PANZER

PANZER
NORTH AFRICA

GAME DESIGN
James Day
Fernando Sola Ramos

The Game of Small Unit Actions
and Combined Arms Operations
in the North African Desert
from mid-1940 to late-1942.

Game Expansion Set, Nr1
The Shape of Battle on
the Eastern Front
1940-45

Game Design
James M. Day

Game Expansion Set, Nr2
The Final Forces on
the Eastern Front
1940-45

Game Design
James M. Day

CONSOLIDATED RULES

The Game of
Small Unit Actions
and Combined Arms
Operations for the
Drive to the Rhine
– The Second Front
1944-45

Game Design
James M. Day

The Game of
Small Unit Actions
and Combined Arms
Operations on
the Eastern Front
1943-45

Game Design
James M. Day

The Game of
Small Unit Actions
and Combined Arms:
The German invasion of
France, 1940

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James M. Day
Fernando Sola Ramos

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Introduction

Panzer is a game of conventional ground-oriented combat set on World War II. It is designed to test the tactical skills of two or more players.

As a tactical level game, the battles (scenarios) depict small unit actions. As such, any force can theoretically defeat any other force set at any time during the scenarios presented. The Soviets actually won many small unit actions in 1941, as did the Germans in 1945. That is the advantage tactical games have over strategic games. The time-bias has a much smaller impact.

These rules may seem lengthy, but in reality once the game mechanics are understood, the system is really quite intuitive and straightforward. To assist in the assimilation, the rules are organized by a number code for quick reference. The most commonly used information is contained on the various Game Cards, Data Cards and Reference Cards for easy accessibility during play.

There is no reason to sit down and open this rulebook with an intention of reading it cover to cover, memorizing each section along the way. Start with the Basic Game Rules, play a few vehicle on vehicle encounters and then advance on to the Advanced Game rules.

However, take it in stages. Keep in mind that it is quite a step from the Basic Game to the entire Advanced Game. Even given that, not all of the Advanced Game elements need be included in every single scenario.

The Optional Rules add additional depth, but they should only be tackled once the players are comfortable with the Basic and Advanced Game rules. The Optional Rules build on those concepts, so a complete understanding is important to get the most out of the Optional Rules.

In all cases, consider the Advanced Game and Optional Rules modular—add them as tastes and interests dictate.

The various text in this format are design notes; the reasons why things are what they are, and general comments and background information.

Scale

The scale is structured to support its predominate one-to-one presentation. With that in mind, the game scale is composed of three distinct elements: force representation, ground scale, and time scale.

The force representation is one-to-one for vehicles, towed weapons and aircraft. The main leg units are squads, half-squads and sections. Leg crew-served weapons are grouped into sections of 2-3 HMGs, mortars, ATRs, etc. Off-map artillery units are batteries of 2-6 gun tubes.

The horizontal ground scale is 1 hex equals 100 meters; the vertical ground scale is one level equals 3 to 8 meters.

The time scale is fluid with each complete turn representing approximately 15 seconds to 15 minutes.

1.0 Components

Players should familiarize themselves with all game components before starting play. Some components are not used in the Basic Game and are marked with (AG) or (OR) indicating their use with the Advanced Game or Optional Rules.

The time scale is fluid with each complete turn representing approximately 15 seconds to 15 minutes.

1.1 Rulebook

All of the information required to play the game is contained in this rulebook. For ease of use, it includes diagrams, illustrations, and examples of play to speed up the learning process. A table of contents, glossary and index are also available to facilitate quick reference.

The rulebook is divided into Basic Game, Advanced Game (AG) and Optional Rules (OR) sections.

Some of the rule sections refer to units or capabilities for units included in the different expansions or to possible future expansions.

1.2 Mapboard and Geomorphic Mapboards

The 22" x 34" mapboard included in Panzer Base Game is used to battle it out through the included scenarios. The superimposed hex grid regulates movement and determines combat results.

Also included:

- Each hex has a specific terrain type that clearly dominates the hex. It affects both movement and combat.
- Each hex has a center white dot that is used when determining line-of-sight.
- Each hex has a unique numerical identifier that is used for scenario setup, victory determination, and other reference notations.
- Textual notations including hill identifiers and village names are typically utilized for setup and victory determination.
- A directional hex is used for special setup conditions and other random events.

The Panzer Expansion Sets each contain one or more double-sided geomorphic mapboards (also referred to as maps).

Panzer North Africa contains six double-sided geomorphic mapboards. The terrain depicted is representative of the North African campaign area.

These maps enable a wide variety of configurations when setting up or designing scenarios.

The superimposed hex grid regulates movement and determines combat results.

Geomorphic maps have a slightly different presentation than the 22"x34" mapboard.

- They may be flipped and combined along the short or long edge to form many different configurations.
- Each hex has a specific terrain type that clearly dominates the hex. It affects both movement and combat.
- Partial hexes are playable. They are part of the mapboard containing the hex identifier when they link on two connecting maps.
- Each mapboard has a directional hex. The number in the center identifies the mapboard in play. Its hex is also used for special setup conditions and other random events.
- Each hex has a center white dot that is used when determining line-of-sight.
- Textual notations including hill and village identifiers are typically utilized for setup and victory determination. Villages may have actual names or coded names to support encrypted communications.
- Each hex contains a unique alpha-numerical identifier, e.g., E9, certain partial hexes may be numbered 0, e.g., C0. When referring to a hex, the first number is the mapboard identifier followed by a specific hex identifier, e.g., 29E9.

1.3 Terrain Overlays

Terrain overlays are used to modify and enhance mapboard terrain. Overlays are placed as called for in the Overlays section of each scenario. When placing overlays, if the overlay splashes over into adjacent hexes obscuring the terrain in that hex, especially roads and paths, that terrain is still considered in effect.

The hex with the overlay identifier is placed in the listed hex with its direction arrow facing in the indicated direction based on the map's directional hex. *For example, from Panzer North Africa Scenario 47, LG2 34O4(6) – overlay LG2's ID hex in Map 34's hex O4 with the arrow facing direction 6.*

1.4 Game Cards

In the Panzer Base Game there are two sets of four Game Cards identified as A, B, C and D. In Panzer North Africa there are two identical Game Cards with sides A and B. These cards contain all of the combat and support tables and contain all of the tables and charts required for play.

The Combat Effects Summary is found on Game Card D in Panzer or on the back cover of the Playbook in Panzer North Africa. This card summarizes combat effects.

Whether it is combat determination, command control, morale, the combat effects summary, or the sequence of play, all of that information is found on one of the Game Cards.

Game Card tables and charts of similar function all have the same color title bar to help organize and direct players to similar use tables. The various tables and charts are explained throughout this rulebook.

1.5 Data Card Keys

The Data Card Keys provide a summary of the information found on the numerous Data Cards. The land and air units share a great deal of common information, but also possess information unique to the particular type of unit. It is a good idea to become familiar with the various format types and presentation of data.

1.6 Data Cards

All of the specific unit information is provided on the various Data Cards. Some contain information for multiple units.

Review the various Data Cards in conjunction with their respective keys. The various sections are explained throughout this rulebook.

1.7 Game Counters

The various die-cut counters are punched out to provide playing pieces and are interchangeably referred to as counters or markers.

They are used to show information and track status. Note that with the exception of the Command counters all the other counters are two-sided. The side used depends on what information a situation requires; their use is described throughout this rulebook.

1.7.1 Units

These counters represent an assortment of German (gray color), Russian (tan color), US (green color), British & Commonwealth (light green color), and Italian (khaki color) units.

The larger counters represent vehicles, towed guns and aircraft and contain the name, national symbol, image of the unit represented, Data Card reference, individual identification number, and movement factor.

The smaller counters represent leg units and contain a national symbol, image of the unit represented, and an individual identification number. For ease of use, squads have their corresponding half-squads on the reverse side.

1.7.2 Command Counters (Unit Orders)

The 5 Command counters determine the actions each unit will conduct during an upcoming turn. In the Basic Game, each vehicle receives its own dedicated Command counter. When the Advanced Game's Command Control rules are employed, one or more units typically may share a single Command counter thereby executing the same action.

1.7.3 Information Counters

These are placed on the mapboard or directly on units to record game information or to track the status of units, e.g., KO and BU, for knocked out and brewed up vehicles.

1.7.4 Terrain Counters

These are placed directly on the mapboard to alter a hex's terrain, e.g., DITCH, BLOCK, and WIRE.

1.7.5 VP Reference

Includes VP Reference counters, in four colors, to mark specific Victory Point hexes or to use as a reminder as to the location of critical hexes.

1.7.6 Other Counters
Spot Small Arms
Includes dedicated SPOT counters for marking Small Arms (see 6.1.3). If the target unit fired a weapon classified as Small Arms (see 5.7 Small Arms), it is marked with a Spot/Fire SA counter.

1.8 Turn Track, Transport & Summary & Hidden Unit Card

The two Turn Track, Transport & Summary & Hidden Unit cards include a Turn Track, and sections for Transport & Summary and Hidden Units.

While each card features a Turn Track, only one is used to track the current turn and the force designated as the First Player. If one force is utilizing the Hidden Unit rules (OR), it is probably easier to use the Turn Track on the other card.

The Transport & Summary Track helps organize units that are either being transported or are held off the mapboard as instructed by the scenario rules, a special condition, or just to better organize a hex containing a large number of units and other counters.

For transport purposes place the passenger unit(s) in one of the 10 numbered hexes. Then place its corresponding Summary counter on the transporting vehicle.

For summary purposes, place the units and counters from a hex again in one of the 10 numbered hexes. Then place its corresponding Summary counter in the appropriate hex on the mapboard. Be careful to position vehicles and towed guns along the edges of the summary hex so as to maintain their correct facing.

When used to organize hidden or off-map units, it is best to place the card somewhere away from the mapboard or under a cover sheet to hide the units from view. Place the hidden units in one of the numbered boxes. Then place its corresponding Hidden Unit counter in the appropriate hex on the mapboard.

1.9 Formation Summary (Playbook)

The Formation Summary is used to record information about each formation in a player's force. Is not required for the Basic Game or for most elements of the Advanced Game, but becomes essential when employing the Command Control (AG) and Morale rules (OR).

It also helps players to organize their forces and keep track of various other information items. Please feel free to copy or print the page as needed.

1.10 Percentile Dice

Two sets of percentile dice are included. To keep play moving in larger games of 3 or more players, provide each player with their own set of dice.

What are percentile dice? They are a set composed of two different colored 10-sided dice each numbered from 1-10 or 0-9. They are commonly called d10s.

1.11 Other Items (not included)

A straightedge is very useful when determining any questionable lines-of-sight. Some Optional and scenario rules require random mapboard events; a standard six-sided die (commonly called a d6) is used for resolution.

Each player may also want to have a pencil handy for making notations on the Formation Summary, and a notepad for any other pertinent information necessary for Advanced Game or Optional Rules situations.

2.0 Preparation for Play

Select one of the available scenarios or feel free to design your own. Review the scenario information and position the mapboard based on the sides played.

The Setup Section of the scenario provides any special or unique requirements. In addition, the Special Conditions Section may also provide notes for the preparation of play.

Select the required unit counters and also select their corresponding Data Cards.

Give each side a set of dice, a set of Game Cards and position a Turn Track, Transport & Summary & Hidden Unit Card for ease of tracking the current turn. It is now time to open fire.

3.0 General Procedures & Rules

The following rules have an impact on more than one phase or step of the Sequence of Play, so it is a good time to review them at this point.

3.1 Definition of the Phasing Player

Players perform all actions and dice rolls for the vehicles they command—their Force. Therefore, a player is designated as the phasing player for his own vehicles. Within that context, after determining the Initiative a player is either the First or Second Player on any given Turn.

3.2 Reading the Dice

A set of two d10s (one colored and one white) generates a result from 01-00 (100), where a single d10 generates a result from 1-10 (where 0 equals 10). When rolling both d10s, players should be clear which color represents the tens value and which color represents the units value. Keep it consistent.

When a 1-100 result is required to resolve an action, roll (100) is stated; when a 1-10 result is required, roll (10) is stated.

3.3 Vehicle Facing

All vehicles have a front, side and rear facing. The fronts are shown as the top of the vehicle's pictures on each of their Data Cards, i.e., the direction in which it is facing. Vehicles must at all times face towards a hexside, not towards the angle of a hex.

Except during reverse moves, vehicles must always move with the front of the vehicle facing towards the direction of movement. During reverse moves, the vehicle moves in exactly the reverse of its front.

3.4 Counter Use & Facing

Counters are placed on or near a vehicle to display information about that vehicle and to indicate its Command for the current turn. Some counters have different information on the various faces of its counter that are further identified this rulebook.

The applicable information is always that which is on the face that matches the front of the vehicle. For example, the facing of the SPOT counter placed with the PzKpfw IVF2 tank indicates that it was spotted by its fire. Rotate the counter 180° and it would be spotted through movement. The side and facing determine what counter information is active in any given situation.

One of the Command counters, SHORT HALT, possesses two distinct commands—both FIRE and MOVE. For this Command, face the command that was just executed to the front of the vehicle. All FIRE commands are executed first, and then MOVE commands. Players are able to keep track of unmoved SHORT HALT vehicles, since the FIRE side is facing front until those vehicles move.

A counter's active component is identified in these rules by its name/active component, if any, e.g., SPOT/FIRE.

3.5 Range

Range is the distance from one vehicle to another and is always expressed as range in hexes.

3.5.1 Range in Hexes

The range in hexes is determined by counting hexes from one vehicle to another vehicle along the shortest route. Count the hex that the target vehicle occupies but not the hex that the spotting/firing vehicle occupies.

3.5.2 Maximum Ranges

All weapons have a maximum range beyond which they may not fire. Note that most vehicles have more than one ammunition type and some have more than one weapon.

The maximum range of a weapon, for an ammo type, is the range value found on a vehicle's Data Card in the E column (Extreme Range) along the R row (Range). Vehicles may never engage targets beyond their maximum range.

3.6 Controlling Objectives

Scenarios usually call for meeting certain objectives beyond just the destruction of opposing vehicles. Typically, these objectives are geographic features, e.g., a Bridge, Ford or Building hexes, hills, or exiting the mapboard, both are worth a number of victory points that are used in determining the victorious side in a scenario.

For on mapboard objectives, utilize the Control counters to track which force has control.

The Victory Conditions section of the scenarios list the conditions that must be met to capture an objective. Most require a vehicle to occupy an objective for one or more complete turns. The occupying vehicle need not be the same one that occupied an objective at the start of the turn, as long as the objective is still occupied by a friendly vehicle at the end of the turn. Once captured, continuous occupation is not required.

Unarmed vehicles may not capture objectives.

If contested, e.g., opposing units adjacent to a building hex that is On Fire, neither side controls the objective.

The turn requirement prevents players from moving vehicles in a mad dash on the very last turn to capture objectives.

3.7 Modifiers & Adjustments

Certain combat conditions call for spotting at greater than or less than the base spotting ranges.

AP Combat includes modifiers to the base spotting ranges and combat values. It typically adds or subtracts a modifier value or values from the base on the Spotting Ranges and AP Hit Tables.

SHORT HALT commands and Damage results each calls for vehicles to reduce their movement speed allowance by ½—always round down. If a Damaged vehicle has a SHORT HALT command, it moves at ¼ of the available movement speed allowance. A movement speed allowance is never less than 1.

3.8 Stacking

A 100-meter hex is actually quite a large area, approximately 6,500 square meters, but there still is a physical limit as to what could reasonably occupy a hex before visual overcrowding occurs.

In game terms, any number of vehicles may stack in a single hex. However, if at any time a hex contains 6 or more vehicle counters (Wrecks do not count for stacking purposes), it is considered to be over-stacked and negative spotting, combat, and movement effects come into play. Those effects are outlined in the Spotting (see 4.1.3.2), Combat (see 4.4.3.2.2), and Movement (see 4.5.1.1.5) Phases sections.

4.0 Sequence of Play

A scenario starts after all setup and preparation is complete. During a scenario, each side uses its forces in attempting to meet the scenario objective(s). A scenario is played in Turns. Each turn is divided into Phases, which may be further divided into one or more Steps.

These phases and their corresponding steps (see Sequence of Play on Game Card C in Panzer Base Game and on Game Card B in Panzer North Africa) are executed in the exact order listed.

For the Basic Game, ignore those phases and steps with red notations for the Advanced Game, or blue notations for Optional Rules.

4.1 Basic Game Spotting Phase

Even though players can see the opposing vehicles on the mapboard, this does not necessarily mean that the vehicles can see each other in the context of the game.

Before a vehicle can fire on a target vehicle, that target vehicle must be spotted by the firing vehicle as described by the rules of spotting. Obviously, it makes no sense to give a FIRE command to a vehicle that cannot see any opposing vehicles.

Determining who is seen during the Spotting Phase is what makes it possible to give vehicles FIRE or SHORT HALT commands during the following Command Phase.

The spotting determination process is also followed when determining when an OVERWATCH command is triggered.

Players may freely check spotting at any time. However, keep in mind that this may "give away" a key shot or strategy. On the other hand, it just might mislead the opposing side into falling for a deceptive plan of action.

4.1.1 Who may Spot?

Any vehicle combat unit may spot opposing vehicles. For spotting purposes, a vehicle combat unit is defined as one possessing some form of offensive firepower or fire support sighting capability, e.g., Soviet T-34/85 M44 (Panzer) or German PzKpfw IIIH (Panzer North Africa).

Unarmed vehicles, e.g., trucks and prime movers, may not spot.

A continuity of spotting exists throughout a turn and from turn-to-turn. For ease of flow and game play, the different activities performed during a turn are broken down into phases and steps. In real life these actions actually occur simultaneously, but in the context of the game, and ease of play, they are conducted sequentially.

Once an opposing vehicle is spotted, it remains so as long as at least one friendly vehicle meets the range and line-of-sight requirements. Vehicles hand off spotted targets to one another as vehicles move into the area, move out, or are eliminated. As long as a single vehicle meets the spotting criteria during the Spotting Phase, an opposing vehicle remains spotted.

To fire on an opposing vehicle, it must be individually spotted by the firing vehicle as described by the rules of spotting. Handing off spotting targets does not mean friendly units are spotting for one another.

Unless the spotted vehicle moves away or all friendly vehicles move out of line-of-sight or are eliminated, the vehicle is still considered spotted.

If a spot is lost, it must be reacquired through the normal spotting and line-of-sight rules. A vehicle is not automatically spotted again if a condition changes even by the original spotting vehicle.

Once a vehicle is spotted, it just doesn't disappear from view at the end of a turn—it remains spotted. It is not realistic for spotted vehicles to automatically disappear from view at the end of a turn.

4.1.2 Spotting Orientation

Vehicle *combat* units spot in all directions (360°), not just in the direction their front faces. They may spot any and all opposing vehicles that may be spotted from their current hex.

4.1.3 Determining Spotting Ranges

Spotting ranges are based on the terrain type of the hex occupied by the target vehicle. Terrain provides both cover and concealment for vehicles; hereafter collectively referred to as Cover. It is classified as providing None, Light, Medium or Heavy Cover.

The terrain Cover types are listed in the fourth column of the Terrain Effects Table on Game Card A (Panzer Base Game) or Game Card B (Panzer North Africa), cross-referenced by the terrain type listed in the first column. The Cover type in a spotting vehicle's hex has no impact on spotting.

The corresponding spotting ranges are found in the Spotting Ranges Table on Game Card A (Panzer/Panzer North Africa). When attempting to spot a vehicle, cross-reference the V column with the base 0 row. The V column is the general spotting category for all vehicles.

The base spotting range for all vehicles is 20 hexes. In the Basic Game, this base range may increase or decrease due to the target vehicle's Cover and whether or not it fired or moved. All spotting modifiers are cumulative. A net modifier greater than +2 is treated as +2; less than –5 is treated as –5. Note that vehicles spotted via base range only are not marked with a SPOT counter.

At any time, a vehicle may be marked with either a Spot/Fire counter or a Spot/Move counter, not both.

Adjust the base spotting range by applying the Cover modifier, if any, of Light Cover –1, Medium Cover –2, or Heavy Cover –3, by moving that many rows down the table.

If the target vehicle moved, it is marked with a SPOT/MOVE counter; apply the +2 modifier by moving 2 rows up on the table.

If the target vehicle fired, it is marked with a SPOT/FIRE counter; apply the +3 modifier by moving 3 rows up on the table. Use the +2 row for all modifiers greater than +2.

If the terrain is in any way mixed, e.g., in an Improved Position (AG) in a Scrub hex, use the terrain type that is the most advantageous to the target vehicle; in this case utilize Heavy Cover.

If the terrain lists *Other* as its Cover type, use the other terrain type in the same hex to determine the Cover type, if any.

4.1.3.1 Vehicle Size

The vehicle Target Size Modifier does not impact spotting ranges.

4.1.3.2 Over-Stacked Hex

If a vehicle is located in an over-stacked hex, treat any Cover in the hex as *None*.

4.1.4 Line-of-Sight

A second aspect of spotting is line-of-sight. It is a very basic concept, and works hand-in-hand with the spotting ranges. It is defined as a straight line between two vehicles. If a line-of-sight is blocked by some obstacle located between the two vehicles (not including the two vehicles themselves or any intervening vehicles) they may not spot each other even if they fall within spotting range.

Line-of-sight is measured from the center dot in the hex containing the spotting vehicle to the center dot of the hex containing the target vehicle. An obstacle blocks line-of-sight even if it passes through only a fraction of its hex or along its hexside.

4.1.4.1 Terrain Features

Broad categories are used to represent the various terrain types in the game.

Terrain comes in two flavors, that which fills an entire hex and that which covers just a hexside. Included are terrain features printed on the mapboard and that added by placing Terrain counters. The specific Terrain types are found in the Terrain Effects Table on Game Card B and the Terrain Key located on the back of this Rulebook.

Terrain types may potentially block line-of-sight based on their Height, as found on the second column in the Terrain Effects Table. Height is measured starting at 0 for ground-level terrain. Some terrain types have an inherent height while others add height to the terrain they occupy. Vehicles, whether friendly or enemy, have no Height and never block line-of-sight.

4.1.4.1.1 Non-Blocking Terrain
Terrain with a Height of 0 or –1, e.g., Clear, Rough, Scrub, Brush, or Gully, does not block line-of-sight.

4.1.4.1.2 Blocking Terrain
Terrain with a Height of 1 or more may block line-of-sight depending on the Height of the spotting and target vehicles and their relationship to the potential blocking terrain.

4.1.4.1.3 Building Hexes
Since each hex equals 100 meters, Building hexes are not made up of single structures, but represent a cluster of structures of a particular type—Brick, Stone, or Wood. They are usually found along Paths or Roads.

Vehicles may freely enter Building hexes, as they are not actually entering the Buildings themselves, but are in the Alleyways between the Buildings. Therefore, any vehicle located in a Building hex is actually occupying Alley type terrain.

Building hexes have a height of 1 per story above ground level; a two-story Building hex has a Height of 2. All Building hex types may block line-of-sight.

Roads and Paths in a hex negate the blocking effects for units spotting along a straight line into or through a Building hex.

All Buildings are considered to be 1 story high unless indicated otherwise by a scenario's Special Conditions.

4.1.4.1.3.1 Desert Building Hexes
Desert buildings represent the typical, flat-roofed found in North Africa. Desert Buildings are only used in a scenario if specified in a scenario's Special Conditions. For example, Scenario 50 in Panzer North Africa employs Desert Buildings.

4.1.4.1.4 Hill Hexes
Unlike other terrain that possess inherent Height, Hills add elevation to the mapboard. However, Hills do not represent terrain—they are covered by terrain. If Rough terrain is in a Hill hex, it does not make the Hill hex any higher since Rough has a Height of 0. However, the Hill hex is Rough terrain.

Each level of a Hill adds a Height of 1. Hills are stacked in individual levels of varying colors up to any height. Heights of 4 to 5 are typically the limit.

4.1.4.1.5 Slope & Crest Hexsides
Slope hexsides are the transition points from one Height or elevation, either up or down, to another. They are found only in conjunction with Hills. If a Hill is depicted without a Slope on an edge or side, that creates a sheer edge or cliff, that hexside is impassable to vehicles.

Crest hexsides are elevation transitions or small rises in terrain. They may be found anywhere on the mapboard, but typically form breaks along hills.

Both Slope and Crest hexsides have a Height of +1. However, only Crest hexsides may individually block line-of-sight. Slope hexside are part of a Hill formation and any line-of-sight checks are made from the Hill hexsides.

4.1.4.1.5.1 Continuous Slopes
A series of contiguous hexes with slope hexsides such that the level of each hex is one or more heights lower than the adjoining higher hex is a Continuous Slope and doesn't block line of sight as long as no other blocking terrain exists in the hexes.

4.1.4.1.6 Gully, Ford & Stream Hexes
Gully, Ford and Stream hexes have a Height of –1; they are actually one Height lower than the surrounding terrain. These Terrain types do not block line-of-sight.

A Bridge hex that crosses a Stream hex is at Height 0, since a bridge crosses above a stream at a higher elevation.

There is a special spotting rule for Gully, Ford and Stream hexes. When spotting to a Height 1 level above their Height, only adjacent hexes may be spotted. Like Roads and Paths, units may spot along a straight line in Gully or Stream hexes.

4.1.4.1.7 Woods & Grove Hexes
Light Woods and Woods hexes represent stands of trees that provide cover for vehicles. Vehicles may never enter Heavy Woods hexes unless on a Road or Path.

Medium and Light Grove hexes represent stands of palm trees that provide cover for vehicles.

