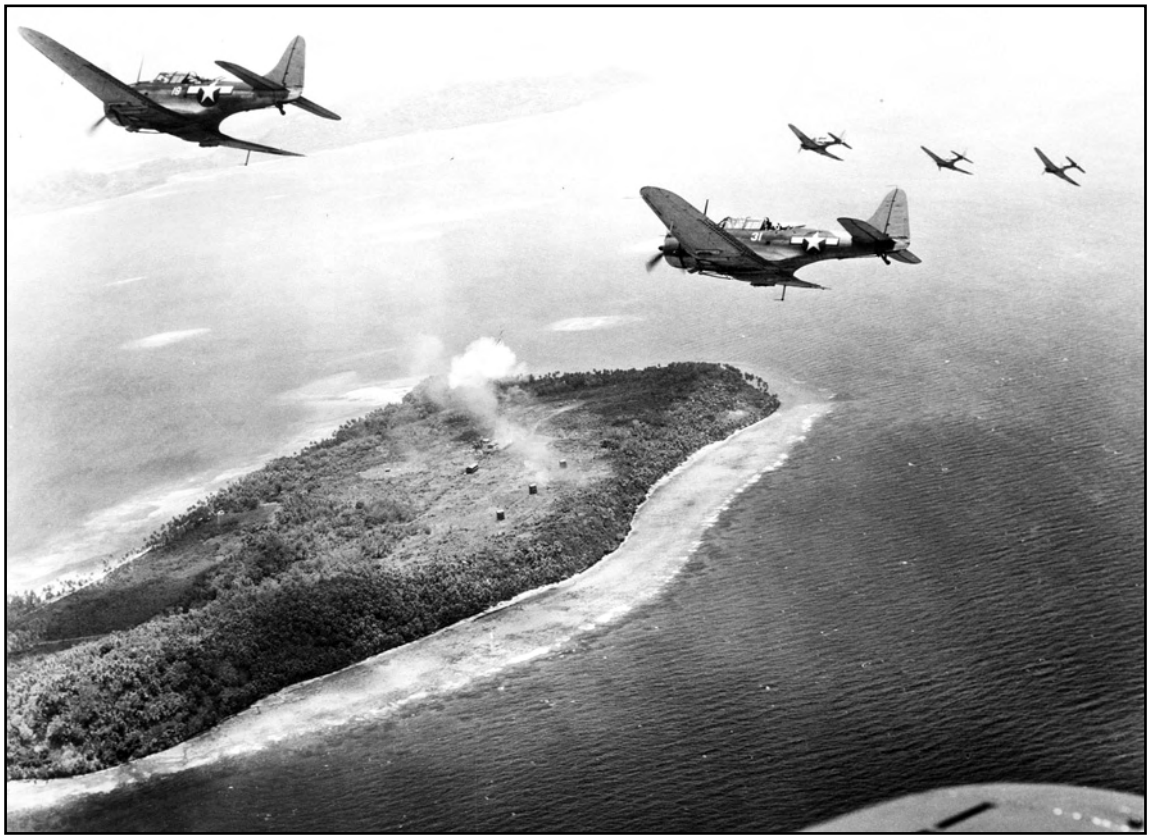
POINTS: A comparative value or "price" for the stand. To be used while designing scenarios as a means of "balancing" scenarios.

STRAFING: When conducting the "strafing" attack use these firepower values. As with standard "ground based" weapons, there are two firepower values presented: an "armour piercing" firepower (AP), and a "high explosive," or in this case, "gun and cannon" firepower (HE). The "AP" firepower is used when firing at armoured vehicle stands. The "HE" firepower is used for all other attacks.

ORDNANCE: If present, this value represents the strength of ordnance, such as bombs, or rockets. The standard "AP" and "HE" values are given.

ORDNANCE LOAD: This is the number of ordnance attacks a particular aircraft may conduct per game. Some aircraft carried enough weaponry to make two attacks of different strengths. In these instances there are two lines for the aircraft with each ordnance load value in parentheses, e.g. (1)

YEAR: The time span in which the weapon was in widespread service.



AIRCRAFT DATA

Aircraft	Points	Strafing		Bombing		Ord. Load	Year
		AP	HE	AP	HE		
FRANCE							
Breguet Br.693	**36**	2	5	5	8	1	39–42
Potez 63.11	**27**	0	1	4	6	1	38–42
GERMANY							
Focke-Wulf FW-190 A-8	**25**	4	6	-	-	-	41–45
Focke-Wulf FW-190 D-9	**38**	4	6	5	8	1	
Junkers Ju87 B-1 (Stuka)	**41**	0	2	3	6	(1)	39–42
				4	6	(1)	
Junkers Ju87 D-1 (1)	**46**	0	2	5	8	2	41–45
Junkers Ju87 D-1 (2)	**33**	3	5	3	6	1	41–45
Junkers Ju87 G-1	**26**	5	6	-	-	-	43–45
Henschel HS-129 B2 (1)	**45**	3	6	2	6	2	42–45
Henschel HS-129 B2 (2)	**24**	4	5	-	-	-	42–45
Henschel HS-129 B3	**30**	9	5	-	-	-	44–45
Messerschmitt Bf 109 G-6 (1)	**32**	2	5	3	6	1	42–45
Messerschmitt Bf 109 G-6 (2)	**34**	4	5	3	6	1	42–45
Messerschmitt Bf 109 G-6 U4	**33**	3	5	3	6	1	42–45
Messerschmitt Bf 110 C-1	**22**	3	6	-	-	-	37–45
Messerschmitt ME410	**46**	3	5	3	6	2	43–45
ITALY							
Fiat C.R. 42 (Falcon)	**42**	1	2	2	5	1	39–45
Macchi M.C. 200 (Thunderbolt)	**36**	1	2	1	5	2	39–45
Re.2002	**45**	1	4	5	8	(1)	42–45
				2	6	(1)	
JAPAN							
Mitsubishi Ki 30 (Ann)	**38**	0	2	2	6	2	38–41
Mitsubishi Ki 51 (Sonia)	**27**	0	2	2	6	1	39–45
Kawasaki Ki 48 (Lily)	**36**	0	1	7	14	1	40–45
Kawasaki Ki 45 Kai-B (Nick)	**25**	4	6	-	-	-	41–45
Nakajima Ki 84 (Frank)*	**47**	3	6	3	6	2	43–45
Aichi D3A (Val)	**27**	0	2	3	6	1	40–45
Mitsubishi A6M (Zero)	**42**	3	6	1	5	2	40–45
Kawanishi N1K-J Shiden (George)	**48**	4	6	3	6	2	43–45
POLAND							
PZL P.11	**16**	0	3	-	-	-	32–39
PZL.23 Karas	**35**	0	2	6	12	1	36–45

* Although it is a different plane, these same stats may be used for the Kawasaki Ki-67 “Tony” as well.

AIRCRAFT DATA

Aircraft	Points	Strafing		Bombing		Ord. Load	Year
		AP	HE	AP	HE		
SOVIET UNION							
Polikarpov I-16	**37**	3	5	5	8	1	34–42
Lavachkin La-5 FN	**31**	3	5	1	5	2	42–45
Yakolev Yak-9T	**22**	4	5	-	-	-	42–45
Yakolev Yak-9B	**41**	2	4	2	6	2	44–45
Ilyushin IL-2 M3 (1)	**46**	3	5	3	6	2	41–45
Ilyushin IL-2 M3 (2)	**43**	3	6	5	2	2	43–45
Ilyushin IL-2 M3 (3)	**44**	5	6	1	5	2	43–45
Polikarpov Po 2	**34**	0	1	1	5	2	29–45
Petlyakov Pe-2	**49**	0	2	5	10	2	41–45
P-39 Airacobra D1	**22**	2	5	-	-	-	42–43
P-39 Airacobra N	**48**	4	6	3	6	1	43–45
A-20 Boston III/Havoc	**39**	0	3	7	15	1	41–44
A-20G Havoc	**43**	1	6	7	15	1	43–45
UNITED KINGDOM							
Fairey Battle	**42**	0	1	5	8	(1)	36–41
				3	6	(1)	
Hawker Hurricane IIC	**48**	4	6	3	6	2	41–45
Hawker Hurricane IID or IV (1)	**26**	5	6	-	-	-	42–45
Hawker Hurricane IV (2)	**41**	0	2	4	6	2	43–45
Hawker Hurricane IV (3)	**40**	0	2	3	6	2	43–45
Hawker Typhoon IB (1)	**48**	4	6	3	6	2	41–44
Hawker Typhoon IB (2)	**54**	4	6	5	8	2	42–45
Hawker Typhoon IB (3)	**49**	4	6	4	6	2	42–45
Supermarine Spitfire XIV (1)	**42**	3	6	1	5	2	44–45
Supermarine Spitfire XIV (2)	**41**	3	5	1	5	2	44–45
P-40C Warhawk	**43**	1	4	3	6	2	41–43
Vultee Vengeance	**44**	0	3	5	8	(1)	41–44
				3	6	(1)	
Bristol Blenheim	**30**	0	1	5	8	1	37–44
Bristol Beaufighter	**56**	5	7	5	8	2	40–45
A-20 Boston III / Havoc	**39**	0	3	7	15	1	41–44

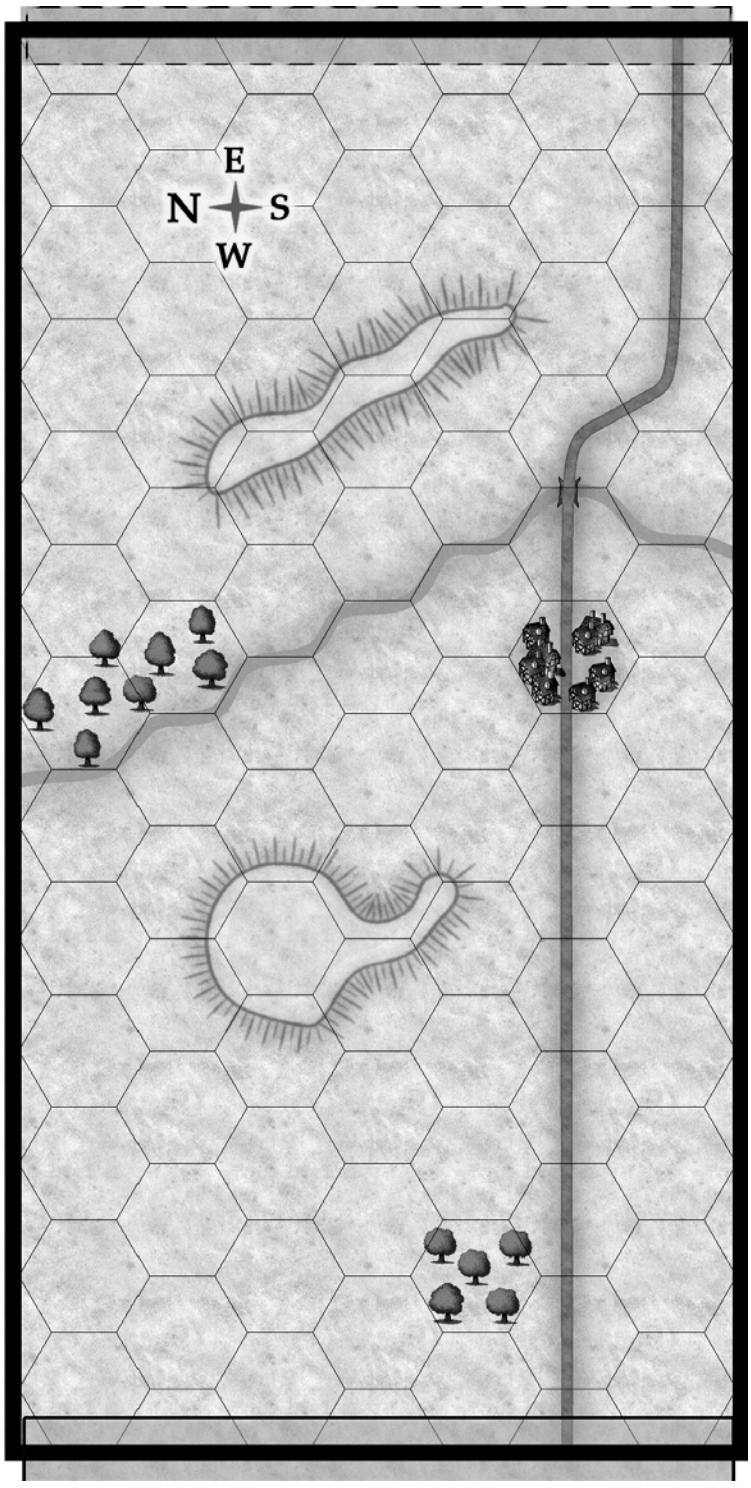
AIRCRAFT DATA

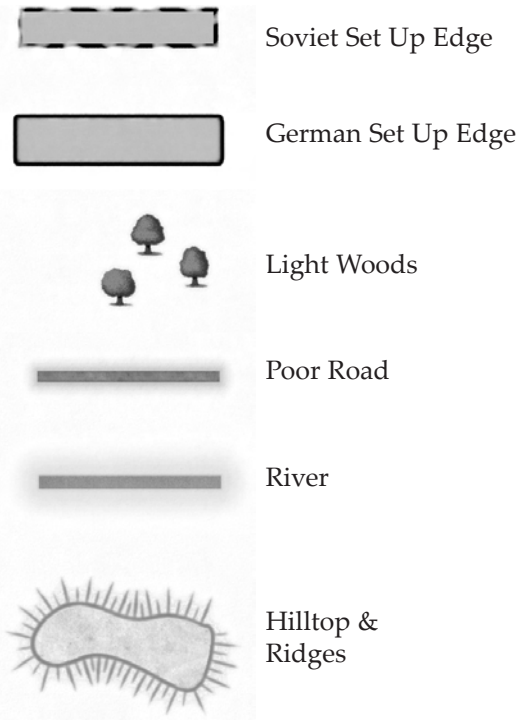
Aircraft	Points	Strafing		Bombing		Ord. Load	Year
		AP	HE	AP	HE		
UNITED STATES							
P-39 Airacobra N	**48**	4	6	3	6	1	42–45
P-40C Warhawk	**43**	1	4	3	6	2	41–43
P-40E Kittyhawk	**45**	1	6	3	6	2	42–45
P-38F Lightning	**51**	2	5	5	8	2	42–45
P-38L Lightning	**66**	2	5	7	15	2	44–45
P-47C Thunderbolt	**35**	2	8	3	6	1	43–45
P-47D Thunderbolt (1)	**48**	2	8	3	6	2	43–45
P-47D Thunderbolt (2)	**57**	2	8	5	10	2	43–45
A-20 Boston III / Havoc	**39**	0	3	7	15	1	41–44
A-20G Havoc	**43**	1	6	7	15	1	43–45
P-51D Mustang (1)	**51**	1	6	5	8	2	44–45
P-51D Mustang (2)	**54**	1	6	5	10	2	44–45
F4U-1C Corsair (1)	**54**	4	6	5	8	2	42–45
F4U-1C Corsair (2)	**40**	4	6	5	10	1	42–45
F4U-1D Corsair (1)	**51**	1	6	5	8	2	42–45
F4U-1D Corsair (2)	**54**	1	6	5	10	2	42–45
F6F-5 Hellcat	**67**	3	5	7	15	2	43–45
SBD-5 Dauntless	**39**	1	2	7	15	1	40–43
SB2C Hell Diver	**60**	3	5	7	15	(1)	42–45
				5	8	(1)	

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

INTRODUCTORY SCENARIO

"Max Jones"(the Russian player) and "Terry Reilly"(the German player) are playing a "Meeting Engagement" scenario from the "Eastern Front" in early 1943. The Point Base is 1025 and the players agree on a "Force Cohesion Level" 15 for the Germans and 13 for the Soviets. Therefore, the Germans receive 1025 points and the Soviets 1183.