Light Woods, Woods, Light Grove and Medium Grove hexes all have a Height of 3, while Heavy Woods hexes have a Height of 4 above ground level; they may block line-of-sight.

Roads and Paths in a hex negate the blocking effects for units spotting along a straight line into or through a Woods/Grove hex.

Note that vehicles in Light Woods/Woods/Grove hexes are actually at the ground level of the terrain not up at the maximum Height of the terrain.

4.1.4.1.8 Wrecks
A Wreck is created whenever a vehicle suffers a Knock-Out (KO) or Brew-Up (BU) result from AP combat. The Wreck may also be a source of Brew-Up Smoke if that was the result of the combat. Wrecks have a Height of 0; they do not block line-of-sight.

A hex may never contain more than a single Wreck counter, although a KO counter is replaced by a BU counter due to combat results; not vice-versa.

In a similar manner to Illumination rounds, Brew-Up Wrecks increase spotting ranges during night/limited visibility conditions (OR) (see 7.27).

4.1.4.1.9 Smoke, Brew-Up
Whenever a vehicle is Brewed-Up as a result of AP combat, it also creates Brew-Up Smoke as represented by the BU counter. Brew-Up Smoke has a Height of 2, but does *not* block line-of-sight. It hinders AP combat.

4.1.4.1.10 Hedgerow Hexsides
Hedgerow hexsides have Height of 1 and block line-of-sight depending on the Height of the spotting and target vehicles and their relationship to the potential blocking terrain. An Optional Rule, Hedgerow Spotting (see 7.45) expands on the limitation.

4.1.4.2 Determining Line-of-Sight
The line-of-sight for AP combat is checked from the spotting vehicle to the Height of the target vehicle. Obstacles—the highest point of any intervening terrain—affect line-of-sight based on the following conditions:

4.1.4.2.1 Obstacle Higher than Both
If the line-of-sight crosses an obstacle and it is higher than the Heights of both the spotting vehicle and the target vehicle, the line-of-sight is blocked.

4.1.4.2.2 Obstacle Higher or Equal
If the line-of-sight crosses an obstacle which is equal in Height to either the spotting vehicle or to the target vehicle, and is higher than the other vehicle, the line-of-sight is blocked.

4.1.4.2.3 Obstacle Equal or Lower
If the line-of-sight crosses an obstacle which is equal to or lower than the Height of both vehicles, the line-of-sight is not blocked.

4.1.4.2.4 Obstacle Higher and Lower
If the line-of-sight crosses an obstacle which is higher than one vehicle but lower than the other vehicle, a line-of-sight check must be made using one of the following procedures. Count the hex that the potential obstacle occupies but not the hex the spotting vehicle occupies. A calculated Blind Zone is never less than 1 hex.

Note that in all cases the reverse is also true whether the spotting vehicle is the higher or lower vehicle in Height.

Lower by 1 Height: The obstacle creates a blind zone behind it, where no line-of-sight is possible, equal to ½ the range in hexes (round down) from the higher vehicle to the obstacle.

Lower by 2 Heights: The obstacle creates a blind zone behind it equal to ¼ the range in hexes (round down) from the higher vehicle to the obstacle.

Lower by 3 Heights: The obstacle creates a blind zone behind it equal to 1/8 the range in hexes (round down) from the higher vehicle to the obstacle.

Lower by 4 Heights or more: The obstacle creates a blind zone behind it equal to 1 hex from the higher vehicle to the obstacle.

4.1.4.2.4.1 Lower above Height 0
In those cases where the lower unit is above Height 0, add the lower unit's Height to the divisor when calculating the Blind Zone, e.g., the lower unit is at Height 1, the divisors now become 3, 5 or 9.

In those cases where the lower unit is at Height –1, subtract 1 from the divisor, minimum 2; e.g., 2 remains 2, 4 becomes 3, and 8 becomes 7.

4.1.4.2.5 Spotting Into/From Obstacles
Vehicles may spot up to 1 hex into or from any Terrain type that would normally block line-of-sight unless blocked by an intervening hexside, e.g., if a target vehicle is located in a group of Grove hexes, a 1 hex spotting perimeter exists around the edge of the Grove.

The 1 hex spotting range is also applicable to vehicles located within terrain that would normally block line-of-sight. For example, if two opposing vehicles are moving through a group of Grove hexes, they spot one another if the range is 1 hex.

4.1.4.2.6 Obstacle Hexsides
A hex containing blocking terrain blocks line-of-sight even if it passes through only a small fraction of the hex. In all cases, if a hex or hexside can block line-of-sight and the line-of-sight runs exactly along one of its hexsides, the line-of-sight is blocked.

4.1.5 Extraneous Spot Counters
If during the Spotting Phase it is determined that a vehicle is not spotted, remove any SPOT/FIRE or SPOT/MOVE counters it may have.

It many cases, it may not be necessary to mark all vehicles that fired or moved with SPOT counters, as the spotting ranges may be obvious, e.g., vehicles located in Clear terrain. This should help keep the mapboard a little tidier.

4.2 Basic Game Command Phase
At the heart of the game is the Command system. With just five individual commands, players prepare and manage their vehicles for the current turn.

Each of the five Command counters has unique characteristics that distinguish its purpose.

The Commands include:

- **FIRE:** enables any vehicle combat unit to fire at a spotted vehicle during the First or Second Player Direct Fire Step (see 4.4).
- **MOVE:** enables any vehicle to move during the First or Second Player Movement Step (see 4.5).
- **SHORT HALT:** enables any vehicle combat unit to fire at a spotted vehicle during the First or Second Player Direct Fire Step (see 4.4) and then move during the First or Second Player Movement Step (see 4.5).
- **OVERWATCH (OW):** enables any vehicle combat unit to voluntarily fire at a spotted vehicle that fired in an earlier step or in response to a spotted vehicle moving during the Movement Phase. Note that the target vehicle may be spotted as a result of its current action, fire or movement; it need not have been previously spotted during the Spotting Phase.
  It is key to note that Overwatch Fire is never required. The command may never be executed.
- **NO COMMAND (N/C):** tells the vehicle to sit tight and not perform any actions. This is the default stature for all vehicles not marked with a command.

Note that the Command Phase is executed prior to the Initiative Phase. Players must therefore commit their Commands without the knowledge of who is going be the First or Second Player. Welcome to the fog-of-war!

4.2.2 Place Command Step
Place a Command counter with the *Command* side visible on or adjacent to the vehicle so that the opposing side does not know what command was given. Each command enables a vehicle to perform only certain actions during specific phases or steps. When the time comes to carry out those actions, players are bound by them. Only OW and N/C commands allow a vehicle to take no specific action.

If a vehicle has a command to FIRE, MOVE, or SHORT HALT, it must execute that command—it is not an option. Care must therefore be taken when assigning commands.

In some cases, a vehicle may be Knocked Out or Brewed Up, therefore making it impossible to carry out a command.

Until a player reveals a command to perform some action; i.e., fire or movement, the command is maintained with its command side up. This also helps keep track of those vehicles that have not yet executed their commands.

Vehicles may not be given commands that cannot be executed. A vehicle that does not have any spotted targets may not have FIRE or SHORT HALT commands.

In the event a vehicle is given an illegal command, it is automatically converted to an N/C command.

4.3 Basic Game Initiative Phase
Initiative is a key aspect of the game. Through its careful use, players control the flow of the game by controlling the First and Second Player steps.

Since the Command Phase takes place before the Initiative Phase, players must make command decisions without the advantage of looking into a crystal ball as to the order of execution.

A superior force should more often than not find itself controlling the initiative. This really comes into play in the Advanced Game where the superior force receives a positive die-roll modifier and therefore should win the initiative more often than not. Through this, it is able to dictate and control the course of battle. However, as with all things in life (and war), it is not guaranteed.

4.3.1 Determining Initiative
During the Initiative Phase, each Force rolls (100); reroll ties unless instructed otherwise in the scenario Special Conditions. The Force rolling the higher result determines who is the First Player for the current turn. Flip the Turn counter to indicate the First Player.

Staggered Initiative (OR) (see 7.42) expands the Initiative process based on formations.

4.3.2 How Initiative Works
The First Player always performs the actions listed as First Player in the Sequence of Play. The Second Player follows suit by performing the actions listed as Second Player in the Sequence of Play. It is very important to remember that combat and movement actions are performed sequentially.

Simultaneous actions do not have First or Second Player as part of their Phase or Step. These actions are resolved in any agreeable order.

4.4 Basic Game Combat Phase
The players execute fire combats sequentially based on the order determined previously in the Initiative Phase. In the Basic Game all fire is classified as Direct Fire.

The Basic Combat Phase includes a single Step—Direct Fire. Only Armor Piercing AP Direct and Overwatch Fire is addressed at this time. This section encompasses vehicle-to-vehicle AP combat.

4.4.1 Direct Fire Step
The First Player announces and resolves Direct Fire by revealing the Command for every vehicle with a Fire or Short Halt command as they announce their fire.

The Second Player then announces and resolves Direct Fire by those vehicles still able to fire and marked with Fire or Short Halt commands by following the same procedures.

Direct Fire is resolved under the following rules and conditions:

• FIRE and SHORT HALT commands require a legitimate spotted target that was identified during the previous Spotting Phase. Players may never place FIRE or SHORT HALT commands in anticipation of spotting a target.
• Vehicles fire in the order described in the Sequence of Play. First Player vehicles fire first during that Fire Step; Second Player vehicles fire second during that Fire Step.
• Shots are resolved individually.
• Each vehicle only fires once per turn.
• Fire in each step is resolved from the positions and facings the vehicles occupy at the point the fire is resolved. The terrain occupied by the firing vehicle or its SPOT counter has no impact.
• All fire on a single opposing vehicle must be announced before any fire is resolved. If that target vehicle is eliminated before all the announced vehicles have fired, they are assumed to still have fired at the announced target. They may not then shift their fire to a new target.
• All combat results are applied immediately.
• If the vehicle does not have an existing SPOT/FIRE counter or it has a SPOT/MOVE counter, place the new SPOT/FIRE counter partially under its Command counter to signify that it is a new status. That way, there is no confusion as to the vehicle's status as of the previous Spotting Phase.

• All vehicles with FIRE or SHORT HALT commands must declare fire unless the command was placed in error, i.e., no visible targets are available.

4.4.2 Overwatch Fire
Overwatch Fire is a triggered event in response to opposition fire (during the Combat Phase) or movement (during the Movement Phase)—it fires at targets of opportunity.

After resolving direct fire, announce and resolve all desired Overwatch Fire by those vehicles marked with OW commands at opposing vehicles that fired during Indirect Fire or Direct Fire Step.

Overwatch Fire is voluntary; vehicles with OW commands are not required to fire. Since Overwatch Fire has built in penalties, it is not intended as a method of engaging spotted targets. It does, however, act as a deterrent to opposition fire and movement.

Overwatch Fire is resolved under the same rules and limitations as described for Direct Fire with the following additions:

• *All* First and Second player Direct Fire is resolved before any Overwatch Fire is announced.
• Additional Overwatch Fire may be triggered as a result of earlier Overwatch Fire. Consider it a cascading effect where one initial OW shot could trigger a whole series of follow on shots. Again, Direct Fire takes precedence.
• Spotting is confirmed at the time the Overwatch Fire is announced. A previously spotted target is not required.

4.4.3 AP Firing Sequence and Rules
Only those vehicles with an AP row in the Offensive Information section of their Data Cards may fire. AP Type fire is directed only at vehicles; it is never used against any other target type.

There are other types of AP ammo, e.g., APCR, APFSDS, APDS, HVAP, HEAT, HEAT-MP, and HESH, these are also classified as AP Type fire.

To fire at a target, it must be spotted, in range of the weapon firing, and fall within the firing vehicle's Field-of-Fire.

4.4.3.1 Fields-of-Fire
All combat vehicle units have a defined Field-of-Fire. Some have a limited field-of-fire. Those include non-turreted vehicles with fixed gun mounts.

4.4.3.1.1 Turreted Vehicles
Turreted vehicles have all-round Fields-of-Fire. Turreted vehicles are those with a TT Factor of 1, 2 or 3 in their Weapon Data section.

An Optional Rule, Turrets (see 7.8) expands on turret Fields-of-Fire and use.

4.4.3.1.2 Turretless 360º Vehicles
Like turreted vehicles, vehicles with a TT Factor of 360 are classified as Turretless 360° and have all-round Fields-of-Fire. Their pivot guns, mounted behind gun shields or in open gun mounts, are able to engage opposing vehicles in any direction.

In the Basic Game, they are essentially the same as turreted vehicles.

4.4.3.1.3 Non-Turreted Vehicles
Non-Turreted vehicles may have fixed gun mounts. They are those with a TT Factor of 0. Virtually all have their guns fixed to the front, although a few have their guns fixed to the rear. Non-Turreted vehicles are only able to engage targets that fall within their front or rear Field-of-Fire depending on the position of their gun or weapon.

4.4.3.1.4 Front Field-of-Fire
A vehicle that has a limited Field-of-Fire to its front is indicated by an underscored ammo notation on its Data Card.

A Front Field-of-Fire, in this case, is defined as the area that falls within the Front 60° of its counter. All hexes bisected by the 60° arc fall within its Field-of-Fire.

No fire may be directed at a target falling outside of the area described by the Front Field-of-Fire.

4.4.3.1.5 Rear Field-of-Fire
A vehicle that has a limited Field-of-Fire to its rear is indicated by an overscore ammo notation on its Data Card.

A Rear Field-of-Fire, in this case, is defined as the area that falls within the Rear 60° of its counter. All hexes bisected by the arc fall within its Field-of-Fire. It is the direct opposite of a Front Field-of-Fire.

No fire may be directed at a target falling outside of the area described by the Rear Field-of-Fire.

4.4.3.2 Resolving AP Fire
The firing player flips the firing vehicle's Command over to demonstrate that it is correct and announces the target.

Since the SHORT HALT command is a two-part Command, face the Fire half of the Command counter towards the front of the vehicle. This way when it comes time to move those same vehicles, players can easily identify which vehicles have not yet moved.

4.4.3.2.1 The AP Range Factor
Find the portion of the Data Card with the name of the weapon to fire in the Ammo Type column of the Offensive Information section.

Some vehicles have multiple AP ammo types as mentioned earlier. Some vehicles also have multiple AP weapons. The weapons and their AP ammo are clearly labeled to assist in matching the proper sets. In the Basic Game, only AP Type ammo should be used.

Vehicles with multiple weapons may have different Fields-of-Fire for those weapons. In all cases, shots are resolved individually.

Determine the range in hexes from the firing vehicle to the target vehicle. Move along the R – Range sub-row for the AP row until finding the value that is greater than or equal to the value that corresponds to the range in hexes.

Above that value is one of five possible outcomes:

  • P – Pointblank
  • S – Short
  • M – Medium
  • L – Long
  • E – Extreme

That factor found above the range is the AP Range Factor.

4.4.3.2.2 AP Hit Modifiers
The AP Hit modifiers are now checked to determine their effect, if any. These modifiers are found on the AP Hit Modifiers Table found on Game Card A. Many of the listed AP Hit modifiers are not utilized in the Basic Game.

All AP Hit modifiers are cumulative, and together are called the Net Modifier.

Target Size
The Size of a target vehicle is found in the Defensive Information section. The possible values range from +2 to –2.

Target Moving
If the target vehicle has a MOVE or SHORT HALT command—the modifier is –2.

If the target vehicle's command is not yet visible, the controlling player must reveal it to receive the modifier (turn the Command counter face down again to show it is not yet executed).

Note that in this case, the controlling player is not required to reveal the command; respond that the command has no effect. If player chooses not to reveal the command, the modifier is 0. This limits players from taking low-odds reconnaissance-by-fire shots just to reveal commands.

Target in Light, Medium, or Heavy Cover
If the target vehicle is located in terrain classified as Light, Medium, or Heavy Cover—the modifier is –1, –3, or –5, respectively. If a vehicle is located in an over-stacked hex, treat any Cover in the hex as *None*.

Short Halt: SB: 0, Other
If the firing Vehicle has a Short Halt command and is SB: 0—the modifier is –4.

All vehicles have a Stabilization Rating. In Panzer and Panzer North Africa, it is the SB: 0 in their Weapon Data section.

This represents the greater challenge of hitting a target while firing and then moving with a Short Halt command. While some WWII era vehicles were equipped with rudimentary stabilization systems, in the context of this game, they do not provide any measurable advantage.

Shooter Damaged
If the firing vehicle was Damaged during a previous turn or previous action during the current turn—the modifier is –3.

Brew-Up Smoke
If Brew-Up Smoke originates in the firing vehicle's hex, passes through, or enters the target vehicle's Brew-Up Smoke hex—the modifier is –2.

The modifier is applied for each unique occurrence of Brew-Up Smoke the Line-of-Sight starts from or encounters; it is cumulative.

All Brew-Up Smoke created during the current Player step does not take effect until the conclusion of that step.

Overwatch
If the firing vehicle is executing Overwatch Fire at a target located within its Front (or rear) Field-of-Fire—the modifier is –1. This is applicable whether the vehicle is Turreted, Turretless 360°, or Non-Turreted.

The (rear) Field-of-Fire is used for those Non-Turreted vehicles with a rear facing gun.

Keep in mind that the Target Moving modifier is also applicable in addition to this modifier if triggered by movement.

Overwatch Adjust
If the firing vehicle is executing Overwatch Fire at a target located outside of its front (or rear) Field-of-Fire—the modifier is –3. Only Turreted and Turretless 360° vehicles may execute Overwatch Fire at target vehicles located outside of the firing vehicle's front (or rear) Field-of-Fire.

Again, the Target Moving modifier is also applicable in addition to this modifier if triggered by movement.

Since vehicles typically focus their view on the area described by their primary weapon, this modifier represents the additional time required to quickly spot and engage a target located to its side or rear.

4.4.3.2.3 AP Hit Number
Reference the AP Hit Table on Game Card A. Cross-reference the AP Range Factor (see 4.4.3.2.1) with the Net Modifier (see 4.4.3.2.2). The number found there is the AP Hit Number.

If the Net Modifier is greater than +5, use the +5 row. If it is less than –10, use the –10 row. Note that with a Net Modifier of –10 and an AP Range Factor of E, it is not possible to hit a target vehicle.

Roll (100), if the result exceeds the AP Hit Number, the shot missed. If less than or equal to the AP Hit Number, the shot hit.

4.4.3.2.4 Basic Game Hit Angle Determination
The orientation of the target vehicle to the firing vehicle is used to determine where a vehicle is hit. In the Basic Game, vehicles have either a Front or Rear Armor Aspect.

If the line-of-sight runs exactly down a hexside dividing the Front and Rear aspects, the player controlling the target vehicle determines which aspect to utilize.

4.4.3.2.5 Determining Armor Penetration
The Basic Game utilizes a streamlined method of determining armor penetration. The armor information found in the Defensive Information section is only used in the Advanced Game (AG).

The armor information in the Basic Game is found in the target vehicle's Notes Section as Armor Front Factor/Rear Factor.

For armor penetration, find the portion of the firing vehicle's Data Card with the name of the firing weapon Type column of the Offensive Information section. Move along the P – Penetration subrow for the AP row until finding the value that is just below the value that corresponds to the range in hexes. That value is the AP Penetration Factor.

If the firing vehicle's AP Penetration Factor is greater than or equal to the target vehicle's Armor Factor, the shot penetrated. If less than the Armor Factor, the shot has no effect.

Bigger is not necessarily better. The finest Soviet anti-tank gun produced during the war was the 100mm L/56. Its anti-armor performance was superior to both the 122mm L/46 and the 152mm L/29. Why didn't more units field it? The Soviets had many more 122mm and 152mm guns in hand and they also preferred the explosive advantage those guns offered since soft targets dominated the battlefield at the end of the war.

4.4.3.2.6 Basic Game AP Damage & Effects
If the shot penetrates, apply the following:

- If the Penetration Factor is equal to or greater than the Armor Factor by 1-3, the target suffers a Damage Hit.
- If greater by 4-9, it suffers a KO.
- If greater by 10 or more, it suffers a BU.

Damage effects are also summarized on Game Card D (Panzer) or on the Combat Effects Summary (back cover of the Optional Rules Book - Panzer North Africa).

Damaged
The target vehicle was damaged by the hit. Place a DMGD counter on or next to the target vehicle.

If a damaged vehicle receives a second Damaged result, it is considered KO—Knocked-Out instead and those results apply.

If Damaged, a vehicle:

- Must apply Damage AP Hit modifiers to all future fire.
- Immediately has its remaining and future movement speed allowance reduced by ½ (round down).

Note that the DMGD counter has Turret, Hull. Malfunction, and Out of Action listed (Panzer North Africa). Turret and Hull are specific damage areas and are utilized in the Advanced Game; Malfunction and Out of Action are used with the Optional Rules.

KO – Knock-Out
The vehicle was knocked out by the hit. It is no longer operable and is totally out of action.

It is considered to be eliminated and is now a Wreck in the context of the game. Remove the vehicle counter from the hex and replace it with a KO counter.

If a KO or BU counter is already in the hex, do not place a second counter.

BU – Brew Up
The vehicle was brewed up by the hit. It suffered a catastrophic hit, exploded, and caught fire. It is now a source of Brew-Up Smoke.

It is considered eliminated and is now a Wreck in the context of the game. Remove the vehicle counter from the hex and replace it by a BU counter. If a KO counter is already in the hex, replace the counter; if a BU counter is already in the hex, do not place a second counter.

4.5 Basic Game Movement Phase
The players execute movement sequentially based on the order determined previously in the Initiative Phase.

The Second Player announces and resolves movement for every vehicle marked with a MOVE or SHORT HALT command. Vehicles are marked with SPOT/MOVE counters as they move.

While the Second Player is moving, the First Player announces and resolves all desired Overwatch Fire by vehicles marked with unrevealed OW commands at opposing vehicles as they move.

The First Player then announces and resolves movement. While the First Player is moving, the Second Player announces and resolves all desired Overwatch Fire by vehicles marked with unrevealed OW commands at opposing vehicles as they move.

As is the case with Direct Fire, Overwatch Fire taken in the Movement Phase can result in a series of triggered Overwatch Fire responses. A vehicle that fires at a moving vehicle could then receive fire from a vehicle with unrevealed OW commands, and so on.

Note that vehicles with MOVE or SHORT HALT commands are not required to actually move from their current hex, but must still reveal their Command counter. In fact, there are certain actions that are covered in the Advanced Game rules that require movement without actually exiting a hex. However, even if they do not move from their hex, they are still considered to be moving and are marked with SPOT/MOVE counters.

4.5.1 General Movement Rules
A player may move all, some or none of the commanded vehicles up to the maximum Movement Speed Allowance.

All vehicles are marked with SPOT/MOVE counters. This replaces the SPOT/FIRE counter for the fire portion of a SHORT HALT command that was placed during the Combat Phase.

4.5.1.1 Movement Procedure
Vehicles move one at a time and must complete their entire move before the next vehicle moves. Movement costs should be called out as expended.

If there is a possibility a move may trigger Overwatch Fire, the movement should be slow enough to permit the opposing player to observe and to decide if and when to fire.

Use the Command counter to mark the start of the move in case the player decides to retrace the move or if the accuracy of a move is called into question. Move the Command counter forward once the move is completed.

When a vehicle moves, it must always move in the direction its front faces, except for reverse moves where it is directly opposite, and keep its facing towards the direction of movement.

Vehicle facing is critical when determining the correct aspect for AP fire.

4.5.1.1.1 Movement Factor
Each vehicle has a Movement Factor that determines the distance it can move during a turn. A vehicle's Movement Factor is listed on its Data Card in the General Information section following the M:.

With vehicles, the Movement Factor is made up of four distinct elements. The first two are listed in combination and determine the Cross-Country movement speed allowance and the Mode of Traction. From the *Panzer* example above (SU-76M M43), 5T gives a Cross-Country movement speed allowance of 5 and Mode of Traction of T=Tracks. Other vehicles have H=Half-track or W=Wheeled for their Mode of Traction.

The third element is the vehicle's Path movement speed allowance, and the fourth is the Road movement speed allowance. From the *Panzer* example above (SU-76M M43), Path equals 6 and Road equals 10.

Vehicles with Move commands may expend any portion of the available movement speed allowance.

Vehicles with Short Halt commands may expend up to ½ of the available movement speed allowance (round down).

Damaged vehicles may expend up ½ of the available movement speed allowance (round down). Damaged vehicles with Short Halt commands may expend ¼ of the available movement speed allowance (round down).

While a vehicle may use any part of its available movement speed allowance, the unused portion does not carry over from one turn to another. It may also not be transferred from one vehicle to another vehicle.

The movement speed allowance is expended by performing various movements which have various costs depending on the Terrain type and the vehicle's Mode of Traction.

4.5.1.1.2 Movement Costs
The cost for a vehicle to enter a hex or cross a hexside is listed on the Terrain Effects Table on Game Card A (Panzer) or on Game Card B (Panzer North Africa). All movement is considered to be Cross-Country unless the vehicle is utilizing Path or Road movement.

The movement cost varies for each new hex entered or hexside crossed based on the type of terrain in the hex along with the vehicle's Mode of Traction.

Tracked (T) and Half-tracked (H) vehicles pay the same movement costs while Wheeled (W) vehicles pay their own movement costs. Use the appropriate column for the Mode of Traction. No movement is allowed into prohibited (P) type terrain, e.g., vehicles may not enter Heavy Woods hexes.

Pay close attention to the information in T, H column on the table. While available to tracked vehicles, some terrain types are prohibited to half-tracked vehicles, e.g., crossing a Wall hexside.

Slope and Crest Hexsides
Movement between terrain of different Heights (crossing a Slope or Crest hexside) has a value added (+1 or +2) to the cost of the terrain in the destination hex. Height change costs vary per the number of levels changed, up or down, when the move is made.

Tracked and half-tracked vehicles may not change elevation by more than 2 Heights in a single 1 hex move while wheeled vehicles are limited to a single Height change.

Wall and Hedgerow Hexsides
Movement across these hexsides for tracked vehicles only does not result in a change of Height, but costs a value added to the cost of the terrain in the destination hex. Note moving a tracked vehicle across a

Hedgerow hexside costs the vehicle its entire speed allowance (see 4.5.1.1.3 Exceeding Movement Costs).

Brew-Up Smoke
Movement into or through a Brew-Up Smoke hex adds +1 to the cost of the other terrain type in the hex when moving or turning in a hex.

4.5.1.1.3 Exceeding Movement Costs
A vehicle may always move just 1 hex during its move if it has Move or Short Halt commands even if the cost of moving 1 hex exceeds the vehicle's available movement speed allowance. This exception also applies to reverse moves.

This is allowed as long as the vehicle does not expend any of its movement speed allowance while turning and does not exceed height change limitations. Otherwise, vehicles may not exceed their available movement speed allowance.

4.5.1.1.4 Turning
Turning costs apply only to vehicles. Vehicles turn by pivoting in place and then moving in a new direction. Turn costs apply only if the vehicle makes a turn in excess of one hexside (60º).

Vehicles receive one free hexside turn for each hex they occupy or enter. This could be at the beginning of a move, during a move, or at the very end of a move.

Turn costs are based on the Terrain type, not the magnitude of the turn. If the vehicle turns 2 or 3 hexsides in a hex, the turn cost is subtracted from the available movement speed allowance. Turn costs are the same during forward or reverse moves.

Turn costs are listed on the Terrain Effects Table on Game Card A (Panzer) or Game Card B (Panzer North Africa) in the Turn column. Vehicles may never exceed their available movement speed allowance by turning. Turning can trigger Overwatch Fire.

4.5.1.1.5 Path and Road Movement
Vehicles move faster when traversing the battlefield via Paths or Roads. Wheeled vehicles typically receive the greatest advantage while fully tracked vehicles receive the least.

Vehicles moving at Path or Road speed ignore the actual terrain costs in a hex expending only 1 of its Movement Speed Allowance for each hex entered (2 for reverse moves).

To move at the Path or Road speed, the vehicle must start its move on a Path or Road hex and follow the route described by the Path or Road for its entire move, ending its move on a Path or Road. While a vehicle may face any direction at the start the move, it must maintain its facing along the route described by the Path or Road for the entire move. It may not adjust its facing to a more advantageous angle, during or even at the end of the move. In other words, it is always facing the Road or Path as it would enter the next hex.

If a vehicle combines Path or Road movement with non-Path or Road movement, it must use its Cross-Country movement factor for the entire move.

If a vehicle moves along a route that combines Path and Road movement, it uses the rate based on the greatest number of hexes traversed. If equal, it utilizes the Path movement rate.

A Wreck (KO or BU) counter or an opposing vehicle located in a Path or Road hex does not prevent movement but does stop a vehicle from using its Path or Road movement factor. If the route crosses a Wreck or an opposing vehicle, the vehicle must use its Cross-Country movement factor for the *entire* move.

A friendly vehicle located in a Path or Road hex does not stop a vehicle from using its Path or Road movement factor unless the hex is over-stacked. If the route crosses an over-stacked hex (including the moving

vehicle), the vehicle must use its Cross-Country movement factor for the *entire* move.

Vehicles may enter prohibited terrain hexes, e.g., Heavy Woods, while moving on a Path or Road. However, they may never exit from the Path or Road into prohibited terrain hexes that do not include a Path or Road.

Vehicles that change height while moving along a Path or Road treat the cost of changing height as if it were 1 less than the actual value. Vehicles may still not add more than +2 for changing heights within a 1 hex move.

4.5.1.1.6 Movement Over Bridges
Bridge hexes along a Path or Road are of a terrain type that matches the connecting Path or Road hex. If a bridge is connected on one end by a Path on the other end by a Road, the Bridge is treated as a Road hex.

Vehicles may not enter or exit a Bridge hex other than from its connected Path and/or Road hexes. Bridges are considered a continuation and part of its connected Path and/or Road hexes.

4.5.1.1.7 Reverse Moves
Vehicles may move in reverse during any portion of their move. When moving in reverse, the vehicle moves in the direction directly opposite from its front face.

Reverse moves cost the vehicle twice the normal movement cost for the terrain entered. Turn costs are unaffected during reverse moves.

4.5.1.1.8 No Move Moves
Vehicles with MOVE or SHORT HALT commands may remain in their current hex, they are not required to move from that hex, but they are still considered to be moving and are still marked with a SPOT/MOVE counter and are still subject to Overwatch Fire. Vehicles may also just turn in place.

4.5.1.1.9 Off Mapboard Moves
Any vehicle that moves off the mapboard is considered out of the scenario and may not return to play. It is not counted as eliminated, but it no longer has any impact on the scenario.

To move off the mapboard, a vehicle expends its movement speed allowance based on the terrain type in the hex it is exiting from.

An exception to this rule are vehicles that are not yet committed to play and are being held off the mapboard. Once they enter play, if they then move off the mapboard, they may not return to play.

In addition, vehicles may be required to exit the mapboard to meet certain victory conditions. These vehicles may not return to play once they exit, but still figure into the scenario's victory conditions.

4.5.1.1.10 Vehicle Coexistence
Vehicles may freely pass through Wrecks, and friendly and opposing vehicles without additional cost other than for the cost of the terrain entered. However, opposing vehicles may never end their movement in the same hex. Stacking limits are a consideration when moving through a hex containing opposing or friendly vehicles.

If an armed vehicle enters a hex occupied by just one or more opposing unarmed vehicles, those vehicles are automatically Knocked Out and replaced with a Wreck counter.

Since movement is resolved sequentially, there can never be a case of contention for a specific piece of ground. One side always grabs the hex first.

This is the one case where the player controlling the initiative may choose to be the Second Player, since the Second Player completes all movement before the First Player.

4.6 Adjustment Phase
The players resolve the final actions for the turn and prepare for the next turn by clearing off excess counters, and advancing the TURN counter to the next turn.

4.6.1 Adjust & Remove Counters Step
Simultaneously flip over all Command counters that were not revealed. Unused OW and N/C commands are ignored.

Note any unused FIRE, SHORT HALT, or MOVE commands. Any occurrence of this situation is an illegal play as all FIRE, SHORT HALT and MOVE commands must be revealed during those respective First or Second Player Steps. Players should make certain this situation does not occur. Players may decide if these units should be subject to unexecuted Overwatch Fire. Mark all units with unused FIRE or SHORT HALT commands with SPOT/FIRE counters and units with Move commands with SPOT/MOVE counters. Remove all Command counters from the mapboard.

4.6.2 End Turn Step
The current turn is now complete. If it is the last turn of the scenario, the Victory Conditions are reviewed to determine the outcome of the scenario. If it is not the last turn of the scenario, the scenario continues on to the next turn.

Introduction to the Advanced Game (AG)

The Advanced Game adds many new concepts and processes that expand on those found in the Basic Game. In some cases, the Advanced Game just adds more depth to the Basic Game. However, in other cases it adds completely new concepts. When reviewing the Advanced Game keep in mind that all Basic Game rules still apply.

In many cases, the Advanced Game may be treated as drop-in, modular rule sets. They can be used as called for or as desired, but in many cases, they are not required for play.

5.0 Advanced Game General Procedures & Rules

5.1 Leg Units

Squads are the largest leg units fielded, followed in order of size, by half-squads and sections.

Leg units are typically armed with AP and GP or AP only or GP only weapons. Their combat resolution is the same as any other AP or GP weapon. All leg units have a 360° Field-of-Fire unless suppressed.

Leg units may be further classified as motorcycle, bicycle, or cavalry units. Other than for their mode of transport, they function essentially the same as their foot-bound counterparts.

5.1.1 Squads & Half-Squads

Squads and half-squads are the primary leg units found in infantry formations. In fact, squads are actually made up of two half-squad units. Combat results may call for a squad to be reduced to a half-squad rather than total elimination. Half-squads are not reduced further, they are eliminated from play.

Squads may never voluntarily split into two half-squads. They may only be reduced to a single half-squad as a result of combat. Similarly, two half-squads may never combine to form a squad.

Squads and half-squads are always of a certain unit type as instructed by the Force List in a scenario.

Squads and half-squads are armed with their intrinsic GP weapon, plus in some cases with attached crew-served weapons. Unsuppressed squads may utilize their basic GP weapon plus all attached crew-served weapons when executing combat. Suppressed squads and half-squads may utilize their intrinsic GP weapon or a single attached weapon.

5.1.2 Sections

Sections are fielded without attached weapons, i.e., Command or FO Sections, or may attach crew-served weapons, e.g., HMGs, Mortars or ATRs.

Sections have two Movement Factors. The first, 2L 3, is for sections without (w/o) any attached crew served weapons; and the second, 1L 0, is for sections with attached crew-served weapons.

All Sections are armed with their intrinsic GP weapon in addition to any attached crew-served weapons. Sections may utilize their intrinsic GP weapon or a single attached weapon when executing combat.

5.1.3 Attached Crew-Served Weapons

Many leg units have AP and/or GP Fire capable crew-served weapons attached. These include mortars, heavy machine guns, anti-tank rifles, anti-tank rocket launchers and flamethrowers.

Crew-served weapons are never fielded individually; they must be attached to a squad, half-squad or section unit. While there is no specific limit as to the number of crew-served weapons a leg unit may have attached, logic should dictate what is employed.

The scenarios dictate which leg units have attached crew-served weapons. When necessary, use the Formation Summary to indicate which units are so equipped.

The Notes Section of their Data Cards classify crew-served weapons as to their type and any other special factors.

5.1.3.1 Mortars

Mortars loft their explosive bombs through a high arc. Mortars have two GP Gunnery sections on their Data Cards. One is for GP Direct Fire (DF) and the other is for GP Indirect Fire (IF). The appropriate Gunnery Table is referenced based on the type of fire. Mortars do not have an AP Direct Fire capability. Crew-served mortars may not fire while being transported or located in the upper floors of buildings.

Mortars are considered Small Arms (see 5.7) for spotting purposes. Some mortars have a minimum firing range (see 5.6). They may utilize indirect fire out to their maximum range from Full Cover (see 6.1.4.2).

Some vehicles field them as a primary weapon. They may not fire if located inside of a building.

5.1.3.2 HMGs

Heavy machineguns are tripod or platform mounted automatic weapons. HMGs are GP Direct Fire weapons; they do not have an AP Direct Fire capability. Crew-served HMGs may not fire while being transported.

HMGs are considered Small Arms (see 5.7) for spotting purposes. Some vehicles carry them as their primary weapon.

5.1.3.3 Anti-Tank Rifles

Anti-tank rifles were the first ant-tank weapons to fire high-velocity bullets to defeat armored vehicles. They are AP Direct Fire weapons; they do not have a GP Fire capability (see below). They may fire while being transported.

Anti-tank rifles are classified as Small Arms (see 5.7) for spotting purposes. Some vehicles carry them as their primary weapon.

The Italian Fucile-cc S Anti-Tank Rifle was a hybrid design between that and an anti-tank gun. It has a GP Fire capability.

5.1.3.4 Hand-Held Anti-Tank Weapons

Hand-Held Anti-Tank Weapons (HHATW) fire HEAT (CE) rounds to defeat armored vehicles. They fire either rocket-propelled or spigot-projected shells. They may not fire while being transported or located in the upper floors of buildings unless otherwise indicated (see Data Card Notes Section).

They are AP Direct Fire weapons, but they also have a fixed, non-range dependent GP Direct Fire capability (same range as AP). The fixed GP Factor is listed in their Ammo Type column. GP Direct Fire is used only when these weapons fire at a leg or towed unit.

A few Hand-Held Anti-Tank Weapons are classified as Small Arms (see 5.7) for spotting purposes, e.g., the British PIAT (see Data Card Notes Section).

If fired at a vehicle transporting leg or towed units, the GP Factor may be applied against the passengers in addition to the AP fire directed at the transporting vehicle.

5.1.3.5 Flamethrowers

Flamethrowers are devastating short-range weapons. They are treated only as combat die roll modifiers in Close Assault or Hand-to-Hand combats. They must be attached squad, half-squad or section units.

When mounted on vehicles they are treated as GP Direct Fire weapons.

5.2 Towed Units

Towed units are guns that require some form of transport as their primary means of mobility. Their crews are built-in and are not represented by separate counters. All towed units have a leg component

as part of their transport capacity. A towed gun's crew never detaches from its gun. All combat results are applied to the towed gun and its crew as a single unit; they suffer the effects equally.

Most towed units may move a single hex, referred to as manhandling, without the aid of transport.

Towed units are typically armed with AP/GP or AP or GP only weapons. Their combat resolution is the same as any other AP or GP weapon. All towed units have a Front 60° Field-of-Fire. Platform Gun Mounts (OR) (see 7.16) expands on this limitation.

Some towed units have two GP Gunnery sections on their Data Cards. One is for GP Direct Fire and the other is for GP Indirect Fire. The appropriate Gunnery Table is referenced based on the type of fire.

Some may not fire if located inside of buildings or Improved Positions (see Data Card Notes Section).

5.2.1 Portée [B-14B1, B14B2 & I-6B (Panzer North Africa)]
Portée was the practice of carrying guns, especially anti-tank guns, on various truck beds enabling their use in mounted combat. A variation on the French term, *en portée*, it translates to "in reach."

Differing from other truck mounted weapons, portée guns could also quickly dismount for ground-based employment. Most often associated with British anti-tank units in North Africa, the practice was also employed by the Italians.

The mounted guns may employ Direct Fire while mounted. They may dismount following the rules for towed unit transport (see 6.6.7.1). When dismounted, replace the Portée counter with matching Truck and Anti-tank Gun counters in the hex facing in any direction.

The gun may again mount, again following the rules for towed unit transport, but in this case, requiring all of the Truck's MPs. Replace the separate Truck and Anti-tank counters with the matching Portée counter in the hex facing in any direction.

5.3 Artillery Units
Artillery batteries are represented *off-board*. ARTILLERY IMPACT counters are used to mark the impact hex of their fire. Their combat resolution is the same as any other indirect fire GP weapon.

5.4 Aircraft Units
5.4.1 Fixed-Wing Aircraft
Aircraft in Panzer and Panzer North Africa are all fixed-wing units. Fixed-wing aircraft are capable of quickly and surgically delivering a heavy and varied load of weapons. They are dedicated tactical strike aircraft or variants of other types employed in a ground attack role.

Fixed-wing aircraft are armed with GP weapons classified as strafe, bombs or rockets.

The mix and availability of these weapons varies from type to type. Their combat resolution is the same as any other GP weapons. They resolve combat and movement during either of the two Aircraft Phases.

5.5 Advanced Game Unit Facing
Leg, towed, and aircraft units have a front facing. Just like vehicles, they must at all times face towards a hexside, not towards the angle of a hex.

Leg and towed units may move in any direction. Fixed-wing aircraft may only move into the hex their front is facing.

5.6 Minimum Range
Some weapons have a minimum range (the projectile must travel a certain distance before it is able to hit a target). Weapons may never engage targets at a range less than their listed minimum range. If no minimum range is listed, the unit has a minimum range of 1 hex.

5.7 Small Arms
Certain weapon types are classified as Small Arms. Their fire impact is less significant and their fire signature is less identifiable than larger weapons, like tank guns, and are therefore sighted at shorter ranges when fired.

Those weapons classified as Small Arms are listed in the Offensive Information section of their Data Cards in the GP or AP/GP Effectiveness column or in the Notes section.

5.8 Grade
Grade denotes troop quality and is rated at three different levels; from highest to lowest: Force, Formation, and Unit; of six different qualities, from best to worst: Elite, Veteran, Seasoned, Regulars and Green.

The scenario description outlines the Force, Formation and Unit Grade for the forces. Grade is an inherent trait; it never changes during a scenario.

5.8.1 Force Grade
Force Grade is the single overall rating of the Forces' collective effectiveness. Formations or the individual units within a formation may have a grade greater than, equal to, or less than the Force Grade.

Force Grade is also used to represent unbalanced situations where high-quality troops have weak leadership, e.g., Veteran troops with a Regulars Force Grade, or lesser quality troops with superior leadership, e.g., Green troops with Veteran Force Grade.

Force Grade is used as a dice roll modifier when determining the current turn's Initiative.

5.8.2 Formation Grade
A side's force is composed of one or more formations. These formations organize the individual units of a force into distinct elements for command control and morale purposes, typically at the company level.

Through the course of a scenario, individual units may not transfer from one formation to another; they remain part of that formation for the entire scenario.

5.8.3 Unit Grade
Formations are composed of individual units, each having a Unit Grade. Unit Grade is the same as a unit's Formation Grade unless otherwise indicated in a scenario's force listing. Unit Grade is used in a number of situations including: all types of combat resolution, Suppression recovery, Quickmarch, Bail Out, Indirect Fire Response, and morale status and recovery.

Individual off-map artillery units do not have a Unit Grade rating. The observer's Unit Grade is used for all artillery combat situations.

5.9 Command, Recon, Engineer, and FO Units
Special unit types have Command, Recon, Engineer and/or FO labels. These designations empower those units with unique capabilities. The notations may also be combined. In those cases, the units possess multiple capabilities.

5.9.1 Command Units
Mounted or dismounted leg units and vehicles with a Command label, CHQ (company, battery, troop (USA), or squadron (USA, France, UK) headquarters), BHQ (battalion or squadron headquarters), or RHQ (regiment or brigade headquarters), are the only command units within a headquarters formation. Most HQ formations are composed of a number of units including the command units, security forces, reconnaissance units, transport units, and forward observers.

Only those units with a Command label may exercise command authority over subordinate units.

5.9.2 Recon Units
Mounted or dismounted leg units and vehicles with a Recon label possess special reconnaissance capabilities that typify their independent role and higher level of training.

5.9.3 Engineer Units
Dismounted leg units with an Engineer label possess special combat engineer capabilities that typify their unique role within combat formations.

5.9.4 FO Units
Mounted or dismounted leg units and vehicles with an FO label possess special forward observer capabilities that enable them manage and control indirect fire capable units and aircraft.

5.10 Suppression
In the Advanced Game, units may also be Suppressed as a result of GP combat or other actions, e.g., Bail Out. Suppression reduces the effectiveness of a unit for spotting (see 6.1.3.1), combat (see 6.5.2.5 and 6.5.4.3) and movement (see 6.6.2) purposes. Suppressed units have either the SUPPRESSION/ON or SUPPRESSION/OFF side of the counter facing front to indicate the status. The Suppression effects are the same for either SUPPRESSION/ON or SUPPRESSION/OFF.

Multiple Suppression results do not cause any additional impact. However, a new Suppression result on a unit is recorded by placing a SUPPRESSION/ON counter; or by rotating an existing SUPPRESSION/OFF counter to SUPPRESSION/ON.

5.11 Coexisting Fire, Smoke & Barrages
It is possible to have Fire, Smoke and/or a Barrage in the same hex and to have a line-of-sight pass through these multiple instances. In the case where coexistence occurs, apply the single largest combat modifier that provides the greatest advantage to the target unit.

5.12 Modifiers & Adjustments
GP combat adds or subtracts a modifier value or values from the combat dice roll. In all cases, the indicated modifiers are cumulative.

Some GP combat results require a comparison against ½ of the shooter's GP Factor. Always round down unless the original GP Factor is a 1; in that case ½ of the GP Factor is still 1.

SHORT HALT commands, Suppression and Hull Damage results each call for units to reduce their movement speed allowance by ¾ or ½, always round down. The minimum value is 1.

5.13 Stacking
If a hex, at any time, contains 6 or more vehicles and/or dismounted towed units, it is considered to be over-stacked and applies the over-stacked hex effects.

Wrecks, leg and aircraft units do not count for stacking purposes.

Those effects are outlined in the Spotting (see 4.1.3.2), Combat (see 4.4.3.2.2), and Movement (see 4.5.1.1.5) Phases sections.

5.14 Dual Fire
Some vehicle units carry two weapons types, while squads and half-squads may have multiple weapon types. These units have the ability to fire any or all of the weapons at the same time. While sections may carry multiple weapons, they may utilize only a single weapon at a time.

Dual Fire simulates the challenge of managing the fire of multiple weapons against the same or different targets.

The controlling player announces the fire normally, but must indicate if one or all of the weapons are firing and if they are firing on the same or different targets. If only one of the weapons is firing, regardless which one, the modifier is ignored.

Note that ammo limits (see 5.16) may individually apply to one or all of the weapons.

Suppressed units may not employ Dual Fire; they must select a single weapon.

If firing at different targets, the unit is bound by Combat Command Control Limitations if the unit is sharing a command with other units. If it has its own unique command, it may fire on any legitimate targets (see 6.2.1.1.3).

The Dual Fire AP/GP modifier only applies to the weapon displayed as a reverse image on the vehicle Data Card and all attached leg crew-served weapons. The other weapon is treated normally.

Dual Fire does not apply to Overrun Combat (see 6.6.10).

5.15 Bailing Out
Even though a vehicle was not Knocked Out or Brewed Up as a result of combat, the crew and/or passengers may still decide that the shot was just too close for comfort and elect to abandon it. In addition, when a vehicle unit transporting one or more leg or towed units is eliminated, those passenger units must determine if they are able to exit the vehicle safely or are also eliminated.

When a vehicle receives a No Damage, Damage, Knock Out, Brew Up or a Track hit from AP Fire (see 6.5.2.6), or it receives a Knock Out or Brew Up from GP Fire (see 6.5.4.4.2), there is a chance that the vehicle's crew and any leg or towed passenger units may bail out.

When a leg or towed passenger unit is Suppressed as a result of Direct or Indirect GP Fire, there is a chance that unit may bail out.

A vehicle's bailed out crew is not represented by a counter; it just melts into the battlefield. Once a vehicle is abandoned it is out of action and may not be reoccupied, by either side, for the remainder of the scenario. Place a BAIL counter on or next to the vehicle.

If there is any chance of bail out, the attempt must be made immediately after all combat is resolved affecting the vehicle, and any leg or towed passenger units, by referencing the Bail Out Table on Game Card B (Panzer) or Game Card A (Panzer North Africa) (see 6.5.2.7).

If more than one bail out condition applies, the condition affecting the transporting vehicle is resolved first. The condition affecting the passenger unit(s) may still be applicable or it may change due the vehicle's bail out outcome.

5.16 Ammo Limits
Some ammo types may only be available in limited numbers. Some combat units are only able to carry a limited amount of basic AP and GP rounds, but most units carry sufficient basic AP and GP rounds so that in the time frame modeled in a typical scenario ammo limitations are no issue.

All of these situations and units are subject to the Ammo Limit rules. The Ammo Limit rules are structured so that the players are not required to track ammo usage or shots fired. No record keeping is required, except for aircraft.

5.16.1 Special Ammo Availability
Special Ammo types include APDS, APCR, HVAP, HEAT, Smoke, and Illumination rounds. The Notes section of the Data Cards indicates when special ammo types are available. Prior to the listed date, the special ammo type may not be employed. If no date is present, the special ammo type may be used whenever the unit is available.

5.16.2 Determining Ammo Limits
Data section on its Data Card followed by a letter-number combinations along the same row. For units with multiple weapons, the ammo limits, if any, are listed for each weapon. If a weapon is not subject to ammo limits, it does not have any A: type information.

The prefixes include:

- A: AP, APCR, APDS, HVAP
- G: GP
- H: HEAT
- S: Smoke
- I: Illumination
- D: Smoke Dischargers (OR) (see 7.9)

To determine if a unit suffers the effects of an ammo limit, before resolving the actual AP or GP combat, roll (10) and compare the result to the listed ammo limit value. If the result is greater than the ammo limit value, the unit still resolves the combat, but must apply the ammo limit effects.

5.16.2.1 Basic Ammo Limits
Resolve the shot, but the unit's rate-of-fire is reduced to N if not already N.

If AP Fire, apply the –3 Ammo Limit AP Hit modifier to the shot resolution.

If GP Fire, apply the –10 Ammo Limit GP Hit modifier to the shot resolution.

If HEAT is the only ammo type listed for a particular unit (the unit does not have an AP row on its Data Card), the unit follows this procedure for its AP and GP Fire.

5.16.2.2 Special Ammo Limits
With APDS, APCR or HVAP (A prefix) or HEAT (H prefix, see exception above), the unit resolves the fire utilizing the Gunnery section for its basic AP ammo type. It must follow the procedure for basic AP Ammo Limits.

If the unit's basic AP ammo type is also subject to an Ammo Limit, that must be determined before the fire is resolved. If it is determined that its basic AP Ammo is also subject to Ammo Limits, a –6 Ammo Limit AP Hit modifier (–3+–3) is applied.

5.16.2.3 (On-Map) Smoke & Illumination Ammo Limits
With Smoke (S prefix) or Illumination (I prefix), the fire is not resolved; do not place a SMOKE or ILLUMINATION counter on the mapboard. If indirect fire, do not place the ARTILLERY IMPACT counter on the mapboard. The unit is still marked with a SPOT/FIRE counter.

5.16.2.4 Leg & Towed Ammo Limits
Some leg crew-served weapons and all towed units have Ammo Limits, including limits on their basic ammo. However, unique conditions apply to the limits on their basic ammo. The limits on special ammo types are always in effect.