INTRODUCTORY SCENARIO

GERMANS
"Generic" Kampfgruppe

Cohesion = 15

1 x Command Center: = 203 Points
- 1 x GHQ (+1)
- 1 x Light Truck
- 1 x SdKfz 7/2 37mm AAG

1 x Medium Tank Co.: = 320 Points
- 4 x PzIV F2

1 x PzJager Company: = 246 Points
- 3 x STuG IIIF

1 x Grenadier Co(-): = 148 Points
- 2 x Infantry '43
- 1 x Infantry '43 (FO)
- 2 x SdKfz 251/1
- 1 x SdKfz 251/10
- 1 x SdKfz 251/9

1 x Heavy Mortar Btty: = 108 Points
- 1 x 120mm Mortar [2] Off-Map

Total: (Cohesion 15) = 1025 Points

SOVIETS
"Generic" Task force

Cohesion = 13

1 x Command Center: = 90 Points
- 1 x GHQ (+0)
- 1 x Heavy Truck

1 x Medium Tank Battalion: = 649 Points
- 1 x T-34C (HQ)
- 6 x T-34C
- 1 x T-34C [R]
- 1 x BA-64 (FO) [R]

1 x Heavy Tank Company: = 70 Points
- 2 x KV-1 M41

1 x Independent ATG Battery: = 196 Points
- 1 x 76mm Divisional Gun [3]

1 x Submachine Gun Company(+): = 72 Points
- 3 x SMG Infantry
- 1 x SMG Infantry (FO)
- 1 x Infantry Support
- 1 x 82mm Mortar [1]

1 x Rocket Launcher Battery: = 133 Points
- 1 x 300mm Kat BM-31-12

Total: (Cohesion 13) 1183 Points

SCENARIO LENGTH - 10 TURNS

INITIAL DEPLOYMENT
Germans enter the map from one narrow edge, the Soviets from the opposite edge.

TERRAIN SUGGESTIONS
- The map should be approximately 24"x 48".
- Terrain is "Mixed": Maximum sighting distance - 20"
- 10 - 30% of the playing surface should be features.

VICTORY CONDITIONS
Destroy 50% or more of the opposing stands while losing less than 50% of your own stands.

NOTE
For this introductory scenario, the points totals for the sub units and force totals are shown.

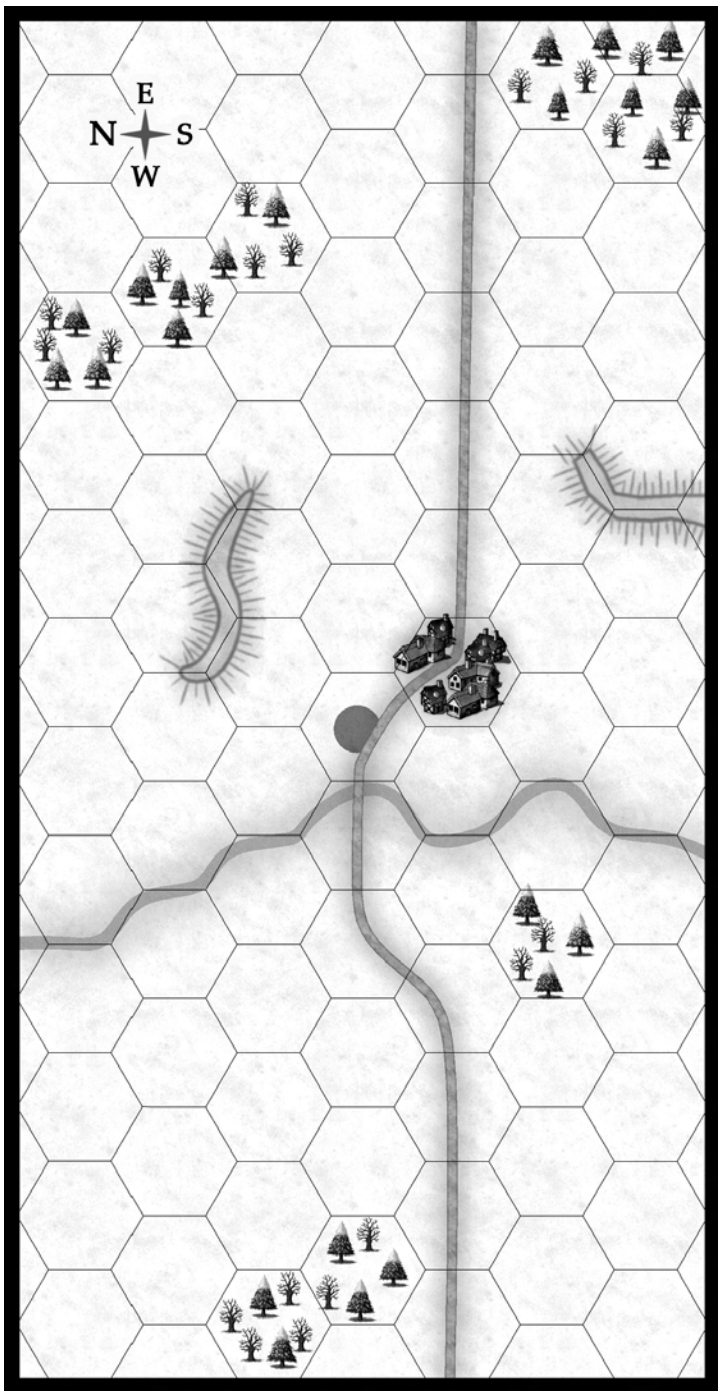
HISTORICAL NOTE
Meeting engagements were never common in World War II, but they make great game situations.

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

STATE FARM #79

Stalingrad - December 1942

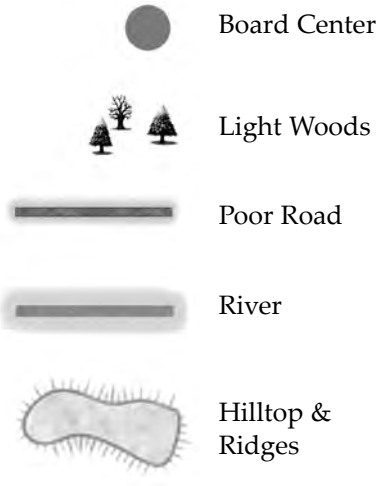
The German counterattacks aimed at the relief of Stalingrad were desperate and, in the end, fruitless. The large battles have been documented extensively. The small ones though less well known, were just as desperate. Take the efforts of the 48th Panzer Corps along the Chir River. The battle for "State Farm #79" was as hard fought as any on the Eastern Front; even if it was fought ten miles east of the farm itself.



SCENARIO LENGTH - 14 TURNS

TERRAIN

- The map should be approximately 24"x 48".
- Terrain is "Mixed": Maximum sighting distance - 20"
- 10 - 30% of the playing surface should be features.
- A road should run as shown on the map.



STATE FARM #79

GERMANS

Cohesion = 15

110th Panzer Grenadier Regt.
& 15th Panzer Regiment
11th Panzer Division

Kampfgruppe HQ:	1 x GHQ (+0) (FO)
	1 x Light Truck
Assault Gun Co.:	3 x STuG IIIF
Combat Engineer Co.:	3 x Engineer
	3 x SdKfz 251/7
Panzer Grenadier Bttn:	1 x HQ(FO)
	7 x Infantry '43
	7 x SdKfz 251/1
	2 x SdKfz 251/2 [1]
	3 x SdKfz 251/9
	1 x SdKfz 251/10
	1 x 75mm PaK 40 ATG
	1 x 120mm Mortar [2]
	2 x Light Tractor
Panzer Battalion:	1 x Pz II L(HQ)
	6 x Pz III J
	2 x Pz III G
	2 x Pz IV F2
	1 x Pz IV F1
Artillery Support:	3 x 105mm IFH18 [2] Off-Map
	1 x 150mm sFH18 [2] Off-Map

SOVIETS

Cohesion = 13

25th Inf. Brigade
1st Tank Corps

Regimental HQ:	1 x Infantry
	1 x GHQ (+1) (FO)
	1 x SU-76
	2 x Light Truck
Submachine Gun Bttn.:	1 x HQ (FO)
	6 x SMG Infantry
	1 x 45mm ATG
	2 x Infantry Support
	1 x 82mm Mortar [3]
	1 x Light Truck
Independent ATG Bttn.:	3 x 76mm Divisional Gun (3)
Artillery Support:	1 x 122mm How. [3] Off-Map
	1 x 152mm How. [3] Off-Map

13 x Light Improved Positions
35 x Barbed Wire

14 x Mines	5 x Dispersed
	4 x Standard
	5 x Concentrated

INITIAL DEPLOYMENT

The Soviets deploy their forces east of the river, facing west, 12 inches or less from map-center.

The German forces enter the west edge of the map on turn 4. Troops may be "mounted" in vehicles as desired.

VICTORY CONDITIONS

German Marginal Victory - Germans must occupy the town by the end of turn 14.

German Tactical Victory - Germans must occupy the road where it exits off the east side of the map by the end of turn 14 and occupy the town.

Soviet Marginal Victory - Soviets must occupy the road as above.

Soviet Tactical Victory - Soviets must occupy the town at the end of turn 14.

SPECIAL RULES

1. Before any stands are placed on the map, the Germans must secretly select one target for each of their off-map artillery batteries. These targets must be east of the river. This artillery fire commences on turn 1.

   The Soviets then select one target for each of their off-map artillery batteries. These targets must be west of the river.

2. The Soviets may not fire any weapons until turn five (5). At this time, in addition to any other fire, they must fire with their off-map weapons under the same restrictions and penalties as the Germans, above.

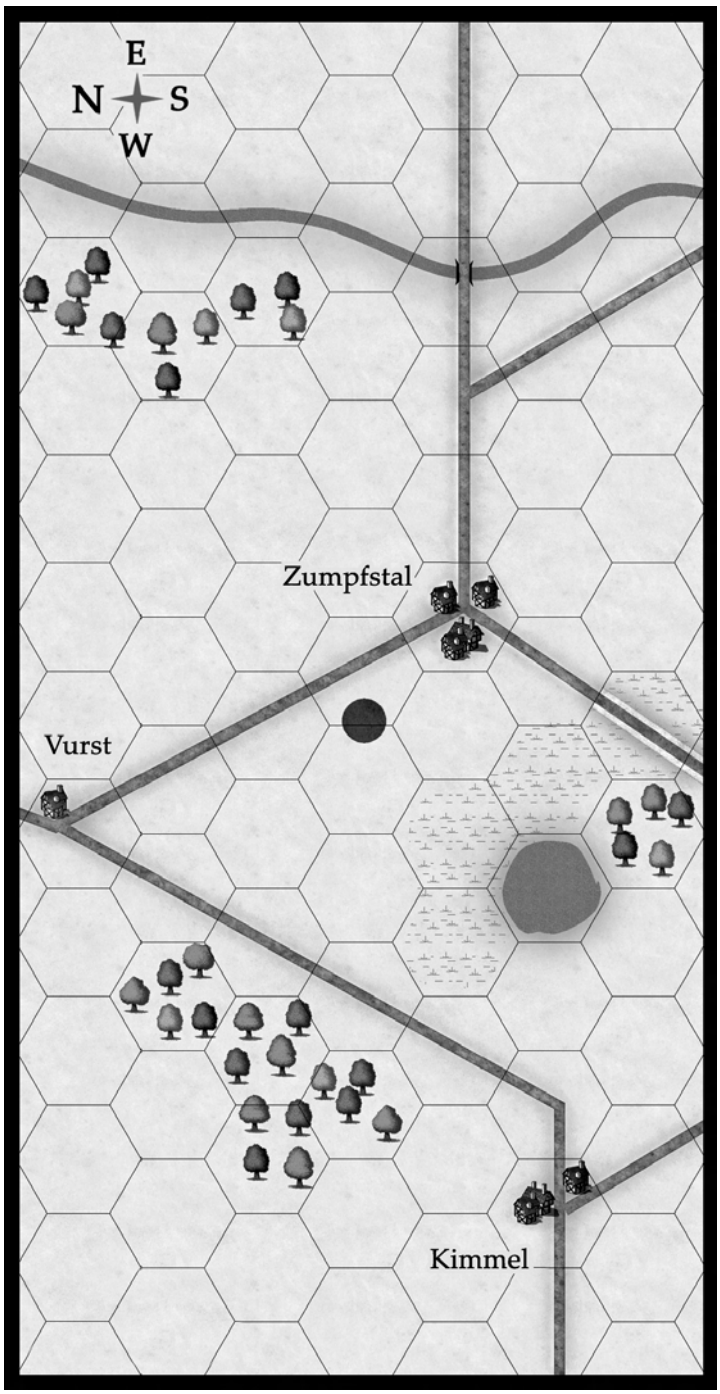
3. German may "turn off" their off-map artillery by making a successful cohesion roll at the end of two (2) consecutive turns.