These units have unlimited ammo as long as their transporting vehicle unit is within 1 hex of the towed unit or leg crew-served weapon, or the towed unit or leg crew-served weapon was placed on the mapboard at the start of the scenario, in which case there is a nearby ammo dump in the same hex.

If the transporting unit moves away or is knocked out or brewed up, or if the towed unit or leg crew-served weapon moves away from its transporting unit or its ammo dump, the limit on its ammo is immediately applicable.

If the transporting unit moves back within 1 hex, or the towed unit or leg crew-served weapon returns to its starting hex with its ammo dump, the supply of ammo returns to unlimited. Only the original transporting vehicle may be used to supply ammo for that unit. It may be necessary to make a notation to keep track of units.

If the towed unit or leg crew-served weapon starts the scenario placed on the mapboard and it also has a transporting unit, it may draw its ammo supply from either source.

For basic ammo, apply AP or GP Ammo Limits as listed in 5.16.2.1. For special ammo, apply AP or GP Ammo Limits as listed in 5.16.2.2

5.16.2.5 Off-Map Artillery Ammo Limits
Off-Map Artillery Batteries have an unlimited supply of GP ammo. Only Smoke (S prefix), and Illumination (I prefix) fire missions are subject to Ammo Limits; roll (10) for those fire missions.

For all special fire missions the fire is not resolved, do not place the ARTILLERY IMPACT counter on the mapboard.

Scenarios may allocate a specific number of special fire missions (must still role for Ammo Limits; failure does not consume available special fire missions). In those cases, players should note the number of fire missions taken for each special fire mission.

5.16.2.6 Aircraft Ammo Limits
Due to the combat multiplying effect of fixed-wing aircraft in combat, the listed ammo limits are the exact number of strafing shots, bomb loads, rocket launches or any other particular weapon that an aircraft may employ. Do not roll for aircraft Ammo Limits. In this single case, players should note the number of actual shots taken for each weapon type.

5.16.2.7 German Tungsten Supply
As WWII progressed, the German supply of Tungsten, which is used in the manufacture of APCR ammo, steadily declined. What was available was more often than not diverted to the manufacturing of aircraft components.

While the German Data Cards support full availability of APCR ammo throughout the war, players may want to impose some restrictions on its availability.

Starting in late-1943 until the end of the war, it is not unreasonable to restrict the availability of APCR completely or to have the German player apply a modifier of +1 or +2 to the ammo limit roll (10).

6.0 Advanced Game Sequence of Play

6.1 Advanced Game Spotting Phase

6.1.1 Who may Spot?
All leg, towed, and fixed-wing aircraft units may spot opposing units. Fixed-wing aircraft may never hand off spotted targets to or have spotted targets handed off by other fixed-wing aircraft, vehicle, leg or towed units.

In the Basic Game only combat units could spot. In the Advanced Game a leg or towed passenger unit being transported by a non-combat vehicle can spot normally.

6.1.2 Spotting Orientation
Eligible units spot in all directions (360°), unless Suppressed. Aircraft may only spot to the area identified and described as their Front Field-of-Fire.

6.1.3 Determining Spotting Ranges
When attempting to spot a leg or towed unit, cross-reference their size by using the L or S column, with the base 0 row. The S column is the general spotting category for leg units unless otherwise indicated; towed units may be either L or S. Leg and towed unit size is found in the Defensive Information section of their Data Cards.

The base spotting range for all L-sized units is 15 hexes; for S-sized units it is 10 hexes.

If the target unit fired a weapon classified as Small Arms (see 5.7), it is marked with a SPOT/FIRE SA counter; apply the +1 modifier by moving 1 row up in the table. If the target unit fired both Small Arms and non-Small Arms weapons (even if firing Small Arms in subsequent turns), utilize the non-Small Arms modifier for spotting.

Passenger leg and towed units are not spotted as individual units when being transported. They are part of their transporting vehicle and are therefore spotted when that vehicle is spotted.

Passenger leg or towed units that dismount from their transporting vehicle are moving and are therefore marked with a SPOT/MOVE counter.

Aircraft are an exception; they do not have a unit size. All AA capable ground units may spot aircraft.

6.1.3.1 Suppressed Units
All Suppressed units can only spot to the area identified and described as their Front 60° Field-of-Fire (or Rear 60° Field-of-Fire) and apply a -2 modifier by moving 2 rows down on the Spotting Ranges Table.

Turreted, Turretless 360° and Non-Turreted vehicles can only spot to the area identified and described from the front 60° (or rear) of the vehicle and apply a -2 modifier by moving 2 rows down on the table.

6.1.3.2 Full Cover Units
Leg and towed units in Full Cover (see 6.1.4.2) are spotted by applying a -2 modifier; move 2 rows down on the table.

Leg and towed units spotting from Full Cover apply a –4 modifier by moving 4 rows down on the table.

6.1.3.3 Recon Units
Recon vehicle, leg and towed units spot by applying a +1 modifier; move 1 row up on the table.

6.1.4 Line-of-Sight

6.1.4.1 Hull Down & Partial Hull Down
Vehicles in Hull Down and Partial Hull Down positions mask part of the vehicle from AP Direct Fire. They do not affect sighting or the chance to actually hit the target vehicle, but negate track hits and the hits on some or most hull locations. To signify that a vehicle is hull down mark it with a Location counter with the HD side facing front. See 6.5.2.2.3 for effects.

6.1.4.1.1 Hull Down
Vehicles may find hull down positions when moving (see 6.6.9) or by occupying certain terrain types.

6.1.4.1.2 Partial Hull Down
Vehicles may find Partial Hull Down positions when moving (see 6.6.9), by occupying certain terrain types, or due to the height difference when determining line-of-sight.

Due to the configuration of their hull-mounted guns, some vehicles are unable to occupy a Hull Down position and bring those weapons to bear.

The affected vehicles have a special notation in the Notes section of their Data Cards indicating the *Limited* weapon. These vehicles may still occupy a Hull Down position, but the limited weapon may not fire.

As an alternative, the vehicle may occupy a Partial Hull Down position and still utilize the listed weapon normally. To indicate that a vehicle is in a Partial Hull Down position, mark it with two HD LOCATION counters.

When occupying an Improved Position, a vehicle can designate it as only a Partial Hull Down position by adding a HD LOCATION counter. When occupying a Brick or Stone building a unit with a limited hull-mounted weapon may not fire the listed weapon since it is hull down.

Any vehicle, not just those with limited weapons, may occupy a Partial Hull Down position.

6.1.4.1.3 Automatic Partial Hull Down
A vehicle is automatically in a Partial Hull Down Position when receiving AP Direct Fire from a unit at a lower height from a range equal to or less than the target vehicle's height advantage over the firing unit.

6.1.4.2 Full Cover
Dismounted leg units (including motorcycle, bicycle and cavalry units) and dismounted towed units can utilize Full Cover to make maximum use of the natural cover offered by the terrain type they currently occupy. They may not enter Full Cover in Bridge, Ford or Stream hexes. Vehicles and fixed-wing aircraft may not enter Full Cover.

Leg and towed units may freely enter into or move out of Full Cover, regardless of their orders, during the Adjust Full Cover Step of the Adjustment Phase (see 6.8.3). This does not require any portion of a unit's movement speed allowance and is not considered movement for spotting purposes.

The Full Cover status selected during the Adjust Full Cover Step determines a unit's status for the next turn.

To signify that a leg unit is in Full Cover mark it with a LOCATION counter with the FC side facing front.

Full Cover impacts both the spotting of the Full Cover unit and its ability to spot other units, combat, and the unit's GP Defense Factor.

Full Cover towed units may never have MOVE commands. Full Cover leg units may never have SHORT HALT commands. Sections with any attached crew-served weapons may never have MOVE commands.

Full cover leg units may initiate Close Assault and Hand-to-Hand combats against adjacent units.

Full Cover units defend against Hand-to-Hand Combats normally; there is no advantage or disadvantage.

6.1.4.3 Terrain Features
The Advanced Game adds functionality to terrain features outlined in the Basic Game and also adds the Terrain counters Block, Ditch, Fire, Hasty Entrenchment, Improved Position, Mines, Rubble, Smoke, and Wire.

With the exception of Stream, Ford, Water, and Building hexes, they are placed on the mapboard to alter a hex's terrain type. They are positioned as instructed by the Setup or Special Conditions in a scenario.

In addition, some terrain types are now subject to destruction through combat or other means (see 6.5.4.4.3).

6.1.4.3.1 Building Hexes
Tracked vehicles with overhead protection may attempt to enter (or exit) the actual buildings located in a Building hex (see 6.6.3). However, they may suffer Damage or a Track hit as a result of that movement.

Open-topped tracked vehicles and AA tracked vehicles may not attempt to enter buildings. No other vehicle types may attempt to enter buildings.

Vehicles located inside of a building, are marked with a LOCATION counter with the INB side facing front. They receive the Cover provided by the building terrain type. In addition, vehicles located inside Brick or Stone Buildings are Hull Down from all angles. An HD LOCATION counter is not required.

Just like vehicles, towed units may freely enter Building hexes, as they are not actually entering the Buildings themselves, but are in the Alleyways between the Buildings. Therefore, any towed unit located in a Building hex is actually occupying Alley type terrain.

Towed units may not move inside of buildings nor may they dismount from their transport inside of buildings. In some cases, towed units may setup inside of buildings as instructed by a scenario's Setup or Special Conditions. If set up inside a building, they may not move from that position; they may still pivot. Towed units located inside of a building are marked with a LOCATION counter with the INB side facing front. They receive the Cover provided by the building terrain type.

Leg units in building hexes automatically occupy the buildings. There is no need to mark them with a Location counter. They receive the Cover provided by the building terrain type.

Motorcycle, bicycle and cavalry leg units also occupy buildings just like their cousins on foot. Their transport is kept in close proximity; it is not represented by a separate counter.

Leg units may move up to the top floor of multi-story buildings; i.e., buildings with a Height of 2 or more. For spotting considerations their Height is considered to be 1 less than the actual Height of the Building hex. Leg units located on the top floor of a building are marked with a LOCATION counter with the UP side facing front.

6.1.4.3.2 Wall & Defilade Hexsides
Vehicles are Hull Down when the target of AP Direct Fire that crosses or runs exactly along an adjacent Wall hexside.

A Defilade hexside represents terrain that contains a gentle slope, or a man-made defensive position made with stone or sandbags. They are found on Terrain Overlays with a "D" prefix.

Vehicles are Hull Down when located in a Defilade Overlay hex and the target of AP Direct Fire that crosses an adjacent Defilade hexside.

6.1.4.3.3 Block
Blocks are man-made obstacles constructed to impede vehicle and towed unit movement. Vehicles and towed units are prohibited from entering Block hexes. Block hexes provide Light Cover for leg units.

6.1.4.3.4 Ditch
Ditches are man-made obstacles constructed primarily to impede vehicle and towed unit movement. Vehicles and towed units are prohibited from entering Ditch hexes. Ditch hexes provide Light Cover for leg units.

Ditch hexes have a Height of –1. They follow the same sighting rules as Streams and Gullies.

6.1.4.3.5 On Fire
A Fire (OR) (see 7.35) may start in a Building or Rubble hex as a result of GP Combat. In some cases, fires may also start in other terrain types as instructed by the Special Conditions in a scenario. A Fire hex is marked with an ON FIRE counter. Fire has a Height of 5 above ground level. All units, with the exception of aircraft, are prohibited from entering a Fire hex.

Vehicle, leg and towed units may not remain in a Fire hex once it starts. A unit that has not exited a Fire hex by the end of the next turn immediately after the fire starts is eliminated and removed from play.

Like Brew-Up Smoke, Fire does not block line-of-sight. It hinders combat. If a line-of-sight passes through a Fire hex, a modifier is applied when determining the combat results.

6.1.4.3.6 Hasty Entrenchment
Hasty Entrenchments are constructed by leg and towed units to provide additional cover by applying a –10 GP Combat die roll modifier.

They are large enough for only a single unit unless otherwise instructed by the Set Up or Special Conditions in a scenario. To designate which unit is in a hex with a Hasty Entrenchment, place the HASTY ENTRENCHMENT counter on top of the unit occupying the position.

If abandoned, another single friendly or enemy leg or towed unit may reoccupy it. They are interchangeable between leg and towed units, i.e., if a towed unit creates a Hasty Entrenchment, any other towed or leg unit may occupy it. In some cases, leg and towed units may also start a scenario in Hasty Entrenchments.

6.1.4.3.7 Improved Position
Improved Position is a collective term for any number of fortifications, built-up areas, bunkers, or revetments found across the battlefield.

Vehicles, leg, and towed units may occupy Improved Positions. Improved Positions provide Heavy Cover for both combat and spotting. Vehicles may not Overrun Improved Positions.

They are large enough for only a single unit unless otherwise instructed by the Set Up or Special Conditions in a scenario. To designate which unit is in a hex with a an Improved Position, place the IMPROVED POSITION counter on top of the unit occupying the position.

If abandoned, another single friendly or enemy unit may reoccupy it. In some cases, units may also start a scenario in Improved Positions.

Vehicles within an Improved Position are Hull Down from all angles except the Rear Angle (or Front Angle if it reversed into the position) based on its initial setup. An HD LOCATION counter is not required. If a vehicle pivots within an Improved Position the non-HD angle remains in its original position.

6.1.4.3.8 Mines
Mines (OR) (see 7.31) are used to deny or channel the opposition movement. They are dispersed as either Hasty or Deliberate Minefields.

Both anti-personnel and anti-vehicular mines, or a combination of the two types may be dispersed in a minefield hex. Minefields are typically placed in contiguous hexes and may either be hidden or marked as known (visible) minefields.

Mines are not consumed by attacking vehicles, towed, or leg units. They are distributed throughout a hex and in a dense enough manner to maintain their full potency unless cleared.

6.1.4.3.9 Rubble
Rubble is typically the end result of the destruction of building or bridge hexes. Half-tracked and wheeled vehicles and towed units are prohibited from entering Rubble hexes. Rubble hexes provide Cover for tracked vehicles and leg units equivalent to the type of terrain it replaced.

In the case of Building hexes, units in Rubble hexes are spotted based on the type of terrain it replaced, i.e., Rubble located in a Wood or Brick Building hex provides Light and Medium cover for spotting, respectively.

6.1.4.3.10 Smoke and Barrages
On-map units as well as Artillery Batteries are capable of firing Smoke Shells (Smoke) in Indirect Fire.

Some vehicle, towed, and mortar units have the ability to Direct Fire smoke rounds instead of normal AP or GP fire. The Data Cards indicate which vehicle, towed, and mortar units are capable of firing smoke. Engineer leg units also have the ability to Direct Fire smoke rounds into an adjacent hex.

To Direct Fire smoke rounds, the unit must have a FIRE or SHORT HALT command; announce a target hex that is within the unit's line-of-sight, Field-of-Fire and range (same as GP); and does not contain any friendly units. This Closed SHEAF smoke occupies just a single hex. Direct Fire smoke does not require a spotted target to fire.

When a unit executes an Indirect Fire mission a Barrage area is created that is defined by its SHEAF Pattern. A SHEAF Pattern also defines the size of its Smoke area if firing smoke. If an on-map or mortar unit creates smoke, it occupies just a single hex. Both Smoke and Barrages have a Height of 4 above ground level.

Smoke has either SMOKE/ON or SMOKE/OFF counters to indicate its status. New smoke is recorded by placing a SMOKE/ON counter; or by rotating an existing SMOKE/OFF counter to SMOKE/ON.

Like Brew-Up Smoke, Smoke and Barrages do not block line-of-sight. They hinder combat. If a line-of-sight passes through a Smoke or a Barrage hex, a modifier is applied in determining the combat results.

Combat modifiers for Smoke and Barrages created during the current Player step do not take effect until the conclusion of that step.

In most cases, SMOKE counters are placed individually on the mapboard; they are not placed on or attached to units. To properly orient their ON and OFF sides they must be faced to a consistent hexside. Use the Directional hex as a point of reference. Typically direction 1 is used for facing counters.

6.1.4.3.11 Wire
Wire is a man-made obstacle deployed to impede leg and towed units and some vehicle movement. Halftrack and wheeled vehicles and leg and towed units are prohibited from entering Wire hexes.

Wire is destroyed after a fully tracked vehicle (T) enters its hex. If destroyed, Wire is removed from the mapboard.

6.1.4.3.12 Dust
Dust may be created as vehicles move across the arid landscape found in North Africa. It is treated as a variation of smoke for movement and combat purposes. It is only applicable if specified in a scenario's Special Conditions. For example, Scenario 47 (Panzer North Africa) has Dust in effect.

- To create Dust, a vehicle must move ½ or more of its movement speed allowance (round down), including a 1 hex minimum move (see 4.5.1.1.3).
- It only applies when entering Clear, Brush, Path, Track, and Scrub hexes. When entering an applicable hex, place a DUST/ON counter in the hex just exited by the vehicle, no matter the terrain type of that hex just.
- Use the Directional hex as a point of reference. Typically, direction 1 is used for facing counters.
- During the Adjust/Remove Counters Step, remove all DUST/OFF counters and flip all DUST/ON counters to their DUST/OFF side.
- There may be cases where there are not enough Dust counters to place on the map. In such cases, when a vehicle moves in a straight line, place only the initial and the final DUST/ON counters to denote Dust created in all hexes moved.

Combat modifiers for Dust created during the current Player step do not take effect until the conclusion of that step.

In the dust-covered desert battlefield, clouds were frequently created by speeding vehicles. This dust was thrown back, "following" the vehicles as they moved. These plumes were often visible at great distances.

6.1.4.3.13 Sun Blinding
Sun Blinding is a condition representing the difficulty of looking directly into the rising or setting sun. It is only applicable if specified in a scenario's Special Conditions. For example, Scenario 47 has Sun Blinding in effect.

If Sun Blinding is in effect, apply the specified AP and/or GP modifiers to all Direct Fire only if an extended line-of-sight passes the target touching the indicated edge of the mapboard.

Place the Sun counter near the affected edge for reference.

6.1.4.3.14 Railroad Track Hexes
Vehicles are Partial Hull Down from all angles when located in a hex with Railroad Tracks. They also provide additional cover to leg and towed units targeted by GP Direct Fire by applying a –5 GP Combat die roll modifier.

6.2 Advanced Game Command Phase
In the Basic Game, each vehicle received its own individual command. When employing the Command Control rules, the Determine Number of Available Commands Step is added to the Command Phase as its first Step. Each individual Formation in a Force receives a finite number of unique commands of any combination that are allocated to all of its member units.

The ability to command multiple units performing many different tasks is representative of the unit's Formation Grade. An Elite formation is understandably much more able to quickly respond to the changing battlefield conditions and to perform a greater number of tasks over a greater range than a same sized Green formation. A Green formation just does not possess the training, experience, or for that matter, the élan of an Elite formation.

Units are not forced to sit by idly while other units perform actions due to a lack of available commands. Instead, the formation's units may share the available commands.

The Formation Summary is used to record each formation's unique information, i.e., grade, command, engineer and recon units and the other member units of that formation.

6.2.1 Determine Available Commands Step
At the start of the Command Phase, the players must determine the number of Available Commands per formation within their Force. The typical Formation size is a Company. The scenarios provide Formation information on a company-level basis.

6.2.1.1 Determining Available Commands
Each Formation's Force Grade, along with its current number of active units, is used to determine its number of available commands. These two elements are cross-referenced on the Available Commands Table found on Game Card C (Panzer) or Game Card B (Panzer North Africa).

For command purposes, only those units that are not eliminated, bailed-out, knocked out, brewed up, or currently not on the mapboard may be active units.

All combat units including damaged vehicles and vehicles with Track hits are counted as active units. Suppressed units or units Hesitating (OR) (see 7.1.5) are also counted as active units. Broken (OR) (see 7.1.5) units are not active units.

Unarmed units, e.g., trucks or prime movers, are not active units unless they are within the Command Range of a combat unit from the *same* formation. Otherwise, they are not active units even though they are on the mapboard.

In addition, no more than one unarmed unit may be activated per combat unit.

This prevents all the trucks from a formation congregating in a safe, out of the way spot on the mapboard along with a single combat unit just to reap the benefits of extra commands.

Combat units are not required to be within Command Range of one another to be active units.

Units currently being transported (see 6.6.7) are not active units. However, if the transporting unit is an unarmed unit, it is counted as an active unit since by default it is within the Command Range of the combat unit it is currently transporting. Even if an unarmed unit is transporting more than one combat unit, it is still counted as a *single* active unit. If the transporting unit is a combat unit, it is counted normally as a *single* active unit regardless if transporting any units.

Recon units (see 5.9.2) are not included in a formation's active unit count even though they are part of that formation. They are a special case for command purposes. Command, Engineer, and FO units are counted normally.

For reference purposes, the scenarios summarize the total number of combat units in a formation. When Recon units are present in a formation, the summary is presented as two values, e.g., 26(24), for total units and (total less Recon units).

6.2.1.1.1 Available Commands Procedure
At first, the makeup of the Available Commands Table may seem a little different, but it is actually quite straightforward.

Across the top of the table are values from 1 to 10. The 10s column is treated as the multiplier, while columns 1 to 9 are individual values. A formation never receives less than 1 Command even if 0 is listed.

6.2.1.1.2 Command Range
Command Range is based on Formation Grade and is found in the Available Commands Table on Game Card C (Panzer) or Game Card B (Panzer North Africa).

Command Ranges:
- Elite: 2 hexes
- Veteran: 1 hex
- Seasoned: 1 hex
- Regulars: 0 (same hex)
- Green: 0 (same hex)

One important point to note is that Command Range is measured from any combat unit in a formation to any other combat unit in the same formation not just to or from Command units.

An Option Rule, Command Span (see 7.52), expands on Command Range.

6.2.1.1.3 Sharing Available Commands
Only Fire, Move, Short Halt and OW are unique commands. N/C is not a unique command.

Combat units and activated unarmed units that are within Command Range of one another may all utilize the same unique Command counter; place a single unique Command counter in the vicinity of the units sharing the command. If units sharing commands do overlap, players must point out which units are sharing which commands.

Do not place a unique Command counter next to each unit unless they are each receiving a unique command, as each unique command placed on the mapboard counts as one towards the total of available commands.

Commanding Vehicles on Roads and Paths
All vehicles on a road or path, moving at the road or path rate, that are stacked with or adjacent (regardless of Command Range) to the vehicle to its immediate front (except the lead vehicle) may all share a single Move command.

The vehicles must maintain their starting order and may not exceed stacking limits.

Commanding Inactive Unarmed Units
Inactive unarmed units may still be commanded. They just may not share a command with other units except on a road or path. This is a one-for-one proposition; each inactive unarmed unit must receive its own unique command.

Commanding Recon Units
Due to their independent role and typically superior training, each Recon combat and unarmed Recon unit automatically receives a unique command. This unique command does not count towards the total of available commands for its parent formation. Remember that Recon units were not counted in the total number of active units.

Non-Recon units may not share commands with Recon units. These commands are assigned and used by each individual Recon unit.

Formation Command Limitations
Formations may not share or trade available commands with units from other formations. Formations may not save unused commands from turn to turn. The total of available commands is recalculated for each new turn.

N/C (No Command) Commands

Since N/C commands are not unique commands, players may place any number of this type of command without counting towards a formation's total.

The N/C command does have a very important purpose. Suppressed units (see 6.8.3) and units with a Broken (OR) Morale status (see 7.1.5) have a much greater chance of recovery if they perform no other action.

By default, any unit without a marked command is considered to have an N/C command. Tactically speaking, in some cases it is a good plan to physically mark N/C commands so as to disguise intent.

6.2.1.1.4 Executing Shared Commands
When two or more units share the same Fire, Short Halt, Move, or OW command they must coordinate their fire and move actions.

Firing – Fire or Short Halt
The *targets* must all be within the firing unit's Command Range of one another to be legitimate targets. This Command Range check is measured from the targets to one another. The targets must still be within legal range from the firing units.

If there are more units sharing a command than available legitimate targets, more than one unit can certainly fire on the same target. If a target is eliminated before all of the units have a chance to resolve their fire, they may not shift their fire to another target.

Moving – Short Halt and Move
The units must all be within Command Range of one another at the completion of their move. If the units have different movement speed allowances, their movement is adjusted to meet the Command Range requirement.

Overwatch
The units must all announce their fire at the same time and fire on the *same* target.

If for some reason, e.g., one or more units have a blocked line-of-sight, or the wrong ammo type, etc., they may not then fire at a different target; their Overwatch action is complete.

6.3 Advanced Game Initiative Phase
Each side's *Force* Grade Modifier is used to modify the dice roll when determining who controls the Initiative for the current turn.

6.3.1 Determining Initiative
During the Initiative Phase, each Force rolls (100) and applies their Force Grade Modifier to their roll; the net result may be greater than 100 or less than 0. Reroll ties unless instructed otherwise in the scenario Special Conditions. The Force rolling the higher result determines who is the First Player for the current turn. Flip the Turn counter to indicate the First Player.

Staggered Initiative (OR) (see 7.42) expands the Initiative process based on formations.

6.3.2 Force Grade Initiative Modifiers
- Elite: +40
- Veteran: +20
- Seasoned: 0
- Regulars: -20
- Green: -40

6.4 Advanced Game 1st Air Phase
See 6.7 Advanced Game 2nd Air Phase for all aircraft and AA operations. First review 6.5 Advanced Game Combat Phase.

6.5 Advanced Game Combat Phase
Advanced Game Combat adds the Indirect Fire Step, AP hit locations, AP number of hits, special AP ammo types, smoke and illumination ammo, ammunition limits, unit grade, bail out, and GP Combat for vehicle, leg, towed, and aircraft units.

In the new Indirect Fire Step, on-board units with Indirect Fire capability as well as off-board artillery units resolve their fire.

6.5.1 Indirect Fire Step

Indirect Fire is a method of engaging targets with units that are unable to spot the targets themselves due to intervening terrain, spotting range or they are located off-map. There are two types of indirect fire, Called (see 6.5.1.7) and Planned (see 6.5.1.11).

Called Indirect Fire requires a Forward Observer (FO), a Command unit, or a Recon unit who can spot the target unit to call for and observe the fall of the Indirect Fire. Units spotting for Indirect Fire are collectively called observers.

Planned Indirect Fire fires at a point on the map, on a specific turn, does not require an observer, and does not require a spotted target.

Only those units possessing a GP-IF row in the GP Gunnery section of their Data Cards may employ Indirect GP Fire. If a unit has both a GP-DF and a GP-IF row for the same weapon, only the GP-IF row is used for Indirect Fire.

Units may not utilize Indirect Fire for Overwatch Fire. Overwatch Fire must be Direct Fire. Also, units may not utilize Indirect Fire against targets they can personally spot; they must use Direct Fire.

Units fire in the order described in the Sequence of Play. The First Player executes his fire before the Second Player. The Second Player must apply all Indirect Fire results inflicted by the First Player before resolving his Indirect Fire.

On-map units must have a FIRE command to execute Indirect Fire; units may not use SHORT HALT commands.

Observers must have an OW command to call for and observe Indirect Fire. They may not perform any other Overwatch related actions.

Indirect Fire is resolved from the positions and facings the units occupy at the point the fire is resolved. The terrain occupied by a firing unit or its SPOT/FIRE or SPOT/MOVE counters has no impact.

Within the following restrictions, each player may resolve Indirect Fire in any desired order.

- Each Indirect Fire shot is called for and resolved individually.
- Each unit fires only once per turn.
- After a unit fires, immediately mark it with a Spot/Fire counter.
- Each ground unit (friendly or enemy) or Terrain Type (see 6.5.4.4.3) that falls within the SHEAF Pattern is attacked individually.
- Observer units are not spotted; observing Indirect Fire is a passive action that does not involve fire or movement.

6.5.1.1 Announcing Indirect GP Fire

The firing player announces Planned Indirect Fire or calls for an Indirect Fire mission. The firing player may resolve the shots in any desired order. All Called Indirect Fire is controlled from the observer unit not the firing unit. The ability to spot a target and measure spotting range is determined from the observer unit. An individual observer may only call fire to a single target hex.

While Called Indirect Fire may involve more than one distinct source of Indirect Fire, they all fire at the same target hex. A distinct source of Indirect Fire can be any off-map artillery battery or any on-map unit capable of Indirect Fire.

Planned Fire is not called, it is plotted to arrive on a certain turn in the scenario.

6.5.1.1.1 FOs – Forward Observers

Typically, FOs are section-sized leg units most often found in company, battalion or higher echelon HQs. They may even be vehicles. They utilize the FO row in the Called Indirect Fire Response Table on Game Card B (Panzer) or Game Card A (Panzer North Africa).

Their role is to manage and control both off-map and on-map Indirect Fire units. These highly trained troops are in communication with a formation's Indirect Fire assets. Therefore, they are the most capable and reliable units for managing Indirect Fire.

In addition, FOs are the only units that have the ability to call Indirect Fire from more than one distinct source of Indirect Fire, whether off-map or on-map.

USA FOs
Due to their multi-linked communication network, USA FOs may manage the largest number of distinct sources of Indirect Fire. They may call fire from up to four distinct sources of Indirect Fire.

Other Forces FOs
The FOs from all other forces may call fire from up to two distinct sources of Indirect Fire.

6.5.1.1.2 Command Observers

Command units may call fire from one distinct source of Indirect Fire. They utilize the appropriate row, for their command level, in the Called Indirect Fire Response Table on Game Card B (Panzer) or Game Card A (Panzer North Africa).

Command observers may also be classified as Recon units. In that case, they are Command Recon Observers (see 6.5.1.1.3).

Command FO
Some Command units may also possess FO capabilities. In those cases, use the FO row instead of the unit's Command row.

Soviet Command Observers
Due to a limited communications infrastructure and a rigid artillery doctrine, Soviet Command units may only call fire from Attached (see 6.5.1.3.1) off-map artillery batteries and Attached on-map units. They may not call fire from Organic (see 6.5.1.3.2) off-map artillery batteries or Unattached (see 6.5.1.3.3) off-map artillery batteries or Unattached on-map units.

6.5.1.1.3 Recon Observers

Recon units may call fire from one distinct source of Indirect Fire. Recon units are the only non-FO or non-Command units that may call Indirect Fire. They utilize the Recon row in the Called Indirect Fire Response Table on Game Card B (Panzer) or Game Card A (Panzer North Africa).

Command Recon Observers
Command observers may also be classified as Recon units. In that case, they are Command Recon Observers. They utilize the appropriate row, for their command level, in the Called Indirect Fire Response Table on Game Card B (Panzer) or Game Card A (Panzer North Africa).

Soviet Recon Observers
Soviet Recon units must follow the same limitations as Soviet Command Observers (see 6.5.1.1.2).

6.5.1.1.4 On-Map Units

A special case exists for on-map units. Two on-map units may be considered a single distinct source of Indirect Fire if they are within Command Range of one another (see 6.2.1.1.2); not within Command Range of the observer unit. They still resolve their fire response and combat as individual units.

6.5.1.2 Types of Indirect Fire Units

Off-map Indirect Fire units are all collectively referred to as artillery units and are presented in a somewhat abstracted manner.

They are classified as Light, Medium, Heavy or Super Heavy Batteries.

As opposed to off-map artillery batteries, on-map Indirect Fire units are all specific combat units. They are typically mortars and field and infantry guns.

6.5.1.3 Level of Attachment

Attachment Levels represent the degree that each Indirect Fire unit is dedicated to a specific formation, and consequently, the expected chance of response.

There are three Attachment Levels, from best to worst, Attached, Organic, and Unattached.

When dealing with Attachment Levels, it is very important to keep the hierarchy of formations in mind. In the TO&Es, formations are organized and read from the top down; i.e., the highest level formations and combat units are listed first, followed by the subordinate formations and combat units.

6.5.1.3.1 Attached

Off-map artillery batteries may be classified as Attached. While not specifically listed as part of their designation, all on-map Indirect Fire units are considered Attached to their immediate parent formation and only that formation. They are considered Unattached to all other formations.

6.5.1.3.2 Organic

Only off-map artillery batteries are classified as Organic. These batteries are found only at the highest level of a formation. They are available as Organic artillery assets to its headquarters and all of the subordinate formations.

6.5.1.3.3 Unattached

Indirect Fire units are never specifically classified as Unattached. Indirect Fire units classified as Organic or Attached are considered Unattached to all other units outside of their immediate formations.

6.5.1.4 Pre-Registered Points

In certain situations, especially with defensive artillery fire, off-map artillery batteries are able to *zero-in* on certain points on a battlefield. These unique hexes on the mapboard are called Pre-Registered Points. There is a higher probability that artillery fire will respond when called to a Pre-Registered Point. The scenarios indicate if Pre-Registered Fire is available and to what extent.

On-map units and unassigned off-map artillery batteries may be called to a Pre-Registered Point, but they do not receive any fire response advantage. It is only applicable to off-map artillery batteries assigned to specific Pre-Registered Points. Multiple batteries may have the same Pre-Registered Point.

Pre-Registered Points are written down before the scenario begins, after all Terrain counters are placed but before any force's units are placed on the mapboard. Use the back of the Formation Summary or any other handy source. The notation must include the Pre-Registered Point's hex and its assigned off-map battery or batteries.

6.5.1.5 Indirect Fire SHEAF

The hex area covered or impacted by Indirect Fire is called the SHEAF Pattern.

What is a SHEAF? The word finds its roots in the definition of "a collection of items bound or held together." In artillery fire it is the lines of fire that produce a desired pattern of bursts from rounds fired by two or more guns.

There are four possible Indirect Fire SHEAFs. The smallest SHEAF is used for on-map fire; it affects just a single hex –the Target Point. On-map units always use this Closed SHEAF Pattern for GP Indirect Fire

The other three SHEAF Patterns are used only for off-map Indirect Fire. The largest is the Open SHEAF; it impacts the Target Point and covers two hexes radiating out from the Target Point. Next is the Closed SHEAF; It impacts the Target Point and covers one hex radiating out from the Target Point. Last is the Closed Linear SHEAF Pattern; it

impacts the Target Point and runs in a straight line out 6 hexes from the Target Point.

Whenever Indirect Fire impacts the mapboard, the player places an Artillery Impact counter for the appropriate force in the impact hex. The Artillery Impact counters are numbered to track different Indirect Fire missions. The counter remains in the hex until the fire is Checked (see 6.5.1.9) or it no longer responds. If necessary, make notations for the various Indirect Fire missions.

6.5.1.6 Indirect Fire Types

There are three possible types of Indirect Fire, GP, Smoke and Illumination (OR) (see 7.27). The Data Cards indicated which types are available to the various units.

6.5.1.6.1 GP & Smoke Types

GP and Smoke fire missions may fire in Closed, Open and Closed Linear SHEAFs. Place a SMOKE/ON counter on the ARTILLERY IMPACT counter to denote a Smoke fire mission.

6.5.1.6.2 Illumination Type

Illumination Fire Missions may fire only in Closed SHEAFs, excluding the Closed Linear SHEAF.

6.5.1.7 Called Indirect Fire

The action of requesting Indirect Fire is referred to as Calling for fire support. Only observers may call for Indirect Fire. To call Indirect Fire, the observer must have a *spotted* target. Indirect Fire may not be called to open areas or against unspotted targets; this is often referred to as reconnaissance by fire. An Optional Rule, Artillery Reconnaissance by Fire (see 7.37) expands on this limitation. Called Indirect Fire may utilize all Indirect Fire types and Indirect Fire SHEAFs.

It can only take place when the observer unit can spot at least one non-terrain target unit. The actual Target Point of the Called Indirect Fire must be placed directly on a spotted target. The Target Point must be within the maximum range of all firing unit(s).

Just by the nature of the size of an Indirect Fire SHEAF, any number of units including both friendly and enemy units, whether spotted or not, as well as Terrain Types may be affected by a Called Indirect Fire mission.

Called Indirect Fire Response

Called Indirect Fire is subject to Fire Response (see 6.5.1.12). This represents the possibility of units not responding to a fire call. The Attachment Level of the firing unit and the type and unit grade of the observer unit determine Fire Response. The unit grade of on-map units has no impact on Fire Response.

Each firing unit being called must individually determine Fire Response, including combined units. The success or failure of one unit has no bearing on other units responding to the same call. If an individual firing unit fails to respond, it is considered to have completed its orders for that turn. It may not be used for any other Indirect Fire if an off-map unit or any other actions if an on-map unit.

Why did they not answer the call? The off-map units may be responding to other fire calls from another observer or a higher echelon, or off-map and on-map units may not receive the fire call, the call was garbled, or they are unable to correctly align their fire in time to respond.

6.5.1.8 Continuous or Adjusted Indirect Fire

Continuous and Adjusted Indirect Fire is used to maintain existing Called Indirect Fire missions from turn-to-turn. The observer unit must have an OW command and all on-map firing units must have Fire commands.

Players may never change observer units as part of continuing or adjusting Indirect Fire.

6.5.1.8.1 Continuous Called Indirect Fire
A Called Indirect Fire mission may be continued at the current Target Point hex with the existing fire SHEAF without having to roll again for Indirect Fire Response. The Indirect Fire type may be freely changed between GP and Smoke fire mission. A switch to an Illumination fire mission or back from one requires the fire be adjusted.

A continuation may take place as long as the Target Point is still spotted by the original observer unit and there is at least one spotted target unit in or adjacent to the Target Point hex. If both of these two conditions cannot be met, the Indirect Fire must be adjusted or checked.

6.5.1.8.2 Adjusting Called Indirect Fire
A Called Indirect Fire mission may be adjusted up to 3 hexes from the current Target Point and/or change the existing fire SHEAF. The Indirect Fire type may also be freely changed. With Indirect Fire adjustments, the player must again roll for Indirect Fire Response for all firing units, but applies a +1 Fire Response modifier to those units currently firing. Adjustments are very much like initial Indirect Fire calls. The 3 hex adjustment must be able to reach a spotted target unit.

If the observer has the capacity, it may call fire from additional units not currently firing as part of the Called Indirect Fire. The player must roll for Indirect Fire Response for any additional firing units. They do not apply the +1 Fire Response modifier.

6.5.1.9 Checking Indirect Fire
During a player's Indirect Fire Step, if desired, any existing Called Indirect Fire where the observer unit can still see the Target Point, may be *checked* (cancelled). Checked Indirect Fire is not resolved for the current turn.

If an Indirect Fire mission is checked, none of the firing or observer units may participate in any other Indirect Fire missions, including Planned Indirect Fire missions, during the turn in which its fire is checked. On-map units may perform any non-Indirect Fire actions, including Direct Fire.

Due to the break in communication, Called Indirect Fire missions that are no longer observed (i.e., Danger Close (see 6.5.1.10); or are now out of the observer's line-of-sight; the observer unit has orders other than Overwatch; or it was eliminated) automatically check. Fire missions may never be handed-off to another observer.

Called Indirect Fire must be checked before an observer may call a new Indirect Fire Mission and before any firing units may attempt to respond to a new Indirect Fire Mission.

Planned Indirect Fire missions are never checked; they must follow their fire plot.

6.5.1.10 Danger Close Indirect Fire
When Indirect Fire is called or adjusted (not continuous fire) to a Target Point hex that is within 5 hexes of spotted friendly units, it is possible that due to inaccuracy on the part of the observer or a firing unit the fire may instead miss the desired Target Point and instead hit a friendly unit.

Always pay close attention when calling or adjusting Indirect Fire in the proximity of friendly units. During the next turn, all Danger Close Indirect Fire automatically checks.

6.5.1.11 Planned Indirect Fire
Planned Indirect Fire missions are those plotted before the scenario begins and are scheduled to arrive sometime in the future. The advantage of Planned Indirect Fire is that it does not require an observer, does not require a spotted target, and is not subject to Fire Response.

The scenarios indicate if Planned Indirect Fire is available and to what extent.

In fact, due to the limited number of Soviet FOs and the structure and organization of the their communications network, Planned Indirect Fire was the preferred method, especially during offensive operations. Yes, it is much less flexible—welcome to the Soviet Army.

6.5.1.11.1 Plotting Planned Indirect Fire
Planned Fire is employed only by off-map artillery batteries. It is plotted before the scenario begins, after all Terrain counters are placed but before any forces' units are placed on the mapboard. Use the back of the Formation Summary or any other handy source. The Target Point for Planned Indirect Fire is plotted in the same manner as Pre-Registered Point hexes. However, Planned Indirect Fire requires a few additional pieces of information.

In addition to the Target Point hex, players must plot the turn the fire is scheduled to arrive, the type of fire mission (GP, Smoke or Illumination), the SHEAF Pattern, and the duration (number of turns) for the mission.

The maximum duration for a Planned Fire mission is five turns; it may be less. With any multi-turn Planned Fire mission, players may freely switch between GP, Smoke and Illumination fire types and Open, Closed and Closed Linear SHEAFs as indicated by the mission plot.

At the conclusion of a Planned Indirect Fire mission, the battery is unavailable for any fire missions for the next turn. A Planned Indirect Fire mission may never continue beyond its indicated plot. A battery may not be used for other fire missions as long as they are part of a Planned Indirect Fire mission or during the one turn wait period.

6.5.1.11.2 When Planned Fire Arrives
Due to the nature of the game's time scale, players may actually announce a Planned Indirect Fire mission one turn earlier or one turn later than the actual plot. Once the fire arrives, it executes sequentially as indicated by the plot.

6.5.1.11.3 Adjusting Planned Indirect Fire
On each turn of a fire mission, Planned Indirect Fire may be plotted to adjust up to 5 hexes from its current Target Point hex. It is not subject to Danger Close (see 6.5.1.10).

6.5.1.11.4 Smoke & Illumination Limited Ammo
If ammo limits are in effect for Smoke or Illumination fire, neither the ARTILLERY IMPACT counter nor the SMOKE/ON counter is placed on the mapboard. However, this does not cancel or lengthen the Indirect Fire mission.

If the next turn of the plot calls for GP fire, it is placed as plotted. If the fire plot again calls for Smoke or Illumination, the player must still check for ammo limits.

6.5.1.12 Determining Indirect Fire Response
After announcing the Indirect Fire, including its type and SHEAF Pattern, place the ARTILLERY IMPACT counter in the Target Point hex. If Planned Indirect Fire, the fire automatically responds. If Called Indirect Fire (including adjusted Called Indirect Fire), Fire Response must be determined. Each fire unit must individually determine Fire Response.

Reference the Called Indirect Fire Response Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). Cross-reference the observer type with the Attachment Level of the artillery battery or on-map Indirect Fire unit. The value found is the Fire Response Factor.

The firing player rolls (10). The Called Indirect Fire Response modifiers are now checked to determine their effect, if any. These modifiers are found in the Called Indirect Fire Response Modifiers Table found on Game Card B (Panzer) or Game Card A (Panzer North Africa).

If the modified result is equal to or greater than the Fire Response Factor, the fire responds and impacts at the Target Point as marked. An Optional Rule (see 7.26) expands on this. If the modified result is less than the Fire Response Factor, the fire fails to respond; remove the Artillery Impact counter if all of the firing units fail to respond.

If the result is an unmodified 1, a Danger Close friendly fire incident may occur (see 6.5.1.10). If one or more spotted friendly units are within 5 hexes of the announced Target Point, the opposing (originally targeted) player repositions the ARTILLERY IMPACT counter over one of the spotted friendly units as if that player called the fire. If no spotted friendly units are within 5 hexes of the Target Point, the fire automatically fails to respond regardless if any modifiers would have resulted in the fire responding. It may be necessary to place additional ARTILLERY IMPACT counters if there are multiple units firing.

6.5.1.12.1 Called Indirect Fire Response Modifiers
The Indirect Fire Response roll may be subject to one or more modifiers. All Called Indirect Fire Response modifiers are cumulative.

Note that if a 1 is rolled before any modifiers are applied, the Indirect Fire is subject to Danger Close or does not respond.

Preregistered Point
If the Target Point is a plotted Pre-Registered Point for an off-map battery, the modifier is +2.

Command Recon Observer
If the observer unit is a Recon Company, Battalion, Regiment or Brigade level Command unit, the modifier is +1.

Adjusted Fire
If the fire was adjusted Called Indirect Fire (adjusted Planned Indirect Fire is not subject to Fire Response), the modifier is +1.

Observer Suppressed
If the observer unit is Suppressed, the modifier is –2.

Observer Damaged
If the observer unit's Turret is Damaged, the modifier is –2. Hull Damage has no effect.

Observer Hindered
If Brew-Up Smoke, Smoke, Barrage, and/or Fire originates in the observer unit's hex, passes through, or enters the Target Point hex, including its own barrage, the modifier is –1. The modifier is –1 regardless if the SHEAF Pattern is Open or Closed.

The modifier is applied for each unique occurrence of any and all types the line-of-sight starts from or encounters; not per each hex. It is cumulative.

Observer Heat Haze
Heat Haze is a visual anomaly that occurs during hot conditions in the desert and also in arid environments. The shimmering effect caused by dynamic atmospheric turbulence from rising ground heat, and the distortion of light passing through it, is a hindrance to clearly engaging targets. Heat Haze is in effect as instructed by a scenario's Setup or Special Conditions.

Heat Haze applies a –1 modifier. The spotting range at which the modifier is applicable depends on the size of the target.

The range is:

  S-Sized Target: ≥ 3 hexes
  L-Sized Target: ≥ 5 hexes
  V-Sized Target: ≥ 8 hexes

Observer Hesitating
If the observer unit is Hesitating (7.1), the modifier is –1.

Observer Broken
If the observer unit is Broken (7.1), the modifier is –2.

Observer Grade
Only the observer's unit grade affects Indirect Fire, and then only whether or not Called Indirect Fire missions respond. The firing unit's grade, does not affect Indirect Fire. In fact, off-map artillery units are not graded.

Reference the Unit Grade Modifiers Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). Apply the listed modifier, if any, found in the IF RSP column.

  • Elite: +2
  • Veteran: +1
  • Seasoned: 0
  • Regulars: –1
  • Green: –2

6.5.1.13 Indirect Fire Resolution
For Called Indirect Fire on-map units, range is measured from the firing unit or the observer unit, whichever is greater, to the Target Point hex for all units that fall within the SHEAF Pattern, regardless of their actual range. For Called Indirect Fire off-map artillery batteries, the range is measured from the observer unit to the Target Point. In either case, the range must be equal to or greater than the firing unit's minimum range and less than or equal to its maximum range.

For Planned Indirect Fire, the range is always M-Medium.

For GP Fire, use that procedure in determining the results of the fire (see 6.5.4).

For smoke, place a SMOKE/ON counter on the ARTILLERY IMPACT counter to indicate that it is a Smoke fire mission.

For illumination, place an ILLUMINATION/ON counter on the Artillery Impact counter to indicate that it is a Illumination fire mission.

6.5.2 Direct Fire Step – AP Fire
The Advanced Game adds a number of new concepts to the Basic Game. Now, in addition to vehicles other units may also employ AP Direct Fire.

AP Fire is still directed only at vehicles, but no special counters are required for the various choices; they are declared at the time of the fire.

6.5.2.1 AP Number of Hits
AP weapons do not necessarily have the same Rates-of-Fire. Four distinct Rates-of-Fire are modeled in the game. They are identified by a single character:

  • N: Normal
  • Q: Quick
  • R: Rapid
  • F: Fast

The Rate-of-Fire for a specific weapon is listed on the same row as the weapon's name following ROF.

Why do towed units typically have a higher Rate-of-Fire than vehicles for the same gun? Most towed guns have multiple ammunition handlers, and they are not lugging shells around a vehicle's close confines.

No additional die roll is required when determining the number of hits. The same AP Hit Number Roll (100) is used by referencing the AP Number of Hits Table on Game Card A.

Multiple hits are not a consideration with GP Fire. The impact of Rate-of-Fire is already factored into the weight of GP Fire.

N Rate-of-Fire
The N Rate-of-Fire is not referenced in the table. If the result is equal to or less than the AP Hit Number, one hit is made. If the result exceeds the AP Hit Number, the shot missed.

Q, R and F Rates-of-Fire
With these three Rates-of-Fire, it is possible to achieve multiple hits on a target or targets. All additional hits are resolved individually. Find the

row containing the AP Hit Number in the left or right hand column of the table.

Cross-reference the Hit Number row with the columns corresponding to the weapon's Rate-of-Fire. If the result exceeds the AP Hit Number, all shots missed. If the result is equal to or less than the AP Hit Number, one or more hits were made. The number of hits made is found at the top of the sub-column in whose die-roll range the result falls.

An added bonus of Q, R or F Rates-of-Fire is that additional hits may spread to other target vehicles. To spread additional hits to other targets, all the additional targets must be within the firing unit's Command Range of the original target vehicle. This Command Range check is based on the firing unit's *Unit* Grade (not its Formation Grade, as is the case with sharing commands) and is measured from the original target to any other potential targets.

The additional targets must still be legal targets and fall within the same AP Range Factor (or closer) as the original target. The additional hits are spread *before* determining damage from the hits.

6.5.2.2 AP Hit Angle
In the Basic Game, the orientation of the target vehicle to the firing unit was based on just two Hit Angles—Front and Rear. The Advanced Game has six Hit Angles—Front, Front/Side (right and left), Rear/Side (right and left), and Rear. Within these Hit Angles there are now eight unique Hit Locations.
- TF: Turret Front
- TS: Turret Side
- TR: Turret Rear
- HF: Hull Front
- HS: Hull Side
- HR: Hull Rear
- TK: Track
- DK: Deck

Note that all vehicles have turret-hit locations even those classified as Non-Turreted or Turretless 360°. This is because those vehicles typically have turret-like superstructures or gun shields. It also allows for a uniformity of data presentation.

The six Hit Angles (Front, Front/Side, Rear/Side and Rear) are oriented around a vehicle with the right and left side as mirror images of one another. The orientation of the target vehicle to the firing vehicle's line-of-sight is used to determine where a vehicle is hit.

If the line-of-fire runs exactly along a hexside dividing two angles, the player controlling the target determines which of the two angles to utilize.

After determining the Hit Angle, roll (100). Compare the tens result to the values listed in the Hit Angle row in the AP Hit Locations Table on Game Card A. Do not lose sight of the units result of the dice roll as that is used for damage determination (see 6.5.2.6). Small Turrets (OR) (see 7.45) may change a turret hit location to a hull hit.

6.5.2.2.1 Track Hits
With a result of 10, the Hit Location is TK – Track, the vehicle suffers damage immediately. Skip any further damage determinations. Any subsequent Track hits do not cause any additional damage and are ignored.

Track Hit is a generic term used to describe a mobility hit on a vehicle; it applies equally to tracked, halftracked and wheeled vehicles. An Optional Rule, Variable Track Damage (see 7.21) adds variability to the automatic damage. Place a TRACK counter on or next to the target vehicle. A vehicle may have both a Track Hit and a Damage Hit.

A vehicle with a Track Hit may not move or pivot for the remainder of the scenario including the Move portion of any command not yet executed. If the vehicle is currently moving, it immediately stops and may not change its facing. It is also subject to Bailing Out.

Any combat not yet resolved still treats the vehicle as if it is moving.