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

A COSTLY SETBACK

Oosterbeek, Holland - September 1944

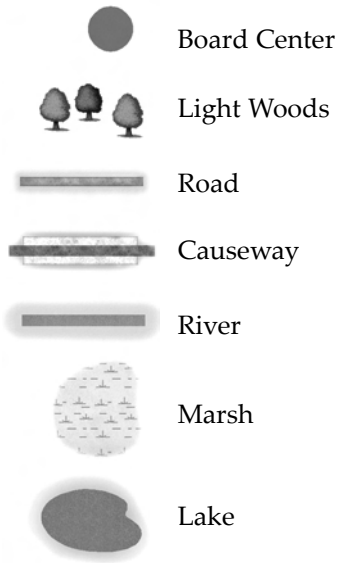
Operation "Market-Garden," the Allied attempt to seize a bridge across the Rhine before the advent of Winter, 1944, got off to a good start but things went downhill rather quickly. This scenario depicts part of the landing of the British 1st Airborne Division, the "Red Devils" near Oosterbeek. It includes their initial assault on German positions around their initial landing zone, and their attempt to hold off the 10th SS Panzer Division's subsequent counterattack.



SCENARIO LENGTH - 20 TURNS

TERRAIN

- The map should be approximately 24"x48" or 8 square feet.
- Basic terrain is "Mixed": Maximum sighting distance is 20."
- Terrain consists of a small lake with marshy ground extending around its North and East banks, three wood lots, and a stream running North to South.
- There are three villages; Vurst in the north, Kimmel to the west, and Zumpfstal near the center of the map.
- There is a "causeway" leading across the marsh SW of Zumpfstal. (Village names are fictitious, and for ID purposes only.)



A COSTLY SETBACK

GERMANS

Cohesion = 13

INITIAL FORCES
16th SS Training Battalion:
1 x Motorized PzGren Bttn HQ
7 x Motorized PzGren Infantry '44
1 x 81mm Mortar(1)
1 x MMG Support
2 x FlaK 36 88mm Guns
8 x Standard Minefields
6 x Light Improved Positions
2 x Medium Improved Positions

COUNTER ATTACK GROUP
Elements 9th Panzer Division
Armoured PzGren Command Group: 1x PzGren Bttn HQ (GHQ)
1x SdKfz 251/1 (or SdKfz 251/3)
1x SdKfz 7/2 37mm FlaK 36

Pz Jaeger Co: 3 x STuG IIIF

Arm. PzGren Bttn: 1 x PzGren HQ w/ SdKfz 251/10
5 x Arm. PzGren Infantry '44-45 w/SdKfz 251/1
2 x SdKfz 251/2 [1]
1 x SdKfz 251/9

Off Map: 1 x 105mm lFH 18 [2]

INITIAL DEPLOYMENTS

First the British secretly write down the location of their "Initial Drop Zone" and "Primary Drop Zones (2)". See included map. Then the Germans deploy their initial forces on the map at their discretion. See included map. Play begins in the Movement Phase of turn 1.

VICTORY CONDITIONS- BOTH SIDES

Occupy all three villages at the end of turn 20.

BRITISH

Cohesion = 16

INITIAL LANDING
Paratroop Battalion
Group 1: 1 x Para. Bttn. HQ, 3 x Paratroop '44

Group 2: 3 x Paratrooper '44, 1 x 3" Mortar [2]

Group 3: 3 x Paratrooper '44, 1 x 3" Mortar [2], 1 x Airborne Engineer '44

MAIN LANDING:
Air Landing (AL) Command Group
Group 1: 1 x AL Infantry HQ (GHQ) [+0], w/ Jeep
1 x AL Infantry '44 w/ Jeep w/HMG

1st Battalion
Group 2: 1 x AL Infantry HQ, 3 x AL Infantry, 1 x MMG Support

Group 3: 3 x AL Infantry, 1 x Airborne Engineer, 1 x MMG Support

Group 4: 3 x AL Infantry, 1 x 6lbr w/Jeep, 1 x 3" Mortar [3] w/Jeep or Carrier

Group 5: 3 x AL Infantry, 1 x 6lbr w/Jeep, 1 x 3" Mortar [3] w/Jeep or Carrier

Group 6: 3 x AL Infantry, 1 x Recon Infantry [R] w/Jeep w/MMG

2nd Battalion
Group 1: 1 x AL Infantry HQ, 3 x AL Infantry, 1x MMG Support

Group 2: 3 x AL Infantry, 1 x Airborne Engineer,
1 x MMG Support

Group 3: 3 x AL Infantry, 1 x 6lbr w/Jeep, 1 x 3" Mortar [3] w/Jeep or Carrier

Group 4: 3 x AL Infantry, 1 x 6lbr w/Jeep, 1 x 3" Mortar [3] w/Jeep or Carrier

Group 5: 3 x AL Infantry, 1 x Recon Infantry [R] w/Jeep w/MMG

A COSTLY SETBACK

UNIT NAME	POINTS	FIREPOWER		RANGE		DEFENSE	MOV. PTS., TYPE	CARGO CAP.	TRANS. REQ.	NOTES
		AP	HE	AP	HE					
GERMANS										
Mot. PzGren Bttn. HQ '44	18	0	3	0	3	6	3F	-	8	P
Mot. PzGren Inf '44 training	**13**	6	5	1	5	6	3F	-	8	P
81mm Mortar [1]	**17**	0	6	21	21	6	2F	-	4	R, I, S, P
MMG Support	**17**	0	4	1	10	6	3F	-	8	P
Flak 36 88mm AAG	**90**	10	6	30	40	3	0	-	10	
Arm. PzGren Regt. HQ (GHQ+0)	**40**	0	3	0	3	6	3F	-	8	P
SdKfz 251/1	**18**	0	6	1	5	[3]	15T	8	-	U
SdKfz 7/2 37mm AAG	**39**	4	6	12	12	1	14T	-	-	
Arm. PzGren Battalion HQ	**20**	0	3	0	5	6	3F	-	8	P
Arm. PzGren Platoon '44-'45	**15**	8	7	2	5	6	3F	-	8	P, D7
SdKfz 251/10	**17**	3	2	5	5	[3]	15T	8	-	U
SdKfz 251/2 [1] (81mm)	**24**	0	6	21	21	[3]	15T	-	-	R, I, S, U
SdKfz 251/9 (75L24)	**48**	1	5	27	27	[3]	15T	-	-	R, U
105mm IFH [2]	**248**	4	9	105	105	2	0	-	12	R, I, S
BRITISH										
Paratrooper HQ	**18**	0	3	0	3	6	3F	-	8	P
Paratrooper '44	**13**	5	5	1	5	6	3	-	8	P, D5
3" Mortar [2]	**28**	0	6	20	20	6	2F	-	6	P
Airborne Engineer	**20**	2	5	0	5	6	3F	-	8	P
Air Landing Infantry HQ (GHQ+0)	**36**	0	3	0	3	6	3F	-	8	P
Air Landing Infantry HQ '43	**18**	0	3	0	3	6	3F	-	8	P
Air Landing Infantry '44	**12**	5	4	1	5	6	3F	-	8	P, D5
MMG Support	**15**	0	4	1	10	6	3F	-	8	P
3" Mortar [3]	**40**	0	6	20	20	6	2F	-	6	P
Jeep	**6**	0	0	0	0	3	25W	4	0	
Jeep w/MMG	**15**	0	0	1	5	3	18W	4	0	
Jeep w/HMG	**20**	2	2	5	10	3	18W	4	0	
Universal Carrier	**14**	0	0	1	5	[1]	14T	6	0	R, U
Recon Infantry	**8**	0	0	0	3	6	4F	-	4	P

SPECIAL RULES

The German must deploy half his initial forces on the board first. These must be within 2 inches or less of the towns and each town must have at least one "defender."

The British player then secretly records his drop/landing zone points for his Parachute (3 groups) and Air Landing (5 groups each) Battalions. The German player now deploys the remainder of his initial forces as he wants.

Next, the British player deploys the Parachute Battalion (see 8.10.1 Paratroopers for procedure). The flight encounters AA en route and the jump occurs in daylight: for deviation purposes this jump is a "Milk Run."

The British cohesion level begins at 13. Before each subsequent turn the British player rolls for cohesion at his current level. If successful, the level goes up by 1. He does this each turn until his cohesion reaches 16. The German initial forces start with a cohesion level of 8. This is raised as described above until it reaches 13.

The game is played until the end of turn 10 as normal.

In turn 11, after the Joint Plot Phase but before the standard movement phase begins, the British player deploys the two Air Landing Battalions following the process in section 8.10.2.4. The flights encounter AA en route and the landings occur in daylight. For deviation purposes these landings are "Milk Runs."

After the deployments are completed the Movement Phase begins as usual. As per rule 8.10.2.4: the newly deployed glider borne forces may not move nor do they conduct marker removal checks this turn.

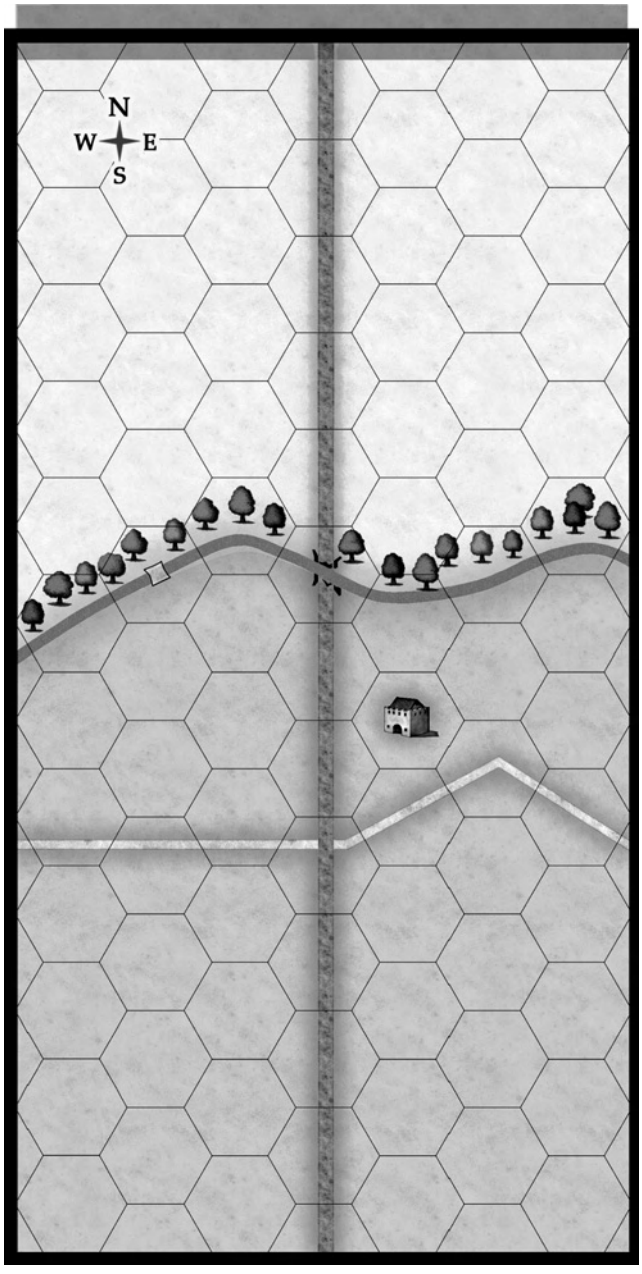
At the beginning of turn 12 the German player determines which turn and from which direction the "counter attacking force" will be able to enter the game map. He rolls 1D8/2. On a result of 1, the force enters on the road from the east end of the map on turn 12. On a result of 2, the force enters the on the road SE of Zumpfstal on turn 13. On a result of 3 the force enters on the "causeway" SW of Zumpfstal on turn 14. On a result of 4 the force enters on the road south of Kimmel on turn 15.

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

BLACK MONDAY

Salerno, Italy - September 13 1943

On September 9 1943, a combined British and American army invaded the Italian mainland. The Allied leaders had hoped that General Mark Clark's 5th Army landing near the port town of Salerno, combined with a drive up the southern Italian coastline by the British 8th Army, would compel all German forces to leave southern Italy. The Germans, however, were well prepared for the Allied landings at Salerno. The mechanized divisions of General der Panzertruppen Heinrich von Vietinghoff's 10th Army quickly concentrated towards the Allied landing sites and threatened to drive the 5th Army back into the sea before it could be relieved by Montgomery's 8th Army.



A series of German counterattacks, beginning on the 12th of September, threatened the precarious Allied beachhead. The German 10th Army commander, having discovered a gap between the Allied beachheads, believed that the Allies were preparing to abandon one or both. German forces launched a series of strong hasty attacks in order to capture or destroy as many Allied units as possible before they could complete their evacuation.

On September 13th, a German force comprised of two separate battle groups from the 16th Panzer and 29th Panzer Grenadier divisions overran two American infantry battalions in separate attacks. The combined German battle group was now poised to drive towards the American beach head. All that was present to stop them were 2 American artillery battalions, as well as a scratch force of infantry, a platoon of obsolete 37mm anti-tank guns, and a handful of tanks and tank destroyers.

SCENARIO LENGTH - 15 TURNS

TERRAIN SUGGESTION:

- The map should be approximately 24"x 48".
- Terrain is "Mixed": Maximum sighting distance - 20"
- 10 - 30% of the playing surface should be features.
- There is no road bridge over the river, previously blown.