A vehicle with a SHORT HALT command receives a Track Hit from fire from the First Player. When it resolves its fire as the Second Player, it is still considered to be moving.

A vehicle with a MOVE command receives a Track Hit during the Indirect Fire Step. It is still considered to be moving during the subsequent Direct Fire Step.

Vehicles sharing MOVE or SHORT HALT commands must maintain Command Range upon completion of their move. However, if one or more of those units receive a TK Hit preventing movement, the remaining units may move normally, leaving the tracked unit behind, as long as the those remaining units maintain Command Range upon completion of their move.

6.5.2.2.2 Deck Hits
If the hit is from falling shot; i.e., the firing unit's Height is greater than the target vehicle's Height, there is a chance that the target vehicle's Deck Armor is hit.

With a result of 1 and falling shot, the Hit Location is DK – Deck. The Deck Armor is hit, and it is used when determining if the shot penetrated. The other Hit Location listed in the table is ignored.

6.5.2.2.3 Hull Down Hits
When Hull Down or Partial Hull Down, portions of the vehicle are protected from AP Fire, rendering those hits ineffective.

When in a Hull Down position, all Hull, Hull* and TK Hit locations are treated as a miss instead of a hit.

When in a Partial Hull Down position, all Hull* and TK Hit locations are treated as a miss instead of a hit.

6.5.2.2.4 Damaged Result
In the Basic Game a Damaged Result affects both the target vehicle's combat and movement. In the Advanced Game, a Damaged Result affects *either* the target vehicle's Combat or Movement, not both.

If a vehicle is marked with a TURRET DMGD counter (see 6.5.2.5), it must apply all Shooter Damaged modifiers. Its movement is not affected by the damage.

If a vehicle is marked with a HULL DMGD counter (see 6.5.2.5), it has its remaining and future movement speed allowance reduced by ½ (round down). Its combat is unaffected by the damage.

If a damaged vehicle receives a second Damaged result regardless of type, it is considered KO – Knocked-Out– instead and those results apply.

Vehicles sharing MOVE or SHORT HALT commands must maintain Command Range upon completion of their move. However, if one or more of those units suffer HULL DMGD or bogging, thereby limiting movement, all attempts must be made to maintain Command Range upon completion of their move. If this is not possible, there may be cases where the moving units may not be able to maintain Command Range. Units are not required to retrace their movement.

For tanks with hull mounted guns, e.g., F-4B Char B1-bis, S-33B M3 Lee, and B-11A Grant I, these weapons must apply all Shooter Damaged modifiers with Hull Damage; these hull mounted guns are unaffected by Turret damage.

6.5.2.3 Armor Determination
The values found in a vehicle's Data Card Defensive Information section represent its Armor Factor (armor thickness adjusted forarmor

composition and shot angle) for each Target Angle and each Hit Location.

From a defensive standpoint, vehicles are classified as A-Type (Armored), P-Type (Protected) or S-Type (Soft). Both A-Type and P-Type vehicles carry armor, however, P-Type vehicles are typically open-topped and are less common. S-Type vehicles are unarmored.

A-Type and P-Type vehicles have the specific Hit Locations listed while S-Type vehicles have an Armor Factor of 0 for all Hit Locations.

6.5.2.3.1 Level, Rising & Falling Shots
In the Basic Game, all AP Direct Fire was treated as Level Shot. In reality, changing a shot's angle of inclination, either above or below a target, affects the geometry of the target's armor basis. In most cases, falling shots decreases armor effectiveness while rising shots increase armor effectiveness.

For Level Shots (firing Height and target Height equal), use the Level row; for Falling Shots (firing Height greater than target Height), use the Falling row; for Rising Shots (firing Height is less than target Height), use the Rising row. An Optional Rule, Lower Hull Hits (see 7.13) expands on Rising Shots.

6.5.2.3.2 Front or Rear Hit Angles
TF, TR, HF and HR Hit Locations are listed. It is impossible to hit the TS or HS at these angles.

6.5.2.3.3 Front/Side or Rear/Side Hit Angles
TF, TS, TR, HF, HS, and HR Hit Locations are listed.

6.5.2.3.4 KE vs. CE Ammo Types
AP ammo types are classified as either KE – Kinetic Energy or CE – Chemical Energy, as listed in the Ammo Type or Types of Unit columns of the Data Cards. This information matches the Defensive Information section of the vehicle Data Cards.

Whether the hit is from KE or CE type ammo, the vehicle Armor Factors are as listed. An Optional Rule (see 7.10) expands on CE ammo types.

6.5.2.4 AP Hit Modifiers
The Advanced Game adds a number of new AP Direct Fire modifiers.

Shooter Suppressed
If the firing unit was Suppressed during a previous turn or previousaction during the current turn—the modifier is –5.

Smoke – Open/Closed SHEAF
If Smoke originates in the firing unit's hex, passes through, or enters the target unit's Smoke hex—the modifier is either –3 or　–5 depending whether the Smoke's Fire SHEAF is either Open or Closed. It is Closed for all on-map units.

The modifier is applied for each unique occurrence of Smoke that the line-of-sight starts from or encounters; not per each hex in its Fire SHEAF. It is cumulative.

Barrage – Open/Closed SHEAF
If a Barrage originates in the firing unit's hex, passes through, or enters the target unit's Barrage hex—the modifier is either –1 or –3 depending whether the Barrage's Fire SHEAF is either Open or Closed. It is Closed for all on-map units.

The modifier is applied for each unique occurrence of a Barrage that the line-of-sight starts from or encounters; not per each hex in its Fire SHEAF. It is cumulative.

Dust
If Dust originates in the firing vehicle's hex, passes through, or enters the target vehicle's Dust hex—the modifier is –1.

The modifier is applied for each unique occurrence of Dust the Line-of-Sight starts from or encounters; it is cumulative.

Combat modifiers for Dust created during the current Player step do not take effect until the conclusion of that step.

On Fire
If the line-of-sight passes through a Fire hex—the modifier is –5. The modifier is applied for each unique occurrence of Fire that the line-of-sight encounters; it is cumulative.

On the rare occasions that a target unit or a firing unit is located within a Fire hex, the modifier is also applied for each of those situations.

Ammo Limit
If the firing unit has Ammo Limits in effect (see 5.16)—the modifier is –3.

Transported Fire
If a passenger leg unit is firing an attached AP type weapon—the modifier is –2.

Heat Haze
Heat Haze is a visual anomaly that occurs during hot conditions in the desert and also in arid environments. The shimmering effect caused by dynamic atmospheric turbulence from rising ground heat, and the distortion of light passing through it, is a hindrance to clearly engaging targets. Heat Haze is in effect as instructed by a Scenario's Setup or Special Conditions.

Heat Haze affects the combat results by applying a –3 modifier to AP Direct Fire. The spotting range at which the modifier is applicable depends on the size of the target.

The range is:

• V Sized Target: ≥ 8 hexes

All vehicles are considered as V Sized targets regardless of their listed Target Size Modifier.

Sun Blinding
If Sun Blinding is in effect, apply the scenario specified AP modifier.

Dual Fire
If the Dual Fire weapon (see 5.14) is firing at the same target as the unit's primary weapon—the Dual Fire modifier is –1. However, if the Dual Fire weapon is firing at a different target—the modifier is –3.

Note that the Dual Fire modifier only applies to the Dual Fire weapon, the one displayed as a reverse image, on vehicle Data Card or any attached leg weapon.

Shooter Hesitating (OR)
If the firing unit is Hesitating (see 7.1.5.1) due to a Morale Check during a previous turn or previous action during the current turn—the modifier is –3.

Shooter Broken (OR)
If the firing unit is Broken (see 7.1.5.2 due to a Morale Check during a previous turn or previous action during the current turn—the modifier is –5.

AP Unit Grade
The AP Direct Fire Unit Grade modifiers are referenced in the Unit Grade Modifiers Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). It is based on the firing unit's Unit Grade. The Force or Formation Grade of the firing unit or the target Unit's Grade has no impact.

The AP and GP Unit Grade Modifiers share space in the table; the AP modifiers are those preceding the slash.

The AP Range Factor is used to determine the applicable modifier, if any. Note that Seasoned Grade is considered the baseline and, therefore, does not have any modifiers.

6.5.2.5 AP Damage & Effects

If the shot penetrates, the Offensive Information section, AP Damage, on the firing unit's Data Game Card is referenced to determine the amount of damage caused by the penetrating hit. An Optional Rule, Variable AP Penetration (OR) adds variability to the AP Penetration Factor (see 7.12).

Now the unit's result from the Hit Angle roll (see 6.5.2.2) is applied. One of four distinct outcomes is possible: ND – No Damage, DM – Damaged, KO – Knocked Out, or BU – Brew Up.

If the target is an S-Type vehicle, a –2 modifier is applied to *unit's* result; the net result is never less than 1. This reflects the reduced effectiveness of AP ammo versus unarmored vehicles. An Optional Rule expands on Brew Up results (see 7.11).

ND – No Damage
The shot penetrated, but did no appreciable damage—it is a dud. The vehicle suffers no ill effects from the hit, but is subject to Bailing Out.

DM – Damaged
If the Hit Location is TF, TS, TR or DK, mark the vehicle with a DMGD counter with the TURRET side facing front.

If the Hit Location is HF, HS, or HR, mark the vehicle with a DMGD counter with the HULL side facing front.

In addition, the vehicle is subject to Bailing Out.

KO – Knock Out
In addition to the effects outlined in the Basic Game, any passenger units are subject to Bailing Out.

BU – Brew Up
In addition to the effects outlined in the Basic Game, any passenger units are subject to Bailing Out.

When a vehicle suffers a brew up result, all *friendly* ground units in the same hex are immediately Suppressed. It does not apply to passengers Under Cover (see 6.5.4.2.3).

6.5.2.6 Bail Out – AP Fire
6.5.2.6.1 Crew
If the target receives a No Damage, Damage or Track Hit result, its crew may decide to abandon the vehicle. Find the appropriate *Crew* row on the Bail Out Table on Game Card B (Panzer) or Game Card A (Panzer North Africa) for the result, e.g., if the vehicle suffered a Track Hit, the dice roll value for TK – Crew is 30– (30 or less).

Roll (100). If the vehicle's Unit Grade is Elite, a +5 modifier is applied; if Green Unit Grade, a –5 modifier is applied. If the vehicle is Broken (OR) (see 7.1), a –20 modifier is applied; if Hesitating (OR) (see 7.1), a –10 modifier is applied. If the result is equal to or less than the value, the crew Bails Out.

If the vehicle is transporting leg and/or towed units when its crew Bails Out, all passenger units automatically Bail Out; no roll is necessary. They are placed in the same hex as the transporting vehicle. They may face in any direction and are marked with a SUPPRESSION/ON counter.

Vehicles that receive multiple No Damage results must check for Bail Out for each occurrence; additional Track Hits are ignored.

6.5.2.6.2 Passengers
No Damage, Damage or Track Hit
If a vehicle transporting leg and/or towed units receives a No Damage, Damage or Track Hit result, and its crew does not Bail Out, its passengers may each still decide to Bail Out. Find the appropriate *Pass* row for the result, e.g., if the vehicle suffered a No Damage Hit, the dice roll value for AP No Damage – Pass is 50-. If the vehicle provides Under Cover transport, do not roll for Bail Out (see 6.5.4.2.3).

Roll (100); roll separately for each passenger unit. If the passenger's Unit Grade is Elite, a +5 modifier is applied; if Green Unit Grade, a –5 modifier. If the result is equal to or less than the value, the passenger unit Bails Out. It is placed in the same hex as the transporting vehicle. It may face in any direction and is marked with a SUPPRESSION/ON counter.

For vehicles that receive multiple No Damage or Track Hit results, their passengers must check for Bail Out for each occurrence.

Knock Out or Brew Up
If a vehicle transporting leg and/or towed units receives a Knock Out or a Brew Up result, the passenger units must each determine if they *successfully* Bail Out or are eliminated along with the transporting vehicle. Find the appropriate *Pass* row for the result, e.g., if the vehicle suffered a Knock Out Hit, the dice roll value for Knocked Out – Towed is 61+ (61 or more).

Roll (100); roll separately for each passenger unit. If the passenger's Unit Grade is Elite, a +5 modifier is applied; if Green Unit Grade, a –5 modifier. If the result is equal to or greater than the value, the passenger unit successfully Bails Out; otherwise, it is eliminated. If successful, it is placed in the same hex as the transporting vehicle. It may face in any direction and is marked with a SUPPRESSION/ON counter.

6.5.3 Overwatch Fire – GP Fire
The rules for GP Overwatch Fire are the same as outlined for AP Overwatch Fire (see 4.4.2) except for the application of the GP Fire modifiers.

6.5.4 Direct Fire Step – GP Fire
In the game, GP (for General Purpose) is a collective term representing all types of fire that rely on explosive force (HE shells from guns, artillery, mortars, etc.) or weight of fire (rifles, machineguns, etc.) for their effect.

GP Fire comes in two flavors—Direct and Indirect. The procedures for GP Direct Fire are the same as AP Direct Fire in that it is directed at a single target. Whereas GP Indirect Fire affects each unit and terrain individually in an area based on the size of the SHEAF Pattern. Most units may employ only Direct or Indirect GP Fire. However, a few units have the ability to utilize either type.

Only those units possessing a GP row in the Offensive Information section of their Data Cards may employ Direct or Indirect GP Fire.

As a Direct Fire action, all rules for Direct Fire are applicable to GP Direct Fire.

6.5.4.1 The GP Factor
Determine the range in hexes from the firing unit to the target. Move along the R – Range sub-row for the GP row until finding the value that is greater than or equal to the value that corresponds to the range in hexes. That value found directly below the appropriate range along the F – Factor sub-row is the GP Factor.

6.5.4.2 The GP Defense Factor
All units have a GP Defense Factor. That value is cross-referenced with the GP Factor on the GP Combat Results Table on Game Card B (Panzer) or Game Card A (Panzer North Africa) to resolve GP Fire.

6.5.4.2.1 Vehicle GP Defense Factors
Vehicle GP Defense Factors are listed on their Data Cards. It is an alphanumeric value that indicates both the GP Defense Factor and the Target Type. Vehicles are Target Types A, P or S. The vehicle GP Defense Factor is a fixed value.

6.5.4.2.2 Leg and Towed GP Defense Factors
Leg and towed GP Defense Factors are listed on their Data Cards. It is an alphanumeric value that indicates both the GP Defense Factor and the Target Type. All leg and towed units are Target Type S.

The GP Defense Factors for these units is based on the terrain occupied, whether or not it is in Full Cover or whether or not it is moving. The GPD (GP Defense Factor) is listed for all Terrain types classified as None for Cover. The remaining GP Defense Factors are for Terrain types classified as Light Cover, Medium Cover, or Heavy Cover.

If in Full Cover (see 6.1.4.2) add 1 or 2 to the listed GP Defense Factor. If moving (it has a Move or a Short Halt command) subtract 2. The net GP Defense Factor is never less than 1 or greater than 10.

If there is more than one Terrain type in a target's hex, e.g., an Improved Position in Rough terrain, use the Terrain type with the highest GP Defense Factor. If the terrain lists Other as its Cover type, use the other Terrain type in the same hex to determine the Cover type, if any.

Note that while Wood and Brick Buildings are considered Heavy Cover for spotting purposes, they are considered Light and Medium Cover, respectively, when determining AP Hit Modifiers and the GP Defense Factor.

Crops is treated as Medium Cover for Spotting purposes only. It is considered None when determining AP Hit Modifiers and determining the GP Defense Factor.

Brush and Sand terrain are treated as Light Cover for Spotting purposes only. They are considered None when determining AP Hit Modifiers and determining the GP Defense Factor.

Leg units located on Desert Building rooftops are considered in Light Cover even if located in Brick or Stone Building hexes.

6.5.4.2.3 Transported GP Defense Factors
When GP Fire is directed at a vehicle transporting leg and/or towed units, the transporting vehicle and any passengers may be attacked by the same GP Fire. Passengers are never attacked separately from the transporting vehicle. They are only attacked as part of GP Fired directed at the transporting vehicle.

The firing unit's GP Factor is first compared against the transporting vehicle and then against each individual passenger. Each unit has its own GP combat roll (100) to determine the results. The combat results, if any, are applied as they occur.

If there is a chance of Bail Out, the attempt(s) is made after all combats affecting the transporting vehicle and passenger units are resolved.

Passenger leg and towed units transported by an Under Cover capable vehicle have a set GP Defense of 3S. Passenger leg or towed units transported by a *non-Under Cover* capable vehicle have a set GP Defense of 1S.

The Terrain type and movement status of the transporting vehicle has no impact on the passengers' GP Defense Factor.

6.5.4.2.4 Aircraft GP Defense Factors
Aircraft GP Defense Factors are listed on their Data Cards. It is an alphanumeric value that indicates both the GP Defense Factor and the Target Type. All aircraft units are Target Type S.

6.5.4.2.5 Terrain GP Defense Factors
Blocks, Bridges, Buildings, Improved Positions, Mines, and Wire may be destroyed as a result of non-small arms GP Fire; they have GP Defense Factors. The Terrain Effect Table on Game Card A (Panzer) or Game Card B (Panzer North Africa) lists GP Defense Factors for terrain in the GP Def column.

They are all S-Type targets and are attacked by Direct or Indirect GP Fire. AP Fire has no effect against terrain targets. No other Terrain types have a GP Defense Factor. Terrain types are never Suppressed. The combat either results in their elimination or has no effect.

The scenarios indicate the GP Defense Factor for variable defense terrain features; i.e., Blocks, Bridges and Wire. If none is listed, they may not be attacked. Terrain types lacking a GP Defense Factor are not subject to destruction unless instructed otherwise by a Scenario's Setup or Special Conditions.

Terrain is only attacked by GP Direct Fire when a target occupies a vulnerable terrain type when it is attacked. Engineers (OR) (see 7.19) are the only combat units that may directly attack Terrain. They do not require a target. Their special abilities enable them to attempt to destroy terrain features.

Terrain is also incidentally attacked by GP Indirect Fire and aircraft bombs and rockets. If a vulnerable Terrain type falls within an Indirect Fire SHEAF or bomb or rocket impact patterns, it is attacked whether or not co-located with a target.

6.5.4.3 GP Fire Modifiers
The GP Fire modifiers are now checked to determine their effect, if any. These modifiers are found on the GP Fire Modifiers Table found on Game Card A. Unless otherwise indicated, a modifier is applicable to both GP Direct Fire (DF) and GP Indirect Fire (IF).

GP Fire modifiers affect the GP combat dice roll (100). All GP Fire modifiers are cumulative, and together are considered the Net Modifier.

Target Vehicle Moving DF/IF
If the target vehicle has a Move or Short Halt command—the modifier for Direct Fire (DF) is –10 or –20 for Indirect Fire (IF).

If the target vehicle's command is not yet visible, the controlling player must reveal it to receive the modifier (turn the Command counter face down again to show it is not yet executed).

Note that in this case, the controlling player is not required to reveal the command; respond that the command has no effect. If the player chooses not to reveal the command, the modifier is 0.

The IF modifier is not applicable with Planned Indirect Fire or vehicles that voluntarily move within a Barrage.

Target P-Type or A-Type Vehicle
If the target is a P-Type or an A-Type vehicle, the modifier is –10 or –20, respectively.

Target Vehicle in Medium or Heavy Cover
If the target vehicle is located in terrain classified as Medium or Heavy Cover, the modifier is –10 or –20, respectively. If a vehicle is located in an over-stacked hex, treat any Cover in the hex as None.

For Indirect Fire and aircraft, this modifier only applies to vehicles located in Cover that provides overhead protection. Medium Cover—inside of a Brick Building; Heavy Cover—inside of a Stone Building or in an Improved Position. All other terrain is treated as None.

Target Cavalry
If the target is a cavalry unit, the modifier is +10.

Leg Crawling
If the target is a crawling leg unit, the modifier is +10.

Target Leg/Towed DF over Wall Hexside
If a leg or towed unit is the target of GP Direct Fire that crosses or runs exactly along a Wall hexside (see 6.1.4.3.2), the modifier is –10.

Target Leg/Towed DF Railroad Track Hex
If a leg or towed unit is the target of GP Direct Fire and is located in a Railroad Track hex (see 6.1.4.3.14), the modifier is –5.

Short Halt: SB: 0, Other
If the firing unit has a Short Halt command and is a vehicle with SB: 0 or is a non-vehicle unit, the modifier is –15.

Shooter Damaged
If the firing unit's turret was Damaged during a previous turn or previous action during the current turn, the modifier is –10.

Shooter Suppressed
If the firing unit was Suppressed during a previous turn or previous action during the current turn, the modifier is –20.

Shooter Hesitating (7.1)
If the firing unit is Hesitating (see 7.1.5.1) due to a Morale Check during a previous turn or previous action during the current turn, the modifier is –10.

Shooter Broken (7.1)
If the firing unit is Broken (see 7.1.5.2) due to a Morale Check during a previous turn or previous action during the current turn, the modifier is –20.

On Fire
If the line-of-sight passes through a Fire hex, the modifier is –20. The modifier is applied for each unique occurrence of Fire the line-of-sight encounters; it is cumulative. It does not apply to Indirect Fire or Aircraft Combat.

On the rare occasions that a target unit or a firing unit is located within a Fire hex, the modifier is also applied for each of those situations.

Brew-Up Smoke
If Brew-Up Smoke originates in the firing unit's hex, passes through, or enters the target's Brew-Up Smoke hex, the modifier is –10. It does not apply to Indirect Fire or Aircraft Combat.

The modifier is applied for each unique occurrence of Brew-Up Smoke that the line-of-sight starts from or encounters; it is cumulative.

Dismounted FO (7.47)
If the firing unit is a Dismounted FO, the modifier is –10.

Smoke – Open/Closed SHEAF
If Smoke originates in the firing unit's hex, passes through, or enters the target unit's Smoke hex, the modifier is either –10 or –20 depending whether the Smoke's Fire SHEAF Pattern is either Open or Closed. It does not apply to Indirect Fire or Aircraft Combat.

The modifier is applied for each unique occurrence of Smoke that the line-of-sight starts from or encounters; not per each hex in its Fire SHEAF. It is cumulative.

Barrage – Open/Closed SHEAF
If a Barrage originates in the firing unit's hex, passes through, or enters the target unit's Barrage hex, the modifier is either –5 or –10 depending whether the Barrage's Fire SHEAF is either Open or Closed. It does not apply to Indirect Fire or Aircraft Combat.

The modifier is applied for each unique occurrence of a Barrage that the line-of-sight starts from or encounters; not per each hex in its Fire SHEAF. It is cumulative.

Dust
If Dust originates in the firing vehicle's hex, passes through, or enters the target vehicle's Dust hex—the modifier is –5.

The modifier is applied for each unique occurrence of Dust the Line-of-Sight starts from or encounters; it is cumulative.

Combat modifiers for Dust created during the current Player step do not take effect until the conclusion of that step.

IF Open SHEAF
If an off-map artillery battery is utilizing an Open SHEAF Pattern, the modifier is –20. This modifier is not applicable to on-map Indirect Fire units.

Overwatch
If the firing vehicle is executing Overwatch Fire at a target located within its Front (or rear) Field-of-Fire, the modifier is –5. This is applicable whether the vehicle is Turreted, Turretless 360°, or Non-Turreted.

The Rear Field-of-Fire is used for those Non-Turreted vehicles with a rear facing gun.

Keep in mind that the Target Moving modifier is also applicable in addition to this modifier if triggered by movement.

Overwatch Adjust
If the firing vehicle is executing Overwatch Fire at a target located outside of its Front (or Rear) Field-of-Fire, the modifier is –10. Only Turreted and Turretless 360° vehicles may execute Overwatch Fire at target vehicles located outside of the firing vehicle's Front (or Rear) Field-of-Fire.

Again, the Target Moving modifier is also applicable in addition to this modifier if triggered by movement.

Ammo Limit
If the firing unit has Ammo Limits in effect (see 5.16), the modifier is –10.

Heat Haze
Heat Haze is a visual anomaly that occurs during hot conditions in the desert and also in arid environments. The shimmering effect caused by dynamic atmospheric turbulence from rising ground heat, and the distortion of light passing through it, is a hindrance to clearly engaging targets. Heat Haze is in effect as instructed by a Scenario's Setup or Special Conditions. It does not apply to Indirect Fire.

Heat Haze applies a –10 modifier. The spotting range at which the modifier is applicable depends on the size of the target.

The range is:

> S-Sized Target: ≥ 3 hexes
> L-Sized Target: ≥ 5 hexes
> V-Sized Target: ≥ 8 hexes

Sun Blinding
If Sun Blinding is in effect, apply the scenario specified GP modifier, if any.

Transported Fire
If a passenger leg unit is firing its GP weapon, the modifier is –10.

Defensive Fire (7.50)
If the firing unit is employing Defensive Fire, the modifier is –10.

Overrun Attack
If a vehicle is executing an Overrun Attack against a leg or towed unit, the modifier is +20.

Dual Fire
If the Dual Fire weapon (see 5.14) is firing at the same target unit as the unit's primary weapon, the Dual Fire modifier is –5. However, if the Dual Fire weapon is firing at different target units, the modifier is –10.

Note that the Dual Fire modifier only applies to the Dual Fire weapon, the one displayed as a reverse image, on vehicle Data Cards or any attached leg weapon.

Pinning Fire (7.18)
If a unit is executing Pinning Fire (see 7.18), the modifier is +20. Pinning Fire is available only to Small Arms GP Direct Fire.

Hasty Entrenchment
If a target leg or towed unit is located in a Hasty Entrenchment, the modifier is –10.