BLACK MONDAY

Cohesion = 17

GERMANS
Kruger Battle Group
Kleine Limburg Group,

Battle Group HQ : 1 x GHQ (+1) (FO)
1 x Light Truck

Kruger Battle Group
1st Bn /71st PzGren Regiment:
Battalion HQ : 1 x Headquarters (FO)
1 x SdKfz 251/10
1 x SdKfz 251/9 (75L24)

3 x Co. : @ 3 x Infantry '43
@ 3 x SdKfz 251/1
@ 1 x SdKfz 251/2 [1] (81mm)
@ 1 x SdKfz 251/9 (75L24)

Heavy Co : 1 x 75mm ATG
1 x 120mm Mortar [2]
2 x Light Tractor

Rgt. Gun Co. / 71st PanzerGrenadier Regiment:
1 x 150mm sIG 33 PzII Bison

Rgt. Heavy Weapons Co. / 71st PzGren Regiment:
1 x 50mm ATG, 1 x 75mm IG (1)
2 x Light Truck
1 Co./2nd Pz. Rgt: 4 x PzIV F2

Kliene Limburg Group
16th Engineer Battalion
Battalion HQ : 1 X Headquarters (FO)
1 x SdKfz 251/10
1 x Kubelwagen (FO)

3 x Co. : @ 3 x Engineers '43
@ 1 x Infantry Support
@ 3 x Heavy Truck

Heavy Co : 1 x 50mm ATG, 1 x 75mm IG (1)
2 x Light Truck

1 Co./26th Recon Bn; 4 x SdKfz 231 8w (R)
1 x SdKfz 233 (75L24) 8w

1 Bttry/16th Art. Bn: 1x 105mm IFH18 [2] Off-Map

Cohesion = 14

US
158th & 189th Art. Bns

Task Force HQ : 1 x GHQ (+0) (FO)
1 x Jeep (FO)

Provisional battalion/158th & 189th Artillery Battalions
4 x '42 Infantry, 1 x 37mm ATG
1 x M4 Sherman
1 x M10 Wolverine

158th Field Artillery Bn: 3 x 105mm 2A1 How [2]
189th Field Artillery Bn: 3 x 155mm M1 How [2]

11 x Light Improved Positions

American Reinforcements:
Game Turn 7 anywhere along south end of map

27th Arm. Field Art. Bn: 1 x M7 Priest 105mm [3]

INITIAL DEPLOYMENTS

The American player may set up his units anywhere south of the river. The artillery battalions should be placed from 8 to 12 inches south of the river. The units of each artillery battalion should be placed adjacent to each other.

The German player enters the map with his forces on game turn 1 on the north edge of the map.

VICTORY CONDITIONS

The German player must exit 50% or more of his stands off the southern edge of the map by the end of turn 15. Any other result is an American victory.

SPECIAL RULES

1. Woods on the north side of the river are actually brush 100 yards (1 inch) deep. 100 yards (1 inch) is destroyed the instant any artillery fire lands on it. This actually happened in the battle, revealing concealed Germans behind the woods/brush!

2. The ford (see sketch map) is the only way for German units to cross the river. Treat the ford as Rough Terrain 3.

3. Optional rules to be used:
12.2.1 The Hot Shot!
12.2.3 The Communications Breakdown

PLAY BALANCE NOTES

Though it may seem that the Germans have a huge advantage, this scenario is a proper 2:1 ratio for a hasty attack. The real problem is getting the troops over the ford! Remember to use smoke. Also remember that two wreck counters will effectively block the ford.

One interesting variant would be to add a second ford, on the opposite side of the main road. This increases the tactical options for the attacking German forces, and the number of potential targets for the US artillery fire.

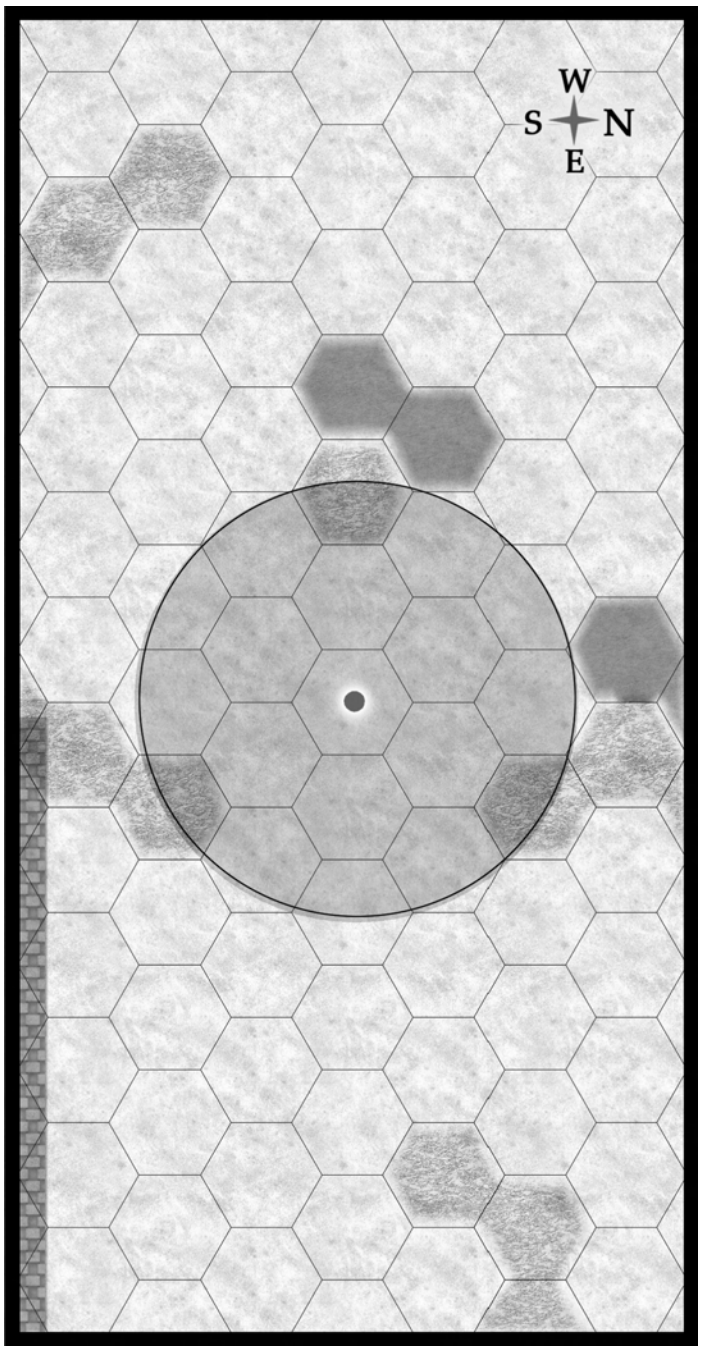
Historically, the Americans held the position, saving the beachheads from annihilation.

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

BIR EL GUBI

Libya - 18 November 1941

Cruisers of the "green" 22nd Armored Brigade mixed it up with the "Ariete" division near Bir El Gubi and were driven back after a costly struggle. The enthusiasm of the Yeomanry was no substitute for battle experience. They charged forward in a swirl of dust to be met by dug-in Italian anti-tank guns and supporting armor. But they had blocked the Italians from interfering with the 1st South African division as it moved along behind them in the direction of Sidi Rezegh.



SCENARIO LENGTH - 10 TURNS

TERRAIN SUGGESTIONS

- The map should be approximately 24"x 48".
- Terrain is "Mixed": Maximum sighting distance - 20"

Italian Set Up Area

British Set Up Area

Rough Terrain

Soft Sand

BIR EL GUBI

ITALIANS
Ariete Division

Cohesion = 12

1 x GHQ (+0)
13 x M13/40
4 x L6/40
6 x 47/32 M35 IG/ATG [2]
3 x Autoblinda 41
3 x 75/32 M37 Gun [2] Off-Map

7 x Light Improved Positions

BRITISH
22nd Armoured Brigade

Cohesion = 12

1 x MkVI GHQ (+1)
12 x Crusader II
3 x Crusader II CS

8 x M3 Honey

INITIAL DEPLOYMENT

Italians - Deploy within 10 inches of board center.

British - Arrive on turn one on any 10 contiguous inches on southern edge of map east of board center.

VICTORY CONDITIONS

British - Destroy 50% of Italian force without losing more than 50% of your own force.

Italians - Destroy 50% of British force without losing more than 40% of your own force.

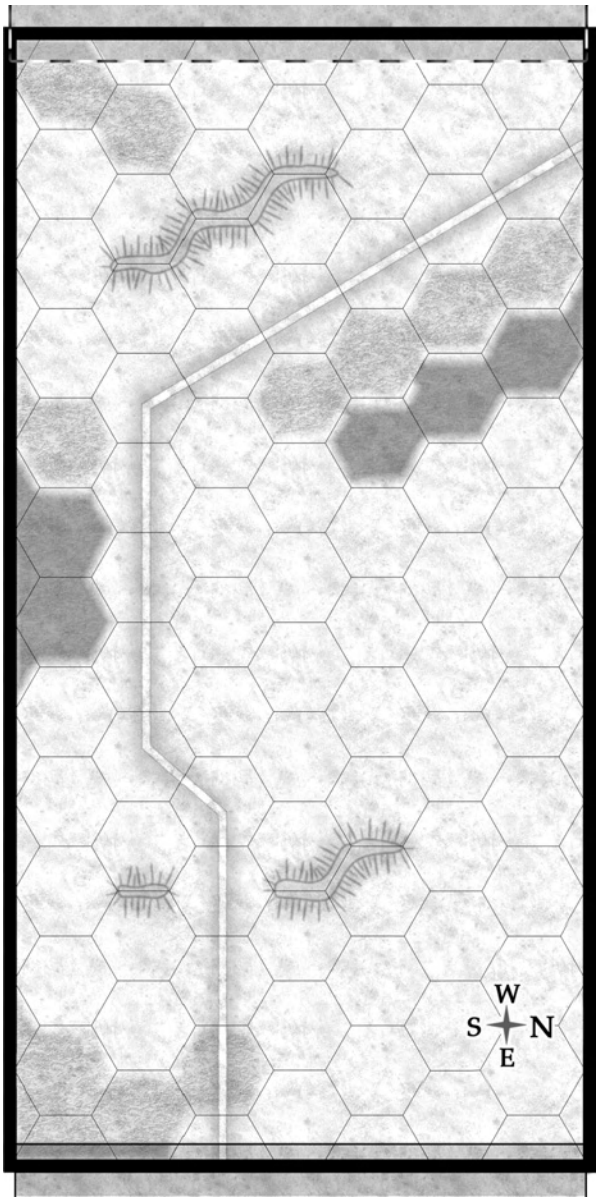
MICRO ARMOUR: THE GAME - WWII, 2nd Edition

THE RUN TO SIDI SULEIMAN

Western Desert - 14 June 1941

Things continued to sour as the third day of "Operation Battleaxe" dawned. The previous assault on Halfaya Pass had been stymied, as had the British flanking sweep onto Hafid Ridge.

This scenario replays General Creagh and the 7th Armored Division's running battle with the German 5th Light Division from the "Wire" to Sidi Suleiman. Again, the Desert Rats got the worst of it.



SCENARIO LENGTH - 12 TURNS

TERRAIN SUGGESTIONS:

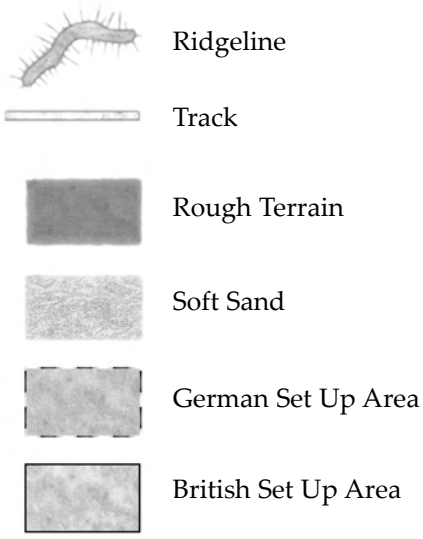
- The map should be approximately 24"x 48".
- Terrain is "Mixed": Maximum sighting distance - 20"
- 10 - 30% of the playing surface should be features.

INITIAL DEPLOYMENT

Both sides enter the playing surface on turn 1; German forces enter anywhere along west edge of map; British forces enter anywhere along east edge of map.

VICTORY CONDITIONS

For both sides: destroy 51% or more of enemy units while keeping 51% or more friendly units.



GERMANS — **Cohesion = 17**

1 x PzIIF (GHQ+1)
4 x PzIVE
16 x PzIIIG
2 x 105mm IFH18 [2]
2 x Heavy Truck

BRITISH — **Cohesion = 14**

1 x A-13 (GHQ+0)
4 x A-13
12 x A-10
3 x A-10/CS
12 x Crusader II
3 x Crusader CS

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

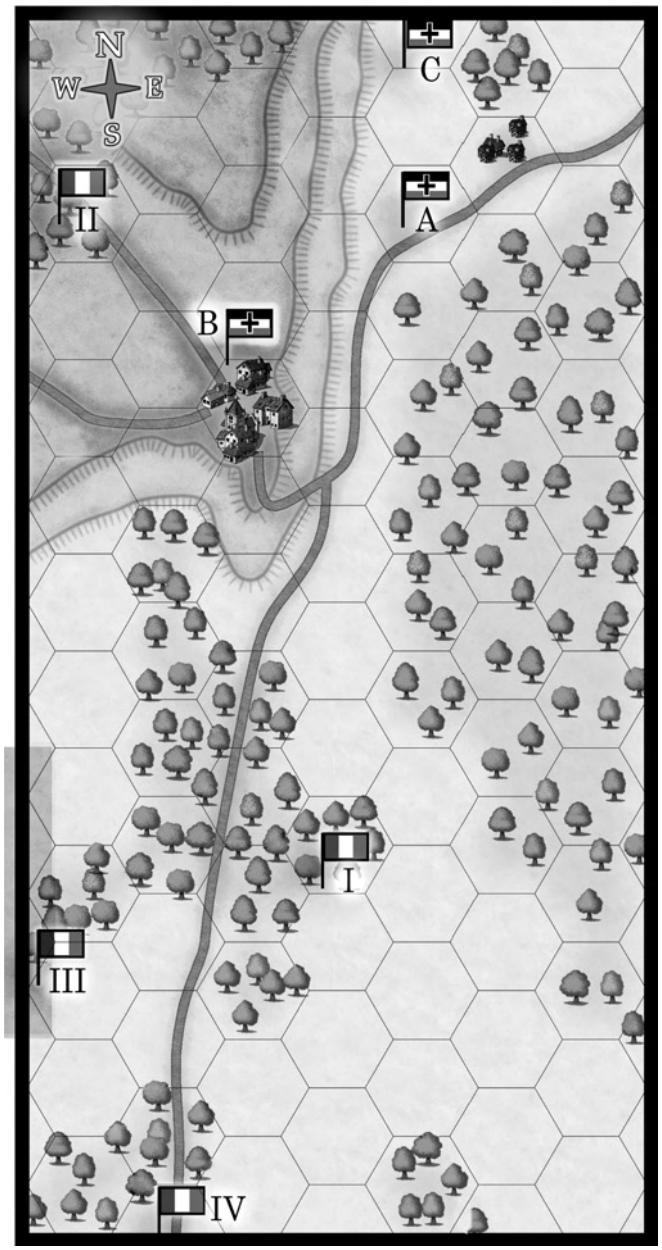
A THROW AT STONNE

South of Sedan, France - 15 May 1940

The town of Stonne, South and West of Sedan, assumed importance on May 14th, 1940, due to the fact that it lay on the exposed Southern flank of the tenuous German bridgehead across the Meuse at Sedan. Vast numbers of German troops were beginning to pour through the gap in the French lines. Infantry Regiment "Grossdeutschland" was tasked with the responsibility of insuring that the passage of these forces was not interfered with. The initial German assault met with spirited but ineffective resistance and the town was in their hands by 0700 Hrs. After a short period for reorganization, the first French counterattack began.