CE Ammo (7.15)
If the target of a CE type ammo (see 6.5.2.4), the modifier is –10.

Coax MG (P-Range) vs. P or S
If a Coax MG equipped vehicle unit is firing at a P-Type or a S-Type vehicle or any leg or towed unit from Pointblank Range (P), the modifier is +10.

Air Burst (7.46)
If the target of an Air Burst, the modifier is +10.

GP Unit Grade
The GP Direct Fire Unit Grade modifiers are referenced on the Unit Grade Modifiers Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). It is based on the firing unit's Unit Grade. The Force or Formation Grade of the firing unit or the target unit's grade has no impact.

The AP and GP Unit Grade modifiers share space on the table; the GP modifiers are those following the slash.

The GP Range Factor is used to determine the applicable modifier, if any. Note that Seasoned Grade is considered the baseline and, therefore, does not have any modifiers.

6.5.4.4 GP Fire Determination
For Direct and Indirect GP Fire reference the GP Combat Results Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). Cross-reference the GP Factor column (see 6.5.4.1) with the GP Defense Factor row (see 6.5.4.2). Two numbers are listed: one for the N-Effect and a second for the S-Effect.

Roll (100) and modify the result by the net GP modifier (see 6.5.4.3), if any. In this case, the modified result may be greater than 100 (with a red background at the lower left section of the table) or less than 0 (with a green background at the upper right of the table).

If the final modified dice roll is equal to or less than the N Effect number, the fire had No Effect.

If equal to or less than the S Effect number but greater than the NEffect number, the target is Suppressed.

If greater than the S-Effect number, the target suffered an Effective result.

If a vehicle target is transporting leg and/or towed units, roll (100) individually for each GP Fire Determination. While the GP Factor remains the same, the GP Defense Factors and/or the net GP modifiers may be different.

If GP Fire is directed at a target that also affects terrain, roll (100) individually for each GP Fire determination. In the case where GP Fire affects both units and a terrain, determine the combat results against the unit before determining the results against the Terrain.

All GP Fire Effects are summarized in the Combat Effects Summary on Game Card D (Panzer) or on the back of the Optional Rules booklet (Panzer North Africa).

6.5.4.4.1 No Effect Result – All Units
The GP Fire caused no appreciable damage and is ignored.

6.5.4.4.2 Vehicle suppression & Effective Results
When determining GP Fire effects against vehicle units, there are three elements that must be considered:

  • If the GP Fire is from a S-Small Arms or non-S-Small Arms type weapons.
  • If the vehicle Target Type is A, P or S.
  • If the rule of 5s and 10s applies (see below).

Small Arms & Non-Small Arms
The Data Cards indicate if a particular weapon is Small Arms (see 5.7). If not, it is non-Small Arms.

Vehicle Target Type
The Data Cards indicate a vehicle's Target Type (see 6.5.2.3).

The Rule of 5s and 10s
A Track Hit or a Damaged result may apply whenever the final modified result ends in a 5; i.e., 75 or 95, or a 10; i.e., 40 or 60. These are the only cases when a vehicle may suffer a Track Hit or Damage result from GP Fire.

Suppressed Result, Non-Small Arms vs. A, P or S-Type
The vehicle is Suppressed. Place a SUPPRESSION/ON counter on or next to it.

Effective Result, Non-Small Arms vs. A or P-Type
Effective Result only if a shooter's maximum GP Effectiveness Factor is greater than or equal to the target vehicle's GP Defense Factor. Otherwise, the target vehicle is Suppressed by an Effective Result. GP Effectiveness Factors are listed on the Data Cards in the Offensive Information section.

An Optional Rule, Turrets (see 7.8) expands on the GP Effectiveness Factor.

If an Effective Result and the final modified result ends in 5, the target vehicle is Damaged. The shooter rolls (10). If the result is equal to or less 4, place a TURRET DMGD counter on or next it; otherwise place a HULL DMGD counter on or next it. If an unarmed vehicle is damaged, it suffers automatic Hull Damage. The vehicle's crew is subject to Bail Out.

If an Effective Result and the final modified result ends in 10, the target vehicle received a Track Hit. Place a TK counter on or next to it. The vehicle's crew is subject to Bail Out. If hit by GP Direct Fire and the vehicle is Hull Down or Partial Hull Down, a TK hit is treated as No Effect.

If an Effective Result and the final modified result does not end in a 5 or a 10, the vehicle unit is Knocked Out or Brewed Up. The shooter rolls (10). If the result is equal to or less than maximum GP Effectiveness Factor, the vehicle Brews Up (see 6.5.2.5), otherwise it is Knocked out (see 6.5.2.5). Passenger units must attempt to bail out (see 6.5.4.5).

When a vehicle suffers a brew up result, all *friendly* ground units in the same hex are immediately Suppressed. It does not apply to passengers Under Cover (see 6.5.4.2.3).

Effective Result, Non-Small Arms vs. S-Type
If an Effective Result and the final modified result ends in a 5 or 10; follow the previous steps. If an unarmed vehicle is damaged, it suffers automatic Hull Damage. If the final modified result did not end in a 5 or a 10, the vehicle is Knocked Out or Brewed Up; follow the previous steps.

Suppressed Result, Small Arms vs. A-Type
If the GP Range Factor is Point Blank (P), the vehicle is Suppressed. Place a SUPPRESSION/ON counter on or next to it. If at any other range, the result is treated as a No Effect result.

Suppressed Result, Small Arms vs. P-Type
If the GP Range Factor is Point Blank (P) or Short (S), the vehicle is Suppressed. Place a SUPPRESSION/ON counter on or next to it. If at any other range, the result is treated as a No Effect result.

Suppressed Result, Small Arms vs. S-Type
The vehicle is Suppressed from any range. Place a SUPPRESSION/ON counter on or next to it.

Effective Result, Small Arms vs. A-Type
If the GP Range Factor is Point Blank (P) or Short (S), the vehicle is Suppressed instead. Place a SUPPRESSION/ON counter on or next to it. If at any other range, the result is treated as a No Effect result.

In this context, it is impossible for small arms to achieve an Effective Result against an A-Type vehicle unit. An Optional Rule, Turrets (see 7.8) expands on Small Arms effectiveness.

Effective Result, Small Arms vs. P-Type
If the GP Range Factor is Point Blank (P), the vehicle is Damaged; follow the previous steps. The vehicle's crew is subject to Bail Out. If the GP Range Factor is Short (S), the vehicle is Suppressed instead. Place a SUPPRESSION/ON counter on or next to it. If at any other range, the result is treated as a No Effect result.

Effective Result, Small Arms vs. S-Type
If an Effective Result and the final modified result ends in a 5 or 10; follow the previous steps. If the final modified result did not end in a 5 or a 10, the vehicle is Knocked Out or Brewed Up. The attacker rolls (10), if the result is equal to or less than ½ of the firing unit's GP Factor (round down), the vehicle Brews Up, otherwise the vehicle is Knocked out. Passenger must attempt to bail out (see 6.5.4.5).

When a vehicle suffers a brew up result, all *friendly* ground units in the same hex are immediately Suppressed. It does not apply to passengers Under Cover (see 6.5.4.2.3).

6.5.4.4.3 Leg, Towed & Terrain Suppression & Effective Results

Suppressed Result, Non-Small Arms or Small Arms
The unit is Suppressed. Place a SUPPRESSION/ON counter on or next to it. Passenger units may Bail Out (see 6.5.4.5).

Effective Result, Non-Small Arms or Small Arms
The target unit is either eliminated or reduced in size by the fire.

If the target is anything other than a squad, it is eliminated and removed from play. If it is a squad, it is reduced to a half-squad and is Suppressed. Flip a squad counter to its half-squad side and place a SUPPRESSION/ON counter on or next to it. Any attached weapons are unaffected by this reduction. An Optional Rule, Attached Weapon Loss (see 7.17) expands on Attached Weapon loss.

Effective Result, Non-Small Arms vs. Terrain
Roll (100) a second time (except for mines). If a second Effective Result, the target Terrain Type is eliminated. All other results are ignored.

Two effective results? Terrain occupies the entirety of a 100 meter hex. It is not a just a single target. It takes much more to eliminate the terrain in an entire hex.

Building
It is Destroyed. Place a RUBBLE counter in its hex. May start On Fire (OR) (see 7.35). All units occupying an eliminated building hex are immediately eliminated. All units are removed from play; do not place wrecks.

Bridge
It is Destroyed. Place a RUBBLE counter in its hex. The hex is now prohibited terrain for all units. All units occupying an eliminated bridge are also immediately eliminated. All units are removed from play; do not place wrecks.

Improved Position
It is Destroyed and removed from the mapboard. Place a RUBBLE counter in its hex. Any unit occupying an eliminated Improved Position is immediately eliminated. All units are removed from play; do not place wrecks.

Blocks, Mines or Wire
They are Destroyed and removed from the mapboard. Any units occupying eliminated Blocks, Mines or Wire terrain are unaffected; they do not suffer any additional combat results.

6.5.4.5 Bail Out – GP Fire
A Bail Out may occur if Direct or Indirect GP Fire results in a Suppression, Track, Damage, Knock Out or Brew Up. The GP Bail Out process is exactly the same as the AP Bail Out process (see 6.5.2.7). Suppression applies only to passengers. Vehicle crews do not bail out when Suppressed. With multiple passengers, only the Suppressed units must check for Bail Out. The other passengers and the transporting vehicle are unaffected if a passenger Bails Out.

Passengers that receive subsequent Suppression results are not required to check for Bail Out if they are marked with a SUPPRESSION/ON counter. However, if a unit has a SUPPRESSION/OFF counter changed to SUPPRESSION/ON, it must check for Bail Out.

6.6 Advanced Game Movement Phase
This adds the Close Assault and Hand-to-Hand Combat and Overrun Combat to the Movement Phase, in addition to a few special movement situations and movement for leg and towed units.

Close Assaults are a form of GP Fire simulating the actions of leg units attacking vehicles at extremely close range. This is the most effective means of attacking vehicles with leg units. It differs from GP Direct Fire in that they are resolved in the Hand-to-Hand/Close Assault Step of the Movement Phase rather than the Combat Phase.

Hand-to-Hand Combats are special attacks simulating the actions of leg units attacking other leg or towed units at extremely close range with individual soldiers from both sides typically coming to blows.

As part of normal movement, vehicles may engage leg or towed units by Overrunning their positions.

6.6.1 Close Assault/Hand-to-Hand Combat Step
Eligible leg units engage vehicles (Close Assault) or other leg or towed units (Hand-to-Hand Combat) by close combat.

Why its own step? This prevents Second Player units from moving away from First Player units before they attack.

6.6.1.1 Close Assault Combat
Only unsuppressed, unbroken (OR) (see 7.1.5.2) or non-hesitating (OR) (see 7.1.5.1) squads, half-squads and sections may initiate Close Assaults. Towed units may not initiate Close Assaults. They may attack in any direction. If a leg unit is Suppressed before it can initiate a Close Assault, it cannot then attack.

To Close Assault, dismounted leg units must have a MOVE command. In a special form of Close Assault, passenger units may also dismount into a Close Assault.

Close Assault is the only method where Engineer units may attack Terrain features (OR) (see 7.19).

Only spotted vehicles, when announcing the close assault, (and terrain by engineer units) are attacked by a Close Assault. The attacking units must be adjacent to a target to initiate the attack. Squads, half-squads and sections (w/o attached weapons) may expend 1 of their movement speed allowance to move adjacent to a target; this is called an Advancing Attack. The target must be spotted *before* the unit moves. Vehicles cannot be attacked if they are two or more Heights above or below the attacking unit.

Each leg unit may only attack a single vehicle. If there is more than one vehicle in a hex, the others are ignored. If more than one unit in the same hex is attacking the same vehicle, they must combine their attack. One of the units is identified as the primary attacker; there may be any number of additional attackers from the same hex. If units located in another hex are attacking the same vehicle, the attacks are resolved separately in any order desired.

All Close Assaults against the same vehicle must be announced before the first is resolved. If a common target is eliminated before all of the

Close Assaults are resolved, the remaining units may then move normally, but they may not initiate a Close Assault or enter into Hand-to-Hand with an unannounced target. Although the attacking units are technically firing, they are marked with SPOT/MOVE counters.

While Close Assaults take place during the Movement Phase, they do not trigger Overwatch Fire unless the attacking unit is executing an Advancing Attack. In that case, the Overwatch Fire is resolved before the Close Assault.

Passenger leg units may dismount (see 6.6.7.1.1) and then immediately Close Assault an adjacent unit. This is called a Dismount Attack. They may not combine their attack with any other units in the hex. The target must be spotted before any movement takes place and the attacking unit(s) dismounts.

This special form of Close Assault actually takes place during the Movement Step of the Movement Phase along with normal movement, not during the Close Assault/Hand-to-Hand Combat Step. The movement of the transporting vehicle unit may trigger Overwatch Fire, but once the leg unit dismounts, Overwatch Fire may not be taken.

6.6.1.1.1 Close Assault Combat Resolution
The First Player announces and resolves all Close Assault and Hand-to-Hand combats in any order followed by the Second Player. Close Assault is a form of GP Direct Fire, but utilizes its own unique set of modifiers.

All leg units use common GP Factors based on the size of primary unit.

- Squad: 8
- Half-squad: 4
- Section: 2

Reference the GP Combat Results Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). These common GP Factors are highlighted on the table. Cross-reference the attacking unit's GP Factor with the target's GP Defense Factor. If the vehicle's GP Defense Factor is greater than 5, it is treated as 5.

Roll (100) and modify the result by the net Close Assault modifier (see 6.6.1.1.2), if any. In this case, the modified result may be greater than 100 or less than 0.

6.6.1.1.2 Close Assault Combat Modifiers
The Close Assault modifiers are used exclusively. All modifiers are cumulative. The terrain occupied by either side has no impact on Close Assault combat.

Advance Attack
If the attacking unit(s) expended movement to move adjacent to the target, the modifier is –10.

Uphill Attack
If the target is 1 Height above the attacking unit(s), the modifier is –10.

Dismount Attack
If the attacking unit dismounted into the attack, the modifier is   –10.

Vs. Moving Vehicle
If the target vehicle is moving, the modifier is –10.

If the target vehicle's command is not yet visible, the controlling player must reveal it to receive the modifier (turn the Command counter face down again to show it is not yet executed).

Note that in this case, the controlling player is not required to reveal the command; respond that the command has no effect. If player chooses not to reveal the command, the modifier is 0.

Vs. Suppressed Vehicle
If the defending vehicle is Suppressed, the modifier is +20.

Vs. Vehicle with C Modifier
If a target vehicle has a C Close Assault indicator on its Data Card, the modifier is +20.

Vehicle in Unsupported Hex
Attacks by leg units in close terrain can be overwhelming for vehicles. The Terrain Effects Table on Game Card A (Panzer) or Game Card B (Panzer North Africa) lists the terrain types subject to support, e.g., buildings, woods and groves.

Only unbroken (OR) (see 7.1) squads and half-squads may support vehicles. The leg unit must be in the same hex as the vehicle. A dismounted squad-size unit supports up to two vehicles, while a half-squad supports a single vehicle.

The leg units may be mounted. If mounted, support is on a one-for-one basis. A squad would support only its transporting vehicle.

If the vehicle is unsupported, the modifier is +30.

The most obvious example is vehicles unsupported in urban areas—never a good idea.

+ Attacker
Additional attackers use common modifiers based on the unit.

- Section: the modifier is +5 per additional unit
- Half-squad: the modifier is +10 per additional unit
- Squad: the modifier is +20 per additional unit

Vs. P-Type Vehicle
If a target vehicle is a P-Type, the modifier is +20.

Vs. S-Type Vehicle
If a target vehicle is a S-Type, the modifier is +30.

Vs. Open A-Type Vehicle (7.8)
If the target vehicle is an open A-Type, the modifier is +10.

Attacker has a Flamethrower
If any of the attacking units has an attached flamethrower, the modifier is +20.

Vs. Hesitating (7.1)
If the defending vehicle is hesitating, the modifier is +10.

Vs. Broken (7.1)
If the defending vehicle is broken, the modifier is +20.

Dismounted FO (7.47)
If Dismounted FO, the modifier is –10.

Attacker Unit Grade
The Unit Grade modifiers for Close Assault combat are found in the HTH CA column in the Unit Grade Modifiers Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). This modifier applies to only the primary attacker, and is based on that unit's Unit Grade. If there are additional attacking units, their Unit Grade is not applicable.

6.6.1.1.3 Close Assault Combat Results
If the vehicle has an unrevealed command, i.e., MOVE or OW, it may still execute it during the appropriate Step or Phase.

Suppressed Result
The vehicle is Suppressed. Place a SUPPRESSION/ON counter on or next to it. If the vehicle already has a SUPPRESSION/OFF counter, it is replaced by a SUPPRESSION/ON counter.

Effective Result
With Close Assault combats, Effective Results yield a Damaged, Track, Knock Out or Brew Up regardless of the target vehicle unit's Target Type. Follow the rule of 5s and 10s for vehicle GP Fire (see 6.5.4.4.2) to determine Damage or a Track Hits.

Close Assaults versus a Bailed Out vehicle is an automatic Effective Result. Roll (10) for Knock Out or Brew Up.

If the final modified result does not end in a 5 or a 10, the vehicle is Knocked Out or Brewed Up. If the Close Assault included a flamethrower, the vehicle automatically Brews Up. Otherwise, the attacker rolls (10), if the result is equal to or less than ½ of the primary unit's GP Factor (see 6.6.1.1.1), the vehicle unit Brews Up, otherwise the vehicle unit is Knocked out. Passenger units must attempt to Bail Out (see 6.5.4.5).

When a vehicle suffers a Brew Up result, all *friendly* ground units in the same hex are immediately Suppressed. It does not apply to passengers Under Cover (see 6.5.4.2.3).

If the target is eliminated, any or all of the attacking units may move into the hex previously occupied by the defending vehicle if no other opposing units are present in the hex or they may remain in their original hex. This move does not trigger Overwatch Fire.

6.6.1.2 Hand-to-Hand Combat
It is a fight 'til the bitter end that uses a die roll comparison between the opposing sides. This is the only case in the game where the defending side rolls off during combat.

Only unsuppressed, unbroken (OR) (see 7.1.5.2) or non-hesitating (OR) (see 7.1.5.1) squads, half-squads and sections may initiate Hand-to-Hand combat. Towed units may not initiate Hand-to-Hand combat. They may attack in any direction. If a unit is Suppressed before it can initiate the combat, it may not then initiate the attack.

To engage in Hand-to-Hand combat, dismounted leg units must have a Move command. In a special form of Hand-to-Hand combat, passenger units may also dismount into a Hand-to-Hand combat.

Only spotted dismounted leg and towed units, when announcing the combat, may be attacked by Hand-to-Hand combat. The attacking units must be adjacent to a target to initiate the attack. Squads, half-squads and sections (w/o attached weapons) may expend 1 of their movement speed allowance to move adjacent to a target; this is called an Advancing Attack. The target must be spotted *before* the unit moves. Units may not be attacked if they are two or more Heights above or below the attacking unit.

Each leg unit may only attack a single target. If there is more than one target in a hex, the others are ignored. If more than one unit in the same hex is attacking the same target, they must combine their attack. One of the units is identified as the primary attacker; there may be any number of additional attackers from the same hex. If units located in another hex are attacking the same target, the attacks are resolved separately in any order desired.

All Hand-to-Hand combats against the same target must be announced before the first is resolved. If a common target is eliminated before all of the attacks are resolved, the remaining units may then move normally, but they may not initiate a Close Assault or enter into a Hand-to-Hand Combat with an unannounced target. Although the attacking units are technically firing, they are marked with Spot/Move counters.

While Hand-to-Hand combats take place during the Movement Phase, they do not trigger Overwatch Fire unless the attacking unit is executing an Advancing Attack. In that case, the Overwatch Fire is resolved before the Hand-to-Hand combat.

Passenger leg units may dismount and then immediately enter Hand-to-Hand combat with an adjacent unit. This is called a Dismount Attack. They may not combine their attack with any other units in their hex. The target must be spotted *before* any movement takes place and the attacking unit(s) dismounts.

This special form of Hand-to-Hand combat actually takes place during the Movement Step of the Movement Phase along with normal movement, not during the Close Assault/Hand-to-Hand Combat Step. The movement of the transporting vehicle unit may trigger Overwatch Fire, but once the leg unit dismounts, Overwatch Fire may not be taken.

6.6.1.2.1 Hand-to-Hand Combat Resolution
The First Player announces and resolves all Hand-to-Hand and Close Assault combats in any order followed by the Second Player. Hand-to-Hand combat is resolved through a die roll comparison; high side wins; roll again for ties.

Both sides roll (100) and modify each of their results by the net Hand-to-Hand modifier (see 6.6.1.2.2), if any. In this case, the modified result may be greater than 100 or less than 0.

6.6.1.2.2 Hand-to-Hand Combat Modifiers
The Hand-to-Hand modifiers are used exclusively. All modifiers are cumulative and are applied to each side. The terrain occupied by either side has no impact on Hand-to-Hand Combat.

Squad
If the primary attacking unit and/or the defending unit is a squad, the modifier is 0.

Half-squad
If the primary attacking unit and/or the defending unit is a half-squad, the modifier is –25.

Section
If the primary attacking unit and/or the defending unit is a section, the modifier is –30.

Towed
If the defending unit is a towed unit, the modifier is –40.

Defender Suppressed
If the defending unit is Suppressed, the modifier is –20.

Advance Attack
If any attacking unit(s) expended movement to move adjacent to the target, the modifier is –10.

Uphill Attack
If the target is 1 Height above the attacking unit(s), the modifier is –10.

Dismount Attack
If the attacking unit dismounted into the attack, the modifier is –10.

+ Attacker
Additional attackers use common modifiers based on the unit.

- Section: the modifier is +5 per additional unit
- Half-squad: the modifier is +10 per additional unit
- Squad: the modifier is +20 per additional unit.

Has Flamethrower
If any of the attacking units and/or the defending unit has an attached flamethrower, the modifier is +20.

Cavalry Unit
If the primary attacking unit and/or the defending unit is a cavalry unit, the modifier is +20.

Dismounted FO (7.47)
If Dismounted FO, the modifier is –10.

Defender Hesitating (7.1)
If the defending unit is hesitating, the modifier is –10.

Defender Broken (7.1)
If the defending unit is broken, the modifier is –20.

Unit Grade
The Unit Grade modifiers for Hand-to-Hand combat are found in the HTH CA column in the Unit Grade Modifiers Table on Game Card B (Panzer) or Game Card A (Panzer North Africa). This modifier applies to both the primary attacker and the defender, and is based on each unit's Unit Grade. If there are additional attacking units, their Unit Grade is not applicable.

6.6.1.2.3 Hand-to-Hand Combat Results
Hand-to-Hand combat requires that both sides roll (100), comparing the net results with the higher side winning the engagement; re-roll all ties. Hand-to-Hand combat ultimately results in one side's elimination even if it takes multiple roll-offs. Only one side is left standing.

If the target has an unrevealed command (i.e., MOVE or OW) it may still execute it during the appropriate Step or Phase.

Attacker Higher Result
If the target is a squad, it is reduced to a half-squad (it is not Suppressed). Flip the squad counter to its half-squad side. Any attached weapons are unaffected by this reduction. An Optional Rule (see 7.17) expands on attached weapon loss.

The defending side must now recalculate its modifiers based on a half-squad-sized unit and another roll-off takes place.

If the target is anything other than a squad, it is eliminated and removed from play.

If the target is eliminated, any or all of the attacking units may move into the hex previously occupied by the defending unit if no other opposing units are present in the hex or they may remain in their original hex. This move does not trigger Overwatch Fire.

Defender Higher Result
If the primary attacker is a squad it is reduced to a half-squad (it is not Suppressed). Flip the squad counter to its half-squad side. Any attached weapons are unaffected by this reduction. An Optional Rule (see 7.17) expands on attached weapon loss.

The attacking side must now recalculate its modifiers based on a half-squad-sized unit. If there are other squad-sized units as part of the attack, the attacking player may designate one of those units as the primary unit and recalculate the modifiers. In either case, another roll-off takes place.

If the primary attacking unit is a half-squad or section-sized unit, it is eliminated and removed from play. If it was the only attacking unit, the defending side wins the engagement and the combat is complete. If there are additional attacking units, one of those units must be designated as the primary unit. Recalculate its modifiers based on the new unit and another roll-off takes place.

If the attacking side is eliminated, the defending unit remains in its original hex.

6.6.2 Suppression Effects – Movement
Suppressed units move at only ½ of their normal movement speed allowance (round down) whether moving cross-country or on paths or roads. Suppressed units with SHORT HALT commands move at only ¼ (½ of ½) of their normal movement speed allowance (round down). Suppressed and Damaged units with SHORT HALT commands move at only ⅛ (½ of ½ of ½) of their normal movement speed allowance (round down). A movement speed allowance is never less than 1.

Suppressed vehicles may initiate Overrun combat as long as all of the Overrun requirements are still met.

Suppressed leg units may not initiate Close Assault or Hand-to-Hand combat. They may, however, be the targets of Hand-to-Hand combat.

6.6.3 Vehicle Building Movement
At the point a tracked vehicle attempts to enter or exit a building in its current hex (if entering from an adjacent hex, it pays movement cost for just for the Building not the Alley), it must first check for damage before actually entering or exiting. Open-topped or vehicles transporting any unit may not enter buildings. Vehicles may not reverse into buildings.

Reference the VEHICLE INTO section of the Building Effects Table on Game Card B. Determining if there is Damage or a Track hit is a two-step process.