TERRAIN SUGGESTIONS

- The map should be approximately 24"x 48".
- Terrain is "Mixed": Maximum sighting distance - 20"
- 10 - 30% of the playing surface should be features.



SCENARIO LENGTH - 15 TURNS

INITIAL DEPLOYMENT

French: (Places stands first.)

1. 3rd Bn / 205th Regiment and Regt GHQ deploy 4" or less from the center of hex "I."

2. 6th Reconnaissance Group deploys 4" or less from the center of hex "II."

Germans: (Places stands second.)

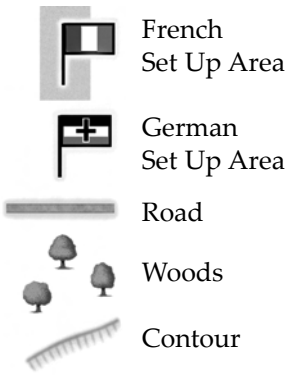
1. 1st Bn / "Grossdeutschland" Infantry Regiment deploys 4" or less from center of hex "A"

2. 2nd Bn / "Grossdeutschland" Infantry Regiment deploys 4" or less from center of hex "B" (Stonne).

3. 4th Bn / "Grossdeutschland" Infantry Regiment and Regimental GHQ deploy 4" or less from either point at German player's discretion.

VICTORY CONDITIONS

Germans and French - Occupy all of "Stonne" at the end of turn 15.



A THROW AT STONNE

GERMANS

Cohesion = 15

Infantry Regiment
"Grossdeutschland" (-)

Regimental HQ:	1 x GHQ (+2) (FO)
	1 x Heavy Truck
1st Battalion:	6 x Infantry '39, 3 x Support
	1 x 81mm Mortar [3]
2nd Battalion:	1 x HQ (FO), 8 x Infantry '39
	3 x Support
	1 x 81mm Mortar [3]
4th Battalion:	1 x 75mm IG [3]
	1 x 150mm sIG [1]
	3 x 37mm ATG, 3 x Lt. Truck
	1 x Heavy Truck
73rd Field Art. Bn:	3 x 105mm IFH18 [2] Off-Map
Reinforcements:	
43rd Pioneer Battalion:	1 x Headquarters
	9 x Engineer (Infantry)

FRENCH

Cohesion = 12

3eme Division Cuirassé

205th Inf. Regiment (-):	
Regimental HQ:	1 x GHQ (+0) (FO)
	1 x Medium Truck
3rd Battalion:	6 x Infantry
	3 x Support
	1 x 81mm Mortar [2]
6th Recon Group:	2 x AMD-178
	4 x Motorcycle Infantry
78th Field Art. Bn:	3 x 75L36 Canon M36 [2] Off-Map
Reinforcements:	
45th Tank Battalion:	12 x H-40
3rd Co / 49th Tank Bn:	3 x Char-B1(bis)
3rd Bn / 67th Inf. Regt:	1 x Headquarters (FO)
	9 x Infantry
	3 x Support
	1 x 81mm Mortar [2]
42nd Field Art. Bn:	3 x 75L36 Canon M36 [2] Off-Map

SPECIAL RULES

- French reinforcements arrive along the south edge of the map at area "III" on turn 2.
- German reinforcements arrive at west edge of upper hex at point "C" on turn 4.
- German off-map artillery may fire in any 4 consecutive turns. No other German off-map artillery fire is allowed.
- For a more historically accurate game, please see rule 7.8 “National Artillery Efficiency.”

DESIGNER'S NOTES

This scenario was inspired by the game “Grossdeutschland 1940” by The Gamers, Inc. I'd like to take this opportunity to "plug" this game as a truly superior effort by a first class publisher. My appreciation goes to Robert A. Doughty and his book The Breaking Point for the in-depth research, without which this scenario would have been much more difficult.

This battle admirably displays the weaknesses of the French army in 1940. They have a far superior force both numerically and in armament but have a great deal of difficulty bringing it to bear. The Germans have to pit their greater flexibility and cohesion against this superiority in order to win.

Neither side should allow itself to be distracted from the scenario's single objective.

MICRO ARMOUR: THE GAME - WWII, 2nd Edition

STARK RESISTANCE

Kasserine Pass - February 19, 1943

"Stark Resistance" depicts the second assault on February 19th, 1943 by the DAK Assault Group against "Stark Force", an ad hoc regimental-sized task force defending the pass. Led by Colonel Robert Stark, Stark Force consisted of a battalion of the 26th Infantry Regiment (Colonel Stark's original command) and a battalion of the 19th Combat Engineer Regiment (rear echelon troops devoid of heavy weapons). Supporting units included the 805th Tank Destroyer Battalion, the 33rd Field Artillery Battalion, and one battery of 75mm guns from the French 67th African Artillery.

The DAK Assault Group, temporarily commanded by General Karl Buelowius, consisted of two separate Kampfgruppes and elements of the 33rd Recon Battalion. Kampfgruppe Menton consisted of two battalions of panzer grenadiers and two batteries of the much feared 88mm anti-tank gun. Kampfgruppe Stotten consisted of the 1st Battalion of the 8th Panzer Regiment. The DAK Assault Group could also call on one battalion of 105mm howitzers and 1 battalion of Corps artillery.

Colonel Stark deployed the majority of his forces along the lower slopes of the pass with most of his infantry and some of the tank destroyers occupying hastily built improved positions. Unaware of the American dispositions, General Buelowius sent his forces barreling down the pass on both sides of the Hatab River, which effectively divided the pass in two. Intense American small arms, anti-tank, and artillery fire pinned down the German forces before they could close with the Americans. Stark Force repulsed this initial assault.

The American position in the pass was turned later that night by German units infiltrating the heights on either side of the American flanks. However, Stark Force had delayed the DAK Assault Group advance by a day and, in doing so, bought the Allies critical time to organize a defense further to the north and west of Kasserine Pass.

INITIAL DEPLOYMENT

A. Before play begins, both players may plot indirect fire for Game Turns 1 and 2 before any stands are placed on the table.

B. The US player deploys all of his forces first. All US stands belonging to the 1st /26th Infantry and 19th Engineer Regiment, and all minefields are placed west of and within 8 inches of their designated start lines (see sketch map).

C. All other US stands are placed per above.

D. All US minefields are placed west of and within 8 inches of either US designated start lines (see sketch map). Each road may have no more than 2 minefields placed along it.

E. The German player deploys his forces last. All German stands belonging to the 1st Battalion/ Afrika Regiment, 2nd Battalion/ Afrika Regiment placed east of and within 12 inches of their designated start lines (see sketch map).

F. All other German. stands are placed per above.

G. Maximum sighting distance is 30 inches.

H. Optional US Hidden Placement: All US minefields and stands occupying improved positions may be initially hidden. If the US player elects to use hidden placement, he is advised to record these positions on a fine grid paper, so that each grid represents 1 inch of terrain. The US player places a minefield on the board once a German stand enters it. The US player places a hidden stand on the board once it fires or whenever a German stand moves adjacent.

SCENARIO LENGTH - 20 TURNS

VICTORY CONDITIONS

There were 2 roads leading northwest from Kasserine Pass. One road led northwest from the pass towards the Tunisian town of Thala. The other road led northwest from the pass towards Tebessa, an important logistical center deep in the American rear. The DAK Assault Group was ordered to blow a hole through the American positions in the pass so that succeeding forces could exploit the breakthrough and head towards Thala, Tebessa, or both.

German Victory: Exit at least twelve (12) or more stands off either the north or west edge of the map by the end of turn 20. Suppressed and/or Disorganized stands may be used to fulfill this requirement. Empty transport stands do not count towards this requirement.

U.S. Victory: Eliminate 12 or more German stands before the German player achieves his victory conditions.

STARK RESISTANCE

GERMANS

Cohesion = 16

33rd Recon Battalion-
Place anywhere on map east of German frontline.

Battalion HQ:	1 x Infantry HQ (FO), 1 x Light Truck
Arm. Car Co: (R):	2 x SdKfz231/8rad, 3 x SdKfz222
PzGren Co:	2 x Infantry '39, 1 x Inf Support, 1 x 8cm Stummel Mortar (1), 3 x Heavy Truck
Arm. PzGren Co (R):	2 x Infantry'39, 2 x SdKfz251/1, 1 x 76.2mm ATG, 1 x Lt Tractor

Kampfgruppe Menton

Regt HQ- Place anywhere on map east of German frontline.
1 x Infantry HQ (+0 GHQ) (FO), 1 x Light Truck

1st Bttn/Afrika Regt- See sketch map for initial placement.

Battalion HQ:	1 x Infantry HQ (FO), 1 x Light Truck
#1Cos:	3 x Infantry '39, 1 x Infantry Support, 1 x 8cm Stummel Mortar (1)
#2 Co:	2 x Infantry '39, 1 x Infantry Support, 1 x 8cm Stummel Mortar (1)
#3 Co:	3 x Infantry '39, 1 x Infantry Support, 1 x 8cm Stummel Mortar (1)
Heavy Co:	1 x 50mm ATG, 1 x 120mm Mortar (2), 2 x Light Tractor

2nd Bttn/Afrika Regt- See sketch map for initial placement.

Battalion HQ:	1 x Infantry HQ (FO), 1 x Light Truck
#1 Co:	3 x Infantry '39, 1 x Infantry Support, 1 x 8cm Stummel Mortar (1)
#2 Co:	3 x Infantry '39, 1 x Infantry Support, 1 x 8cm Stummel Mortar (1)
Heavy Co:	1 x 50mm ATG, 1 x 120mm Mortar (2), 2 x Light Tractor

Infantry Gun Co/Afrika Regiment (place anywhere on map east of German frontline): 2 x 150mm SIG (Bison) (1)

33rd Anti-Aircraft Battalion (place anywhere on map east of German frontline): 2 x 88mm Flak 36, 2 x Heavy Tractor

Kampfgruppe Stotten - Enters map on game turn 1 (see sketch map)

1st Battalion/8th Panzer Regiment

Battalion HQ:	1 x PzIIIj (FO)
#1 Co:	4 x PzIVf2
#2 Co:	4 x PzIIIj
#2 Co:	3 x MarderII

OFF-BOARD ARTILLERY: I/190th Artillery Battalion
3 x 105mm Howitzer (2)

Afrika Korps Artillery Battalion: 1 x 170mm Howitzer (2), 3 x 105mm Howitzer (2)

The German player may designate 4 x "Forward Observer" to any stands of his choice.

UNITED STATES

Cohesion = 14

Stark Force:

Task Force HQ- see sketch map for initial placement.
1 x Infantry HQ (+0 GHQ) (FO), 1 x Light Truck, 1 x Jeep/.50 cal.(R), 1 x M15 MGMC

1st Bttn/26th Infantry Regiment- see sketch map for initial placement.

Battalion HQ:	1 x Infantry HQ (FO), 1 x 37mm ATG, 1 x Light Truck, 1 x Jeep/.50 cal.(R)
#1 Co:	3 x Infantry '42, 1 x Infantry Support
#2 Co:	3 x Infantry '42, 1 x Infantry Support
#3 Co:	2 x Infantry '42, 1 x Infantry Support
Support Co:	1 x 37mm ATG, 2 x Infantry Support, 1 x 81mm Mortar (3)

1st Battalion/19th Engineer Regiment- see sketch map for initial placement.

Battalion HQ:	1 x Infantry HQ (FO), 1 x Light Truck
#1 Co:	3 x Infantry '42, 1 x Infantry Support
#2 Co:	3 x Infantry '42, 1 x Infantry Support
#3 Co:	3 x Infantry '42

805th Tank Destroyer Battalion- place within 4 inches of any U.S. unit.

Battalion HQ:	1 x Infantry HQ (FO), 1 x M3 Halftrack
#1 Co:	3 x M3 GMC, 1 x M3 Scout Car
#2 Co:	3 x M3 GMC, 1 x M3 Scout Car
#3 Co:	2 x M3 GMC, 1 x M3 Scout Car

Elements, I/13th tank regiment- place within 4 inches of any U.S. unit.
#1 Co: 4 x M3 Grant

Regimental Cannon Company/26th Infantry Regiment- place anywhere on map west of U.S frontline
3 x T-30 75 mm HMC (1)

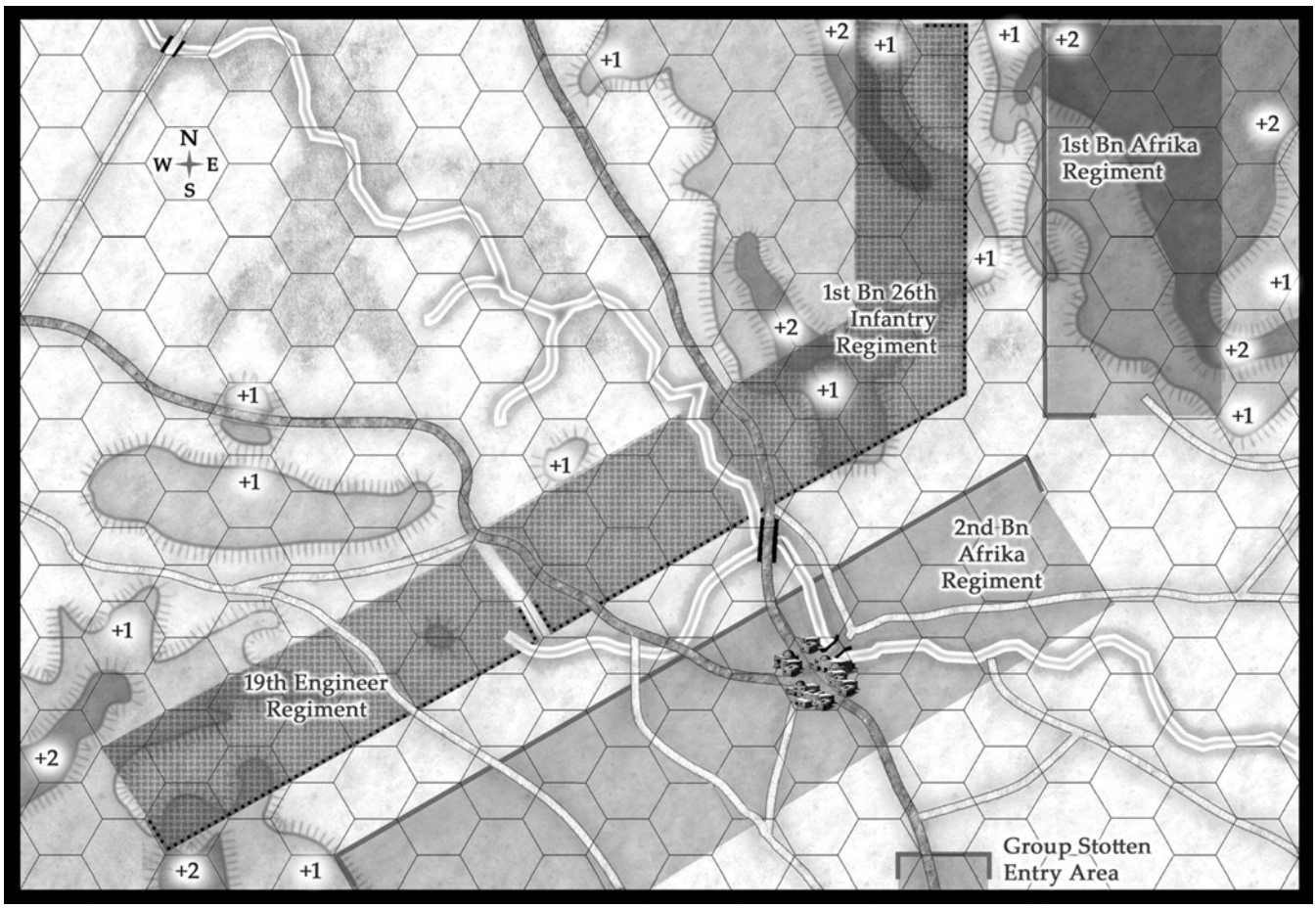
33rd Artillery Battalion - place anywhere on map west of U.S frontline: 2 x 105mm How (2)

Battery/67th Free French African Artillery- place anywhere on map west of U.S frontline
1 x 75mm field gun (2)

U.S. Field Fortifications: 42 x Dispersed Minefields
34 x Light Improved Positions

The U.S. player may designate 3 x "Forward Observer" to any stands of his choice.

STARK RESISTANCE



River
Good Road
Poor Road
Rough Terrain
Contour

TERRAIN

All rivers are only crossable at bridges. At the time of the battle, the battlefield was still somewhat muddy from rainfall the day before. Therefore, the movement costs for the following terrain types are modified as follows:

TERRAIN	Tracked	Wheeled	Foot	Blocks LOS?
Clear	2	3	1	No
Village	2	3	1	Yes #
Good Road	1/2	1/2	1	No
Poor Road	1	2	1	No
Rough	3	4	1	No
Slope	+2	+3	+1	Yes

SPECIAL RULES

All of the basic rules to "Micro Armour®: The Game" will be used along with the following optional rules:

12.2.1 The Hot Shot!

12.2.3 The Communications Breakdown

7.8 National Artillery Efficiency

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SEQUENCE OF PLAY

1. INITIATIVE PHASE

- 1D6 + Unit Cohesion.
- Highest total has initiative this turn.

2. POSTURE DETERMINATION PHASE

- Mark each group/stand in the movement or fire/move posture.

3. JOINT ARTILLERY FIRE PHASE

- Players alternate artillery fire actions.
- See Direct and Indirect Artillery Fire Procedure Charts

4. JOINT FIRE PHASE

- Players alternate Standard fire actions.
- One stand may be the target of only one attack per fire phase.
- See Standard Fire Procedure Chart

5. JOINT PLOT PHASE

- Players plot artillery fire for future turns.
- Players plot air strikes for future turns.
- See Indirect Fire Procedure & Air Strike Procedure Charts

6. JOINT MOVEMENT PHASE

- Roll 2D6 on Movement Orders Chart for # of orders.
- Players alternate ordered movements, w/ Op Fire & Cover Fire.
- Players alternate non-ordered movements.
- Any stand entering an artillery impact marker rolls for effect.

7. MARKER REMOVAL PHASE

- Remove movement and impact markers.
- Attempt to remove combat effects markers by making a successful cohesion roll.
- See Marker Removal Procedure Chart.
- Check for engineering tasks needing resolution in this turn (breaching mine fields, barbed wire, etc.)

STANDARD FIRE PROCEDURE

1. Designate a target stand.

2. Designate all firing (attacking) stands. Verify clear LOS from each stand, mark each with 'fired' marker.

3. Roll cohesion roll for each attacking stand. Modify the result:

+4 if firing unit is Suppressed

+3 if firing unit is Disrupted

+3 if firing unit is in fire/move posture

Modify result for terrain occupied by the Defender per the Terrain Effects Chart.

- Success = The stand fires. Proceed to next step.
- Failure = The process ends here

4. Determine firepower value of firing stand.

5. Determine defense value of target stand.

6. Subtract modified defense value from modified firepower value for combat differential. [FV-DV= CD] See CRT.

7. Roll 2D6. Modify result for terrain occupied by the Defender per the Terrain Effects Chart. Modify result for the range to target per the Range Effects Chart.

8. Cross-reference the modified die roll and combat differential on the CRT. Apply result to the target.

See section 7 for more details.

DIRECT ARTILLERY FIRE PROCEDURE

1. Identify the target stand/location.

2. Designate the firing stands. Verify clear LOS from attacker to target.

3. Roll cohesion roll for each attacking stand. Modify the result:

+4 if firing unit is Suppressed

+3 if firing unit is Disrupted

- Success = the stand fired.
- Failure = the stand did not fire.

4. Mortar attacks must roll for deviation. See steps 3 & 4 of Indirect Artillery Fire Procedure.

5. Determine the defense value of the target.

6. Determine the firepower value applicable to the target for each attacking stand.

7. Reduce defense value of armored stands by 50%, rounded up. Reduce open-topped armoured vehicles by 75%, rounded up.

8. Subtract the modified defense value from the modified firepower value for the combat differential. [FV-DV= CD] See CRT.

9. Roll 2D6. Modify result for the terrain occupied by the Defender per the Terrain Effects Chart.

10. Cross-reference the modified die roll and combat differential on the CRT. Apply the result to the target.

INDIRECT ARTILLERY FIRE PROCEDURE

1. Refer to this turn's plotted indirect fire missions for target locations and firing stands.

2. Roll cohesion roll for each firing stand.
Modify the result:

+4 if firing unit is Suppressed

+3 if firing unit is Disrupted

-2 if firing a pre-registered fire mission

- Success = Stand fires. Proceed to next step.
- Failure = Stand does not fire.

3. Make another cohesion roll for each stand which fired.
Modify the result:

+4 if firing unit is Suppressed

+3 if firing unit is Disrupted

-2 if firing a pre-registered fire mission and the weapon is not a rocket artillery weapon

- Success = Fire lands where plotted. Skip to step 5.
- Failure = Fire deviated from its plotted coordinates. Proceed to next step.

4. Roll 1D8 for the direction of the deviating fire. Roll 1D8/2 (or 1D6 for rockets) for the distance in inches of the deviation. Impact markers must maintain the plotted 'sheaf' pattern.

5. Determine the defense value of the target in the impact zone.

6. Determine the firepower value applicable to the target in the impact zone.

7. Reduce the defense value of armored stands by 50%, rounded up. Reduce open-topped armoured vehicles by 75%, rounded up.

8. Subtract the modified Defense Value from the modified Firepower Value for the combat differential (see CRT). [FV-DV= CD]

9. Roll 2D6. Modify the result for the terrain occupied by the defender per the Terrain Effects Chart. Modify result by +2 if this is a barrage fire mission.

10. Cross reference the modified die roll and the combat differential on the CRT. Apply the result to the target.

COMBAT RESULTS TABLE

Die Roll	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	Die Roll
Combat Differential														
19													S	19
18												S	S	18
17											S	S	(S)	17
16										S	S	(S)	(S)	16
15									S	S	(S)	(S)	D	15
14									S	(S)	(S)	D	D	14
13								S	(S)	D	D	D	D	13
12							S	S	(S)	D	D	D	D	12
11						S	S	(S)	D	D	D	D	E	11
10					S	S	(S)	(S)	D	D	D	E	E	10
9					S	(S)	D	D	D	D	E	E	E	9
8				S	(S)	D	D	D	D	E	E	E	E	8
7			S	S	(S)	D	D	D	E	E	E	E	E	7
6		S	S	(S)	D	D	D	D	E	E	E	E	E	6
5	S	S	(S)	(S)	D	D	D	E	E	E	E	E	E	5
4	S	(S)	(S)	D	D	D	E	E	E	E	E	E	E	4
3	(S)	(S)	D	D	D	E	E	E	E	E	E	E	E	3
2	(S)	D	D	D	E	E	E	E	E	E	E	E	E	2
1	D	D	D	D	E	E	E	E	E	E	E	E	E	1
0	D	D	D	E	E	E	E	E	E	E	E	E	E	0
	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	

The Terrain Effects and Range Effects charts display modifiers to this roll

RESULTS

Blank = no effect
If attacker is an artillery, MMG, light mortar, or support stand, result is "S".

S = Suppressed
+4 to all cohesion rolls.

Effect is not increased by additional "S" results.

(S) = S Parens
If already "S", treat this result as a "D".

Otherwise apply an "S" result.

D = Disrupted
+3 to all cohesion rolls until it rallies.

If unit already has a "D", then treat this result as "E".

E = Eliminated
Remove unit from play

RANGE EFFECTS CHART

Range	1" or less	2" to 5"	6" to 10"	11" to 15"	each additional 5"
Die Roll Modifier	-1	0	+1	+2	+1

MINEFIELD CHART

Minefield Concentration	CRT Differential Column
Hasty	-2
Standard	+1
Concentrated	+7

MOVEMENT ORDERS CHART

2D6 Die Roll	≤3	4	5	6	7	8	9	10	11	12	13≥
# of Orders	0	1	1	1	2	2	3	3	4	4	5

Apply the GHQ's quality value to this roll.

MOVEMENT COHESION CHART

Condition:	Cohesion Die Roll Modifier
GHQ eliminated	No further orders allowed
Each (G)HQ attached to a unit or group	-2
Unit or group with an order	No effect
[R] units or group	No effect
Unit or group without an order	+3
Unit 'Suppressed'	+4
Unit 'Disorganized'	+3

MARKER REMOVAL PHASE PROCEDURE

1. Remove all "movement," "fired," "fire/move" markers, as well as "smoke" and artillery "impact" markers from fire missions of only 1 turn of duration.

2. Make a cohesion roll for any stand with an "S" and or "D" marker. Modify the result as follows:

+4 if firing unit is Suppressed
+3 if firing unit is Disrupted
-1 if the affected stand is adjacent to an HQ or GHQ

- If the recovery cohesion roll = 20 (unmodified), the stand receives an "(S)" combat result (Panic).
- If the modified result is equal to or less than the player's cohesion value, remove the "S" marker. The unit has recovered.
- If the unmodified roll =1, remove the "D" marker. The unit has rallied.

Some Combat Engineering procedures have outcomes determined at this time, see rules for details.

CLOSE ASSAULT PROCEDURE

1. If the defending stand is in the fire or fire/move posture, the Defender makes a cohesion roll modified by the following:

+4 if Suppressed
+3 if Disrupted
+3 if in the Fire/Move posture

2. If successful, see the notes below and calculate the combat differential for the defending stand to attack one assaulter with a -3 to the CRT die roll.

3. The Attacker rolls to check cohesion for each attacking stand modified by the following:

+4 if Suppressed
+3 if Disrupted

4. For each successful roll see the notes below and calculate the combat differential for the assaulting stand to attack the Defender. Apply a -3 to the CRT die roll.

5. A disorganized Defender must move 1 inch away from Attackers. If it may not move into an empty space it is eliminated.

Notes:

- Defending stands with a restricted field of fire must use their nation's Infantry HQ firepower values if the close assault comes from a direction in which their main weapon does not face.
- Engineer stands get an additional -3 to the CRT roll in close assault events.
- Cavalry stands double their printed combat value when close assaulting personnel or other nonarmoured stands.
- All rolls are considered to be at zero (0) range.

See Rule 8.8 for further details.

OVERRUN PROCEDURE

1. Perform all movement connected with this overrun. Vehicles may not overrun stands in terrain as follows:

Defender is in:	Vehicle may overrun if:	
	Wheeled	Tracked
Jungle	No	No
Marsh	No	No
Soft Sand or Mud	No	No
Steep Slope	No	Yes
Depression or Ridge Crest*	No	Yes
Bocage	No	Yes
Rough Terrain 2	No	Yes
Medium Buildings	No	Yes
Heavy Buildings	No	Yes
Rubble	No	Yes
Med Improved Positions	No	Yes
Hvy Improved Positions	No	No
Anti-Tank Ditch	No	No
Minefield	No	No

2. The Defender makes one cohesion roll per overrunning stand with the following modifiers:

+4 if Defender is Suppressed

+3 if Defender is Disrupted.

+3 if Attacker is a tracked vehicle and Defender is a personnel stand.

+4 if Attacker is a tracked vehicle and Defender is a weapons stand.

+3 if Attacker is a wheeled vehicle and Defender is a weapons stand.

All modifiers are cumulative.

3. For each failed cohesion roll, the Attacker rolls 2D6. The Defender applies the die result from the +5 combat differential column of the CRT to his overrun stand.

4. The Attacker makes one cohesion roll for each overrunning stand.

+4 if Attacker is Suppressed

+3 if Attacker is Disrupted

+3 if Defender is a personnel stand with an AP firepower of 2 or higher.

All modifiers are cumulative.

5. For each failed cohesion roll the Defender rolls 2D6. The Attacker applies the die result from the +2 combat differential column of the CRT to the overrunning stand. If the Defender is a personnel stand with an AP of 5 or higher use the +3 combat differential column.

See rule 8.7 for further details

FORCE DETERMINATION SUMMARY

Cards: 1 poker deck per GHQ, minus the jokers.
cards = face values, A=1, J=11, Q=12, K=13

Basic Rule:

- Whenever a stand is Eliminated from play ("E" result), for any reason, draw one 1 card.
- If an HQ stand is Eliminated, draw 2 cards. For GHQ stands, draw 3 cards.
- You are not required to show your cards to your opponents during play. You may show them to allied players.
- Whenever the sum of your cards exceeds the unit's "determination value," your force has reached a crisis of command and is broken. At this point you must reveal your cards to your opponents.
- If more than one GHQ is in use on one side, separate "draw piles" are kept for each GHQ.
- More than one formation may reach its break point in the same turn.
- All players must reveal their drawn cards at the end of the game, regardless if anyone reached their break point or not.

Effects - On the next turn:

1. The cohesion value of all components of the broken formation is reduced by 5 (-5) for all purposes except movement for the rest of the game.

2. Stands of a broken formation may only fire if fired upon that turn. They may fire at any enemy units within 5 inches after they have been fired upon.

3. Off-map artillery belonging to the broken formation may complete any multi-turn fire missions. No further indirect fire may be plotted for that formation.

4. Any unused air strikes assigned to that formation are canceled.

5. The cohesion value of all components of a broken formation is increased by 2 (+2) for movement purposes for remainder of the game.

6. Units belonging to the broken formation must move towards a friendly map edge, as agreed upon by the players. They must use their full movement allowance if possible.

7. Units of the broken formation are assumed to be in the movement posture, even if they fire during the fire phase. Recall that they may only fire if fired upon (per step 2 above) and may not move if they fire (per standard rules).

8. If, and when, all formations of one side have broken, the opposing side must make a successful cohesion roll at the beginning of each ensuing turn to keep fighting. This die roll is modified by +2 for each additional turn. If the opposing player fails this cohesion roll the game is over as everyone has ceased fire.

TERRAIN EFFECT CHART

TERRAIN TYPE	Movement Point Cost per 100m			Firing Unit Cohesion & CRT Die roll effect for target in this terrain	Is Line of Sight Blocked?
	Tracked Unit	Wheeled Unit	Foot Unit		
Clear	1	2	1	None	No
Jungle/Dense Forest	5	Not allowed	2	+4 if personnel, +2 all others	Yes ++
Woods	3	4	1	+4 if personnel, +2 all others	Yes ++
Grove/Orchard	2	3	1	+2 if personnel, +1 all others	Yes ++
Marsh	5	Not allowed	1.5	+4 if personnel, +2 all others	No
Ford, Soft Sand, Mud	4	6	3	Target in movement posture -1	No
Gravel Plain	1	1.5	1	None	No
Broken Rock	2	5	1.5	None	No
Depression	2	4	1	+4 if personnel, +2 all others	Yes
Gentle Slope	1	2	1	None	Yes ++
Steep Slope	3	Not allowed	2	+1	Yes
Hilltop or Ridgecrest	+1	+3	+1	+2**	Yes
Bocage/Hedgerows	4	Not allowed	2	+4 if personnel, +2 all others	Yes ++
Rough Terrain 1	1	3	1	+2 if personnel, +1 all others	If personnel: Y, others: N
Rough Terrain 2	2	5	1.5	+4 if personnel, +2 all others	If personnel: Y, others: N
Rough Terrain 3	4	7	3	+6 if personnel, +4 all others	Yes ++
Light Buildings	1	2	1	+4 if personnel, +2 all others	Yes ++
Medium Buildings	1	2	1	+5 if personnel, +3 all others	Yes ++
Heavy Buildings	1	2	1	+6 if personnel, +4 all others	Yes ++
Rubble	4	Not allowed	2	+8 if personnel, +5 all others	No
Good Road	0.5	0.5	1	None $	No
Poor Road	1	1	1	None $	No
Track	1	1.5	1	None $	No
Smoke	+1	+2	+1	Firing into or out of smoke +3	Into: N, Through: Y
Artillery Impact Zone	+1	+3	+2	Firing into impact zone +3	Into: N, Through: Y
Light Improved Position	2	3	1	+4 if personnel, +1 all others	No ++
Medium Improved Position	2	4	1	+5 if personnel, +2 all others	No ++
Heavy Improved Position	3	N/A	2	+7 if personnel, +3 all others	No ++
Barbed Wire	+3	N/A	+2	-1	No
Minefield	+1*	+1*	+1*	-2	No
Anti-Tank Ditch	N/A	N/A	+2	+4 personnel in ditch	No
Wreck	+0	+1*	+0	+1	No

ALL TERRAIN EFFECTS ARE CUMULATIVE!

Notes:

***** - Applies only when leaving the area

****** - Applies only to fire coming through the ridge crest or from below the hilltop

++ - Concealing Terrain: If a stand in this terrain has fired this turn, ignore the cohesion roll modifier. The CRT modifier is always in effect.

$ - Stands moving at the road or track rate do not gain any defensive benefits from the terrain through which that road or track passes. Stands on a road or track which are stationary or paying the terrain penalty while moving do get the benefits.

All terrain effects, except smoke and artillery impact zones, only affect fire into the terrain, not fire from the terrain.

Regardless of terrain or other effects, a 'natural' cohesion roll of "1" always succeeds, and a "20" always fails.

AIR STRIKE PROCEDURES

PRIOR TO START OF PLAY:
Record the 'turn of arrival' of each aircraft, provided in the Order of Battle (OOB). If the OOB does not provide the force with a FASC team: Plot bombing missions of all aircraft, after terrain setup but before forces are deployed.

DURING PLAY:
If the OOB provides the force with a FASC team: Plot bombing missions of each aircraft during the Joint Plot Phase, 1 turn prior to the aircraft's 'turn of arrival.' If the plane is capable of 2 ordnance attacks, the 2nd attack may be plotted in the Joint Plot Phase during the aircraft's 'turn of arrival.'

STRAFING ATTACKS (NOT PLOTTED):

1. The Attacker places an impact marker on the target of the strafing attack. Position the airplane model on the board adjacent to the marker/target, facing the impact marker.

2. The Defender may then use any anti-aircraft (AA) weapons to affect the attack as follows:

For each AA gun in the fire posture that has not fired previously in the turn, and is within range of the impact marker, make a cohesion roll. Each successful cohesion roll by AA gun stands adds a modifier to the attacking aircraft's cohesion rolls:

- AA stand of 40mm or less: +2 to air strike cohesion rolls
- AA stand larger than 40mm: +1 to air strike cohesion rolls

These airstrike modifiers are cumulative for each successful AA stand roll.

3. The Attacker then makes a cohesion die roll, modified by any AA fire

- Failure: Remove marker and plane model, attack doesn't occur.
- Success: Proceed

4. The Attacker then rolls a 2nd cohesion die roll, also modified by the previous AA fire.

- Failure: The attack location deviates. Roll 1D8 to determine direction (see compass rose) and 1D6/2 to determine distance. If this location is empty, the strafing run was ineffective, and no attack occurs. If this location contains any stand, it is attacked. Proceed to step 5.
- Success: Proceed to step 5

5. Determine the defense value of the target in the impact zone.

6. Determine the attack value applicable to the target in the impact zone.

7. Reduce the defense value of armoured stands by 50%, rounded up. Reduce open-topped armoured vehicles by 75%, rounded up.

8. Subtract the modified defense value from the modified firepower value to determine the "combat differential" (see CRT). [FV-DV= CD]

9. Roll 2D6. Modify the rolled total by the targets' terrain

10. Cross-reference the modified die roll and the combat differential on the CRT. Apply the result to the target.

11. If the attack succeeded in step 4 and there is a stand adjacent to the target, and the airplane model is facing toward that adjacent stand, it too may be attacked now beginning with step 3, but with an additional +3 modifier and no roll for deviation. This second attack may be performed only once and only if the first attack was a success, and not a result of deviation.

BOMBING ATTACKS:

1. Consult the Artillery Plotting Record Sheet for the location of the bombing mission's intended location. Place the bomb markers on the board at the recorded location. Place the airplane model on the board adjacent to the impact marker.

2. The Defender may then use any AA weapons to affect the attack (see AA Procedure).

3. The Attacker then makes a cohesion die roll and modified by AA fire.

- Failure: Remove marker and plane model. Attack doesn't occur.
- Success: Proceed.

4. The Attacker then rolls a 2nd cohesion die roll, also modified by the previous AA fire.

- Failure: The attack location deviates. Roll 1D8 to determine direction (see compass rose) and 1D6 to determine distance. If this location is empty the bombing mission was ineffective. If this location contains any stand, it is attacked. Proceed to step 5.
- Success: Proceed to step 5

5. Determine the defense value of the target in the impact zone.

6. Determine the attack value applicable to the target in the impact zone.

7. the defense value of armoured stands by 50%, rounded up. Reduce open-topped armoured vehicles by 75%, rounded up.

8. Subtract the modified defense value from the modified attack value to determine the "combat differential" (see CRT). [AV - DV = CD]

9. Roll 2D6. Modify the rolled total by the targets' terrain

10. Cross reference the modified die roll and the combat differential on the CRT. Apply the result to the target.

ANTI-AIRCRAFT FIRE

1. Any AA gun stand in the fire posture that has not fired previously in the turn and is in range of the intended air strike target may attempt AA fire on the air strike.

2. For each stand attempting AA fire against the airstrike make a cohesion roll.

3. If successful and the AA weapon is 40mm or less, add +2 to the air strikes' cohesion rolls. Mark the AA stand as 'fired'.

If successful and the AA weapon is larger than 40mm, add +1 to the air strikes' cohesion rolls and mark the AA stand as 'fired'.

4. If unsuccessful mark the AA stand as 'fired'.

AIRBORNE LANDING TERRAIN EFFECTS

Terrain Type	Paratroopers Cohesion Roll		Glider Infantry Cohesion Roll	
	Pass	Fail	Pass	Fail
Clear	NE	S	NE	S
Jungle	S	D	D	E
Woods	S	D	D	E
Grove	S	D	S	D
Gravel Plain	NE	S	NE	S
Broken Rock	S	D	D	E
Soft Sand, Mud	S	D	D	E
Depression	S	D	D	E
Gentle Slope (see notes)	NE	S	NE	S
Steep Slope (see notes)	D	E	D	E
Hilltop or Ridgecrest	NE	S	NE	S
Bocage/Hedgerows	S	D	S	D
Rough Terrain 1	S	D	S	D
Rough Terrain 2	S	D	D	E
Rough Terrain 3	D	E	D	E
Light Buildings	S	D	S	D
Medium Buildings	S	D	D	E
Heavy Buildings	S	D	D	E
Rubble	S	D	D	E
Good Road (see notes)	NA	NA	NA	NA
Poor Road (see notes)	NA	NA	NA	NA
Track (see notes)	NA	NA	NA	NA
Smoke	D	E	E	E
Artillery Impact Zone	E	E	E	E
Light Improved Position (see notes)	NA	NA	NA	NA
Medium Improved Position (see notes)	NA	NA	NA	NA
Heavy Improved Position (see notes)	NA	NA	NA	NA
Barbed Wire	S	D	D	E
Minefield	S	D	D	E
Anti-Tank Ditch	NE	S	D	E
Wreck	NE	S	NE	S
Water	E	E	E	E
River	E	E	E	E
Stream, Ford	D	E	D	E
Marsh	D	E	E	E

Die roll modifiers: +2 if nighttime +1 if enemy units within range of landing position

NOTES

Slopes and Ridge Crests: If the slope or ridge crest is in any other terrain besides 'clear,' see that terrain type for the effects on the stand.

Roads and Track: Apply the effects of terrain type that the road or track is in.

Improved Positions: If the improved position is occupied, apply the effects of the terrain type it is in before resolving the 'occupied' landing location effects.

ARTILLERY FIRE MISSION RECORD

Turn of Plot/Call	Plotter/ Caller ID	Mission Type/Name	Firing Unit ID	Turn of Arrival	Duration	Impact Location/ Sheaf Pattern	Ammo Type

MINEFIELD RECORD SHEET

Hasty minefields attack all exiting stands at -2 Standard mine fields attack exiting enemy stands at +1

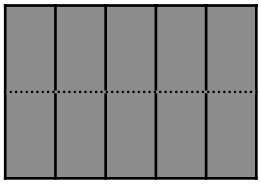
Concentrated mine fields attack exiting enemy stands at +7

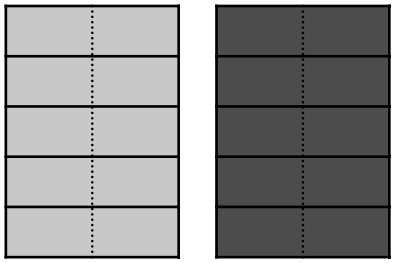
Minefield Marker ID	Minefield Type

Minefield Marker ID	Minefield Type

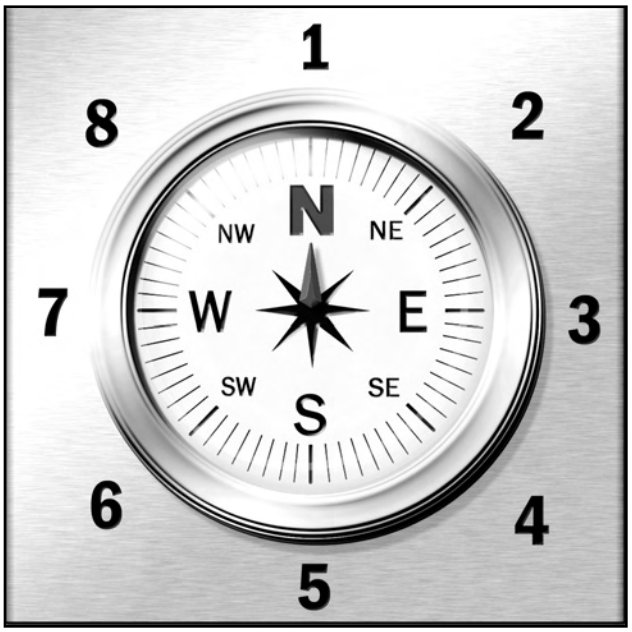
Minefield Marker ID	Minefield Type

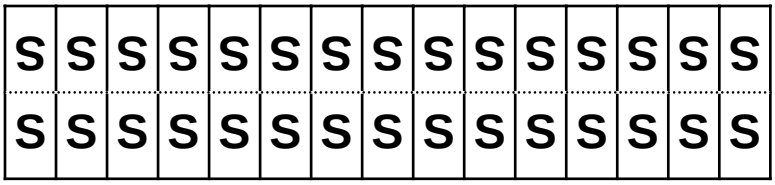
Green: Movement
Red: Fired
Lt. Blue: Fire/Move

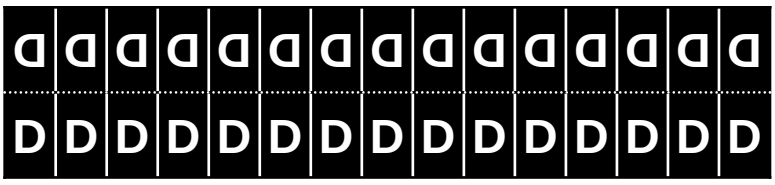


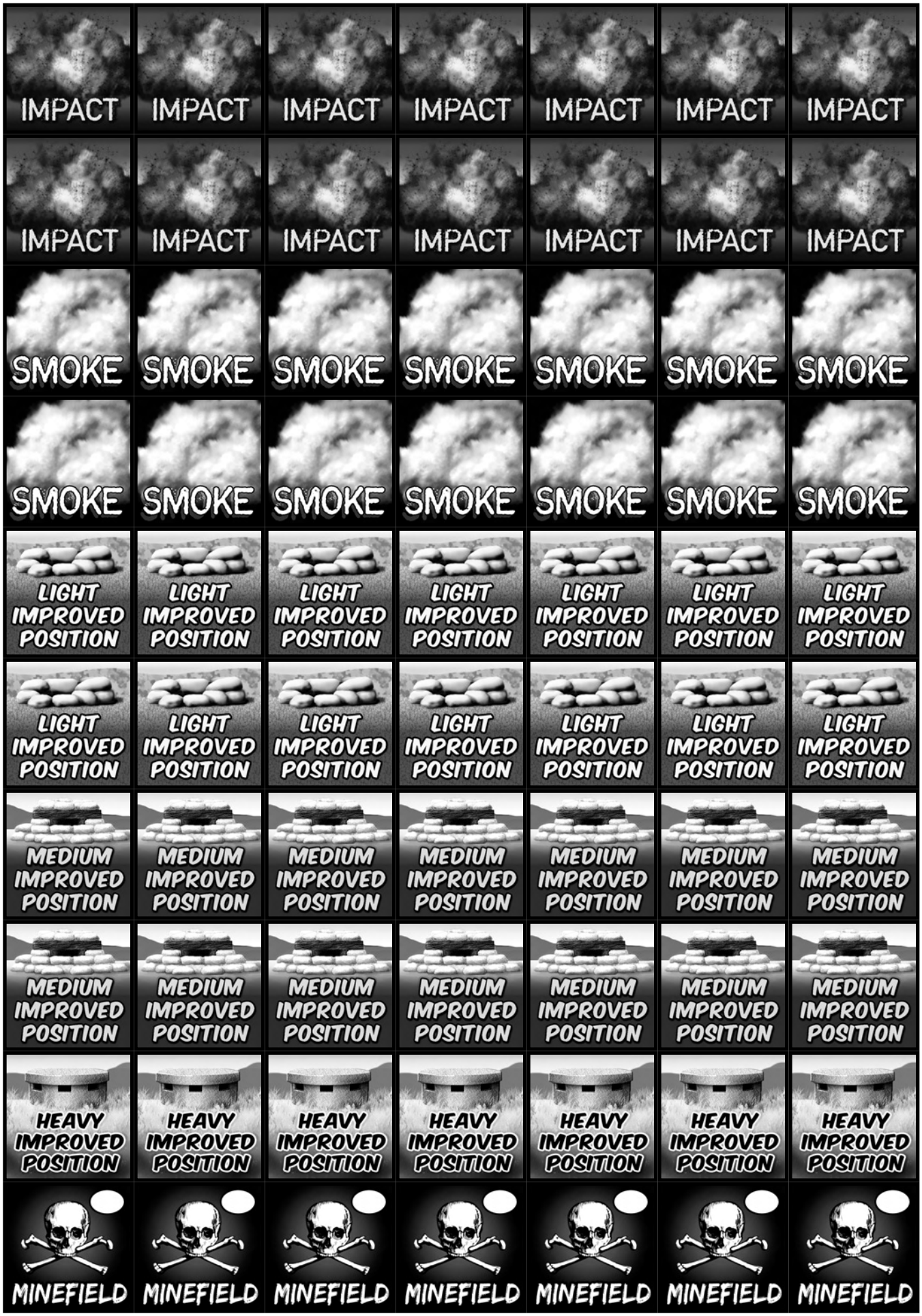


Artillery Deviation Template (Compass)








IMPACT
SMOKE
LIGHT IMPROVED POSITION
MEDIUM IMPROVED POSITION
HEAVY IMPROVED POSITION
MINEFIELD

A SHORT LIST OF BOOKS AND WEB RESOURCES

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Zaloga, Steven and Richard Chasemore. *Panzer IV vs Char B1 bis: France 1940 (Duel)*. Oxford: Osprey Publishing, 2011.

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This is such a small list of what I've read and there are so many more I want to read…

A VERY SHORT LIST OF FAVORITE INTERNET RESOURCES

(available at the time of this writing)

Organizational data (available at the time of this writing):

http://niehorster.orbat.com/index.htm

http://www.bayonetstrength.150m.com/

Vehicle data and images (available at the time of this writing):

http://www.armchairgeneral.com/rkkaww2/index.htm

http://ww2drawings.jexiste.fr

http://www.dieselpunks.org/profiles/blogs/lord-ks-garage-88-belgian

http://www.o5m6.de/

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http://www.japaneseammunition.com/start.php?main_cat=1&sub_cat=1&access=view&exp_sub_cat=1

http://www3.plala.or.jp/takihome

http://www.kfzderwehrmacht.de/Homepage_english/homepage_english.html

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PHOTOS

Front cover: U.S. Office of War Information. *We couldn't stick around long though...* August 1944. National Archives and Records Administration. ARC Identifier 535975

p.i: U.S. Army: *Battle of the Bulge - American tank destroyers move forward during heavy fog to stem German spearhead near Werbomont, Belgium.* December 20, 1944. U.S. Army Center of Military History.

p.1: Laws, G. (Sgt). *House to House fighting at Riva Bella near Ouistreham.* June 6, 1944. Imperial War Museum- MH 2012 collection No. 4904-04

p.3: Bieling. *Russland, leichte Flak und Panzer. 21 June 1941.* German Federal Archives. Bundesarchiv, Bild 101I-265-0026A-30 / Bieling / CC-BY-SA

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p.13: *Finnish heavy train artillery harasses the enemy's sleep at night near to Vanozero in Karelia during the Continuation War.* 1940s. MaveTeam

p.14: Puttnam L A (Lt), . *British 7.2 inch howitzers France Feb 1940 IWM F 2507*. February 12, 1940. Imperial War Museum- Photograph No. F 2507

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p.20: *Soviet tanks of the 4th Guards mechanized corps in Belgrade offensive.* 1944. (Wikimedia)

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p.27: US Army Signal Corps. *101st Airborne inspecting broken glider in Holland army.mil-2007-09-12-112355.* September 1944. .US Army Military History Institute

p.27: Paratrooper modeled and photographed by Chris Shaffer, 2012.

p.30: *Operation Market I - 04.* 17 September 17, 1944. Imperial War Museum- Photo No.: CL 1173

p.34: US Army Signal Corps. *101st Airborne in Bastogne, Christmas 1944.* December 25, 1944. (Wikimedia)

p.38: WSOY kuva-arkisto. *Finnish-lightmachinegun-skis-winterwar.* 1940. Talvisodan pikkujättiläinen (1999) p. 459, originally from WSOY kuva-arkisto (WSOY archive)

p.45: U.S. Office of War Information. *The first big raid by the 8th Air Force was on a Focke Wulf plant at Marienburg*. October 9, 1943. National Archives and Records Administration ARC Identifier 535972

p.49: Christie (Sgt.). *The British Army in the Normandy Campaign 1944. Sherman tanks and 6-pdr anti-tank gun in the centre of Caen.* July 10, 1944. Imperial War Museum- No. B 6924, collection no. 4700-29

p.50: *A counterattack of the soviet troops (Kharkov August 1943).* (Wikimedia)

p.51: U.S. Government. *Landings on the beach of Ibeya.* - National Park Service - (National Archives, USMC Hdqtrs 126, 988)

p.53: Reimers. *Russland, Soldaten auf Kettenkrad.* December 22, 1943. Bundesarchiv, Bild 101I-725-0184-22 / Reimers / CC-BY-SA

p.54: Laing (Sgt.). T*he British Army in the Normandy Campaign 1944. An ammunition lorry of 11th Armoured Division explodes after being hit by mortar fire during Operation 'Epsom.'* June 26, 1944. Imperial War Museum- No. B 6017, collection No. 4700-29

p.57: *Bocage country at Cotentin Peninsula.* Archives Normandie 1939-45

p.61: Kurth. *Nordfrankreich, Panzer V (Panther) mit Infanterie.* June 21, 1944. Bundesarchiv, Bild 101I-301-1955-15 / Kurth / CC-BY-SA

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p.66: *Destroyed german self-propelled gun carriage near Mortrée.* June-July 1944. Archives Normandie 1939-45

p.69: SA-kuva. *Finnish-artillery-76k02-1902-winterwar.* March 9, 1940. Talvisodan pikkujättiläinen (1999) p. 317, originally from SA-kuva (Finnish Army Pictures)

p.72: Fremke, Heinz. *Im Westen, zerstörter französischer Panzer Char B1.* May 1940. Attribution: Bundesarchiv, Bild 101I-127-0369-21 / Fremke, Heinz / CC-BY-SA

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p. 82: *japanese Type 95 Ha-Go captured by soviet troops after battle of Khalkhin Gol* 1938. Public Domain (Wikimedia)

p.94: *Coburg 1945.* U.S. Army. National Archives and Records Administration. April 25 1945. NARA ARC Identifier: 535534

p.95: Koll. *Polen, bespannte Einheiten bei Flussüberquerung.* September 1939. Bundesarchiv, Bild 101I-318-0071-16A / Koll / CC-BY-SA

p.96: U.S. Navy. *Dive bomber over Truk.* February 17 1944. U.S. Navy National Museum of Naval Aviation photo No. 1996.253.688

p.97: Opitz. *Flugzeuge Junkers Ju 87*. 22 December 1943. Bundesarchiv, Bild 101I-646-5188-17 / Opitz / CC-BY-SA

p.98: *An Ilyushin Il-2 Sturmovik ground attack aircraft.* (Wikimedia)

p.99: U.S. Air Force. *1940's "MY GIRL" A North American P-51 takes off from Iwo Jima, in the Bonin Islands.* PD-USGOV-MILITARY-AIR FORCE.

p.101: Bode, Natalia Fedorovna. *Anti-tank riflemen on the Kursk salient.* July 20, 1940. RIA Novosti archive, image #4408 / N. Bode / CC-BY-SA 3.0

p.102: *Stalingrad-250*. Public Domain (Wikimedia)

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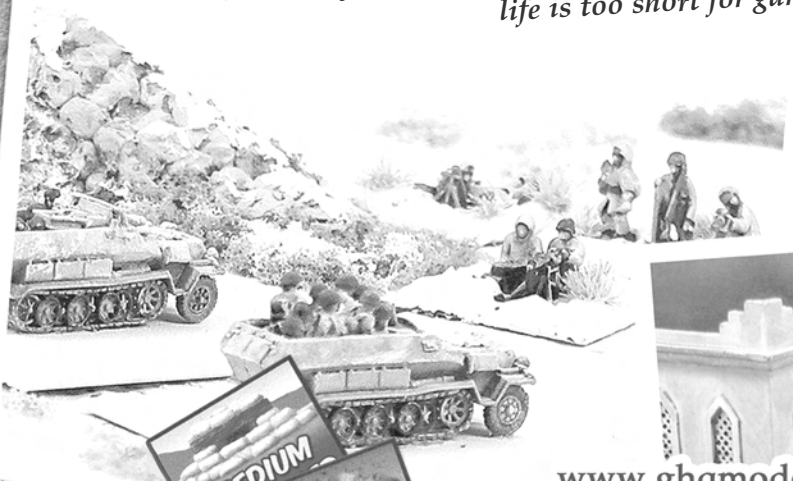

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