Determine the type of Building hex: Wood, Brick or Stone. Then determine the vehicle's GP Defense Factor. Roll (100) and add 5 times the GP Defense Factor to the result.

If the net result falls within the range listed in the HIT# column, the vehicle suffers Damage or a Track Hit. If the net result does not fall within the range, the vehicle enters or exits the building normally paying the listed terrain cost.

If the net result falls within the range, roll (100) again and reference the result based on the listed ranges in the TK and DMGD columns.

If damaged, roll (10). If the result is less than or equal to 4, the vehicle suffers Turret Damage, otherwise Hull Damage.

If a vehicle suffers a Track Hit when attempting to enter a building, it stops movement before entering the building; it remains in the alley. If it suffers a Track Hit while attempting to exit a building, it stops movement before exiting the building; it remains inside the building.

If a vehicle is damaged when attempting to enter a building, it still enters the building if it has sufficient movement speed allowance remaining; otherwise, it remains in the alley. If it is damaged while attempting to exit a building, it still exits the building if it has sufficient movement speed allowance remaining; otherwise, it remains inside the building. A vehicle may always move one hex if it does not expend any movement turning.

6.6.4 Leg Movement
For movement, leg-type units are squads, half-squads, sections and towed units.

6.6.4.1 Leg Movement Factors
Each leg unit has a Movement Factor that determines the distance it can move during a turn. A leg unit's Movement Factor is listed on its Data Card in the General Information section following the M:.

For leg-type units, the Movement Factor is made up of three distinct elements. The first two are listed in combination and determine the Cross-Country movement speed allowance and the Mode of Traction. L=Leg.

The third element is the Quickmarch movement speed allowance. Leg units do not have Path or Road information.

Dismounted towed units and cavalry, bicycle and motorcycle leg units located in a Path or Road hex do not prevent movement but do stop a vehicle from using its Path or Road movement speed factor. Squads, half-squads and sections on foot (not cavalry, bicycle or motorcycle units) located in a Path or Road hex do not stop a vehicle from using its Path or Road movement speed factor.

Leg units move in a similar manner as that described for vehicles in the Basic Game. They expend a portion of their movement speed allowance based on the Terrain type. They do not have a turn cost; they may move freely in any direction. They may enter prohibited terrain if transported by a vehicle. As they are utilizing the vehicle's movement abilities.

Like vehicles, they may always move one hex, as long as it is a legal move. Otherwise, they may not exceed the available movement speed allowance.

Leg units move up or down in buildings by expending 1 Movement Factor.

Squads, and half-squads and sections (w/o attached weapons) may not change elevation by more than 2 Heights in a single 1 hex move. Note: Motorcycle and bicycle leg units (see 6.6.4.4) are wheeled vehicles for movement.

Squads, half-squads and sections (w/o attached weapons) with SHORT HALT commands may expend up to ½ of the available movement speed allowance (round down). Sections (with attached weapons) may not be given SHORT HALT commands.

Suppressed units with SHORT HALT commands may expend ¼ of the available movement speed allowance (½ times ½).

6.6.4.2 Quickmarch

Unsuppressed, unbroken (OR) (see 7.1.5.2) or non-hesitating (OR) (see 7.1.5.1) dismounted squads, half-squads and sections (w/o attached weapons), including all cavalry units, have the ability to move double-quick or quickmarch, enabling the unit to move faster than normal. On the other hand, Quickmarch does have a downside; the unit may be Suppressed as a result of the move.

Due to their equipment loads, sections with attached weapons may not quickmarch. Squads and half-squads may quickmarch even if they have attached weapons.

The unit may start its move in any terrain hex, but the entire move must traverse and end in Brush, Clear, Crops, Path or Road hexes. It may change a single Height.

A unit may not quickmarch into Close Assault or Hand-to-Hand combats.

The unit must have a MOVE command to quickmarch. It then moves normally, using its quickmarch movement speed allowance. At the end of the move, determine if it is Suppressed.

Quickmarch Suppression is based on Unit Grade. Reference the Quickmarch column in the Unit Grade Modifiers Table on Game Card B (Panzer) or Game Card A (Panzer North Africa).

The moving player rolls (100). If the result falls within the listed range, the unit is Suppressed and is marked with a SUPPRESSION/ ON counter.

6.6.4.3 Crawling

Unsuppressed squads, half-squads and sections (w/o attached weapons) in Full Cover (see 6.1.4.2) may move only 1 hex by crawling while maintaining their Full Cover status.

Crawling units cannot:

- Have SHORT HALT commands
- Change elevation
- Move adjacent to an opposing unit spotted by any friendly unit
- Move up or down in a building

Crawling is not considered moving for combat or spotting purposes. Units are not marked with a SPOT/MOVE counter. However, all GP Direct and Indirect Fires apply a +10 modifier.

6.6.4.4 Motorcycles & Bicycles

Squads, half-squads and sections can be designated as Motorcycle (M/C) or Bicycle (B/C) units. In those cases, the leg units use the listed W=Wheeled Movement Factors found on their Data Cards instead of the normal Leg Movement Factors. They execute movement as if they were Wheeled vehicles. They still spot and are spotted as normal leg units.

In game terms, they never separate from their motorcycles or bicycles. Their transport is always kept in close proximity, but is not represented by a separate counter.

Mororcycle or bicylce units may not traverse Hedgerow, Wall or Defilade hexsides. They never conduct Overrun combats.

They conduct Close Assault and Hand-to-Hand combats in the normal manner as described in those sections of the rules; however, in this case, Advancing Attacks are at ½ of their motorcycle or bicycle movement speed allowances.

6.6.4.5 Cavalry

Both German and Soviet forces fielded horse-borne infantry forces as did the forces of other nations.

Squads, half-squads, and sections are designated as Cavalry units. In those cases, the leg units actually use the listed Cavalry Movement Factors found on their Data Cards instead of the normal Leg Movement Factors. They still execute movement as leg units. They still spot as normal leg units, but are spotted as L Sized targets.

In game terms, these units never separate from their horses. They are always kept in close proximity, but are not represented by a separate counter.

Cavalry units (with or w/o attached weapons) may not change elevation by more than 2 Heights in a single 1 hex move.

They may not traverse Hedgerow hexsides. They never conduct Overrun combats.

They conduct Close Assault and Hand-to-Hand combats in the normal manner as described in those sections of the rules; however, in this case, Advancing Attacks are at ½ of their cavalry movement speed allowance.

Cavalry units quickmarch normally, but apply +20 modifier to the Suppression determination.

6.6.5 Towed Movement – Manhandling

Towed units are anti-tank guns, infantry guns and anti-aircraft guns. They all have a L=Leg listed on the Movement Row of their Data Cards. While their most efficient method of movement is transport by an appropriate vehicle or limber, all but the very large guns do possess an inherent, but limited movement capability. Moving a towed unit without the assistance of transport is called manhandling.

Like leg units, the Towed Movement Factor is composed of three elements or allowances. The first two are listed in combination and determine the Cross-Country movement.

The third element, which is always 0, is the Quickmarch movement factor. Towed units do not have Path and Road information.

Towed units may move only 1 hex per turn. They do not have a turn cost; they may move freely in any direction. They may change only a single Height. They may not traverse Hedgerow, Wall or Defilade hexsides or inside buildings. They may not have SHORT HALT commands. They may enter prohibited terrain only if transported by vehicle.

Like vehicles, they may always move one hex, as long as it is a legal move. Otherwise, they may not exceed the available movement speed allowance.

6.6.6 Barrage Movement

Since Indirect Fire actually takes place throughout a turn, units that move to a new position that falls within the area described by an Indirect Fire SHEAF Pattern are immediately attacked by those Indirect Fire units represented by the SHEAF Pattern.

The moving unit is attacked just once for any movement within a SHEAF Pattern by each Indirect Fire unit no matter how many hexes of that pattern they enter. If SHEAF Patterns overlap, that could result in multiple attacks.

Since units with MOVE or SHORT HALT commands are not required to enter a new hex, units that start the Movement Phase under a Barrage are not required to actually move to a new position, thereby avoiding additional attacks. Vehicles searching for a Hull Down in a hex are attacked.

Vehicles that move within a Barrage do not apply the –20 Target Vehicle Moving modifier.

Units may pivot without incurring additional attacks.

6.6.7 Transporting
Leg and towed units can be transported (carried or towed) by vehicle and limbers (both referred to as vehicles). Units being transported are classified as passengers mounted on vehicles while non-transported units are classified as dismounted. Passengers are not marked with a separate command.

Place the vehicle counter under the units it is transporting or utilize the Summary Card.

6.6.7.1 Transport & Passenger Capacity
All vehicles have a Transport Capacity Factor on the Movement Row of their Data Cards; it is listed as TR: #-#. The first value is the vehicle's Towed Capacity, the second value is its Leg Capacity. Some vehicles provide *Under Cover* protection for passenger leg or towed units. Their Leg Capacity value is squared. Reference the General Information of the Vehicle Data Card Key.

Vehicles that have both a Towed and Leg Capacity may transport either type. Vehicles that have a Leg Capacity but 0 for their Towed Capacity may only transport leg units. Vehicles that have 0 for both may not transport either type.

Leg and towed units have a Passenger Capacity. The data is presented as a reverse image indicating that they are passenger units. Their capacity indicates how much space they, their equipment and ammunition requires while being transported.

The Passenger Capacity for Towed units has both a leg and towed component. This represents not only the capacity required for the weapon itself but also the capacity required for its crew, equipment and ammunition. When transporting a towed unit, the transporting vehicle may not move in reverse.

To transport a leg or towed unit, the vehicle's Transport Capacity must be equal to or greater than the passenger unit's Passenger Capacity. A vehicle may transport as many individual leg units as its Transport Capacity can accommodate; it may tow only a single unit regardless of its Transport Capacity.

6.6.7.1.1 Mounting & Dismounting
For passengers, mounting is movement; they must have MOVE commands. On the other hand, vehicles may mount or dismount passengers when moving or stationary. Hesitating (OR) (see 7.1) or Broken (OR) (see 7.1) status does not impact the transport process other than the movement effects for those units.

Passengers Mounting
Unsuppressed squads, half-squads, and sections (w/o attached weapons) must have a MOVE command and be adjacent to or in the same hex with the transporting vehicle. Suppressed squads and half-squads and all sections (with attached weapons) and towed units must have a MOVE command and be in the same hex with the transporting vehicle.

All passenger units expend their entire Movement Speed Allowance mounting.

Passengers Dismounting
Unsuppressed squads, half-squads and sections (w/o attached weapons) are placed adjacent to or in the same hex with the transporting vehicle. They may not dismount off map. Suppressed squads and half-squads

and sections (with attached weapons) and towed units must be placed in the same hex with the transporting vehicle.

All passenger units expend their entire Movement Speed Allowance dismounting; they are marked with a SPOT/MOVE counter. They may face in any direction.

Vehicle Mounting & Dismounting
All Suppressed or unsuppressed vehicles may mount and/or dismount passengers. They may have any Command marked.

If marked with a MOVE or SHORT HALT command, vehicles expend ½ of their available Movement Speed Allowance (round down) mounting or dismounting any number of passengers. They may mount or dismount any number of passengers in a single hex or perform both actions at the same time in a single hex.

The process of mounting or dismounting passengers may take place anytime during a vehicle's move as long as it has the requisite Movement Speed Allowance. A vehicle may mount/dismount units and then move; it may move and then mount/dismount units; or it may move, mount/dismount units and then continue moving.

6.6.7.1.2 Emergency Bail Out
All unsuppressed passengers may Bail Out during a player's portion of the Movement Phase (First or Second Player) at no cost to a transporting vehicle with a MOVE or SHORT HALT command at any point during its move.

Any passenger utilizing an emergency Bail Out must be placed in the same hex as the transporting vehicle at the point they bail out and are marked with a SUPPRESSION/ON counter. They may face in any direction.

Passengers may never use an emergency Bail Out to avoid announced OW Fire. They may use emergency Bail Out after resolving an announced OW Fire.

Hesitating (OR) (see 7.1) or Broken (OR) (see 7.1) status does not impact emergency bail out.

6.6.7.2 Transported Fire
Squads, half-squads and sections may utilize Direct GP Fire while transported. Any attached anti-tank rifles may also fire.

The passenger may fire, or observe for indirect fire, if their transporting vehicle has any command except MOVE.

A passenger makes its own spotting attempt. It may fire at the same target if the vehicle is also firing, or at any other spotted target. Dual Fire modifiers are applied only based on the passenger's fire. The passenger must apply the appropriate Transported Combat AP (-2) or GP (–10) modifier to all fire. It does not apply the SHORT HALT modifier.

Since passenger units are not spotted separately from their transporting vehicle, the transporting vehicle is marked with the appropriate SPOT/FIRE counter depending on the nature of the Transported Combat, i.e., small arms or not. If the transporting vehicle unit already has a SPOT/FIRE counter other than for small arms, it is retained.

6.6.8 Hasty Entrenchments
Unsuppressed, dismounted leg units, including motorcycle, bicycle, and cavalry units, and unsuppressed, dismounted towed units are able to *dig in* by constructing shallow cover—a Hasty Entrench-ment. To construct a Hasty Entrenchment, a unit must be in Full Cover and have a N/C command. Once emplaced, Hasty Entrenchments are not removed.

It takes 4 turns to construct a Hasty Entrenchment; the turns need not be consecutive. The Hasty Entrenchment counter has four sides, three numbered 1 through 3 and one labeled Hasty. Place the counter with the 1 side facing forward after the first turn of construction. As each turn of

construction is completed, rotate the counter to the next side. The construction status is updated during the Adjust Full Cover Step.

One unit may start construction, only to have it completed by another unit. If abandoned before construction is complete, use the Directional hex as a point of reference.

The required number of turns is the same regardless of the type or size of unit constructing a Hasty Entrenchment, except engineers.

Due to their construction training and on-hand equipment, engineers require only 2 turns to construct a Hasty Entrenchment. After the first turn of construction place the counter with the 2 side facing forward. The second turn completes the construction. Engineers require 1 turn to complete an abandoned Hasty Entrenchment numbered 1 through 3.

6.6.9 Searching for Hull Down
Many Terrain types contain irregularities that could provide vehicles with a Hull Down or Partial Hull Down position. Reference the Hull Dn column in the Terrain Effects Table on Game Card A (Panzer) or Game Card B (Panzer North Africa). Only those Terrain types with a listed numerical range may provide a position unless otherwise instructed by the Set Up or Special Conditions in a scenario.

Any vehicle may attempt to find a position. It must have a MOVE command and expends all of its movement speed allowance searching in its current hex.

The moving player rolls (100), if the result falls within the listed range, the vehicle found a position and is marked with a LOCATION/HD counter(s).

A vehicle may search for a Hull Down or Partial Hull Down position. Announce the type before rolling. When searching for a Partial Hull Down position, apply a –20 modifier.

It makes sense that smaller vehicles should have more luck finding a position than larger vehicles. Apply the following modifiers, based on the vehicle's size:

- Size +2: the modifier is +10
- Size +1: the modifier is +5
- Size 0: no modifier
- Size –1: the modifier is –5
- Size –2: the modifier is –10

It also makes sense that Unit Grade should have an impact. Apply the following modifiers, based on the vehicle's Unit Grade:

- Elite: the modifier is –10
- Veteran: the modifier is –5
- Seasoned: no modifier
- Regulars: the modifier is +5
- Green: the modifier is +10

The vehicle may turn in the hex to face any hexside. The position is found moving either forward or in reverse.

Vehicles in these positions are Hull Down from all angles except the Rear/Side and Rear (or Front/Side and Front if it reversed into the position).

If a vehicle is marked with a MOVE or SHORT HALT command, it abandons the position even if it remains in its current hex. Remove its LOCATION/HD counter(s). To reassume the position, it must search again. Once a vehicle abandons a position, no other vehicle may occupy it without first searching.

Since vehicles expend all of their movement speed allowance searching, passengers may not mount or dismount, except for Emergency Bail Out.

If the potential for Bogging Down (OR) (see 7.29) also exists, the player must first determine if a vehicle bogs down. If it bogs down, it may not search.

6.6.10 Overrun Combat
Overrun combat is a shock form of GP Fire where vehicles literally drive into the positions occupied by leg and towed units potentially crushing units in their path. It is different from normal GP Fire since it is resolved during the Movement Step of the Movement Phase rather than the Combat Phase.

Only non-hesitating (OR) (see 7.1) or unbroken (OR) (see 7.1) vehicle combat units may Overrun. Suppressed and/or Damaged vehicles may Overrun. However, they must apply those GP Fire modifiers and movement limitations.

To Overrun, vehicles must have a MOVE command; vehicles with SHORT HALT commands may not Overrun. They may Overrun only a single dismounted leg or towed unit; the target must have been dismounted at the start of the turn. If more than one vehicle is attacking the same target, they resolve their attacks separately. The target must be spotted before the vehicle starts its move.

All Overruns of a common target must be announced before the first combat is resolved. If a common target is eliminated before all of the Overruns are resolved, the remaining vehicles may move normally, but may not Overrun another target.

The Overrunning vehicle unit must have a sufficient movement speed allowance available to enter the target's hex. The terrain occupied by the target must be legal for vehicle movement; i.e., a vehicle cannot Overrun a target in a Heavy Woods or a Block hex.

If the vehicle unit is Overrunning a target located inside a building, it must attempt to enter the building before initiating the Overrun. If the vehicle suffers a TK Hit, it must stop outside of the building before initiating the attack. If its Hull is Damaged, it must then immediately halve its remaining movement speed allowance and apply that GP Fire modifier.

Although Overrunning units are technically firing, they are marked with SPOT/MOVE counters.

Since Overruns take place during the Movement Phase, it may trigger Overwatch Fire. It is triggered before the vehicle moves into the target's hex or after it exits, but not while conducting the Overrun.

6.6.10.1 Overrun Combat Resolution
The GP Factors at a range of 1 hex for all of the Overrunning vehicle's weapons, excluding AA Factors, (subject to minimum range and ammo limits) plus the GP Factor of any passenger squads, half-squads and sections are added together. Attached weapons are not part of the Overrun. If the total GP Factor is greater than 15, use the 15 column.

The terrain occupied by the target determines its GP Defense Factor.

Roll (100) and apply all appropriate GP Direct Fire modifiers. Since Overruns are not executed with a SHORT HALT commands, that modifier is not applicable.

If the target is eliminated and there are no other opposing units in the hex, the vehicle may remain in the hex. If the vehicle is able to continue moving it may do so. If it does not have any movement speed allowance remaining and the target or any other opposing units are still in the hex, the vehicle is placed back in the hex from which it entered the Overrun.

6.6.10.2 Overrun Combat Results
If the target has a SUPPRESSION/OFF counter, it is replaced by a SUPPRESSION/ON counter regardless of the outcome of the Overrun. If it has an unrevealed command; i.e., Move or OW, it may still execute that command during the appropriate Step or Phase.

Suppressed Result
The target is Suppressed. Place a Suppression/On counter on or next to it. Ignored if already Suppressed.

Effective Result
If the target is a squad, it is reduced to a half-squad and Suppressed. Flip the squad counter to its half-squad side and mark it with a Suppression/On counter on or next to it. Any attached weapons are unaffected by this reduction. An Optional Rule (see 7.17) expands on attached weapon loss.

If the target is anything other than a squad, it is eliminated and removed from play.

6.6.11 Command Control with Close Assault, Hand-to-Hand and Overrun

When executing movement based combats, if units are sharing a Move command, they may only attack the same target unit. It is possible for units to share a Move command that are unable to execute a combat, e.g., a squad sharing a Move command with a vehicle where the squad is executing a Close Assault, or three squads sharing a Move command where a Hand-to-Hand combat is to take place and only two of the squads may take part in the combat.

In any case, the remaining units must still meet Command Range requirement at the *completion* of the Movement Phase even if they do not take part in a combat.

6.7 Advanced Game 2nd Air Phase

All aircraft in *Panzer* are dedicated ground attack types or variants of other types employed in a ground attack role. Air-to-Air combat does not take place and is not modeled.

Aircraft fly only in the daytime and only during clear weather conditions. Keep this in mind when designing scenarios. Therefore, only one side should have aircraft available in any given scenario. It is assumed that that side has achieved local air superiority for the time covered by the scenario.

That being said, the two Air Phases are not divided into First and Second Player Steps; just the side with local air superiority can fly and attack during the two Air Phases.

> Why have two Air Phases? It enables aircraft to either fly in anticipation of opposition combat and movement or in response to it.

Where there are aircraft there is anti-aircraft fire. While aircraft units are flying across the mapboard, AA capable ground units may fire at them with their anti-aircraft weapons.

> Ground-based anti-aircraft fire was notoriously a hit-and-miss proposition as on average thousands upon thousands of rounds were expended to shoot down just a single aircraft. In reality, fighter aircraft destroyed the vast majority of ground attack aircraft. While just about any vehicle or leg unit carried weapons with a limited AA capability, the chance of those units actually hitting or impacting the action of a ground attack aircraft was so small that there is no point in cluttering up the game with all those extremely low probability shots. Therefore, only dedicated AA units and some vehicle mounted weapons have AA capability.

6.7.1 Aircraft Weapon Loads

Aircraft are capable of delivering a heavy load of ordnance from strafing to bombs and rockets. The Aircraft Data Cards list the available weapon loads. All aircraft carry Strafing weapons.

In the case where an Aircraft Data Card lists both Rockets and Bombs, the controlling player must select either one of those two options before the scenario begins and note that information for reference.

It is highly recommend that the Aircraft Limited Ammo rule is employed (see 5.16.2.6). Otherwise, aircraft would have an unlimited number of attacks available, greatly distorting their actual capabilities.

6.7.2 Aircraft Movement – Flying

Aircraft never remain on the mapboard during the course of a scenario. They appear individually, enter the mapboard along one edge, move across the mapboard, attack and are attacked, themselves, and then, if they survive, exit the mapboard along another edge.

6.7.2.1 Aircraft Appearance & Loitering

Unless instructed otherwise by a Scenario's Setup or Special Conditions, aircraft may initially appear on any turn of a scenario and in either the 1st or 2nd Air Phase.

However, once an aircraft unit initially appears, it may loiter (is available for use) for only a total of five consecutive turns, including the turn in which it makes its first appearance.

After making its initial appearance an aircraft may reappear, i.e., fly, each turn, in either the 1st or 2nd Air Phase, not both. Whether or not it appears during a turn, the five-turn limit is still in effect.

On its initial appearance, it may appear on any edge of the mapboard. Subsequent appearances must be on the edge from which it exited the mapboard during the previous turn. However, if it skips one or more turns before reappearing, it may then reappear on any mapboard edge. These skipped turns do, however, count towards the five turn loiter limit.

6.7.2.2 Aircraft Speed & Altitude

Aircraft fly at one of two speeds: Slow or Fast, and at one of three altitudes: Low, Medium or High. The aircraft's Speed and Altitude are announced when the aircraft is placed on the mapboard's edge.

Note that some aircraft may only fly at Slow Speed.

An aircraft's Speed and Altitude affect its ability to maneuver and to make certain attacks and impacts its vulnerability to antiaircraft fire.

An aircraft's Speed and Altitude remain in effect for its current turn, unless conducting a Dive Bombing Attack (see 6.7.2.3.2) or is damaged, but may change in subsequent turns.

6.7.2.3 Aircraft Movement Procedure

An aircraft moves in the direction its front is facing (no reverse moves here!). It does not possess a movement speed allowance nor does it pay for movement; it is considered to be flying above all mapboard terrain.

6.7.2.3.1 Turning Aircraft

An aircraft's ability to turn while moving is based on its Speed. Altitude does not impact turning.

Aircraft at Slow Speed may make a single hexside right-hand or left-hand turn anytime during its move across the mapboard. After turning, it must fly in a straight line until it exits the mapboard. The turn is optional.

An aircraft at High Speed may not turn; it flies straight across the mapboard until it exits.

6.7.2.3.2 Dive Bomber Movement

Aircraft making Dive Bombing Attacks (the Notes Section of the Aircraft Data Cards indicates this capability) use a special combination movement.

It enters the mapboard at High Altitude (all Dive Bombers fly at Slow Speed). Once it completes its attack, it exits the mapboard at Low Altitude.

6.7.3 Aircraft Combat

Aircraft may attack ground units by strafing and with rockets or bombs. Aircraft units differ from ground units in that they may make as many

attacks as desired, one per acquired target, or as many as are possible during the course of one move across the mapboard. They may make these attacks from any legal point during their move.

6.7.3.1 Aircraft Spotting

Due to their high-speed relative to ground units, aircraft are limited in their ability to spot targets. As with all combat, aircraft must have a spotted target to make any type of attack.

Aircraft may only spot those units, with an unblocked line-of-sight, that fall within their Front 60° Field-of-Fire.

6.7.3.1.1 Aircraft Acquiring Targets

Aircraft require a certain amount of movement to acquire (spot) targets. The aircraft must have an unblocked line-of-sight to the target and maintain it within its Front Field-of-Fire for the entire movement requirement.

The aircraft may turn and still acquire a target as long as the target remains in its Front Field-of-Fire.

Acquisition Ranges are based on the aircraft's Speed and Altitude and are found on the AA/Aircraft Spotting Table on Game Card B in the Acquire column.

If Suppressed, double the range requirement for any new acquisitions. If Suppressed before it acquires a target, it must still meet the doubled requirement but subtracts the number of hexes already expended acquiring the target.

Unblocked ground units that are closer to a mapboard edge than the minimum required Acquisition Range may still be acquired. The aircraft is considered to have expended any required hexes of movement off the mapboard as it was flying up to the edge of the mapboard. Once it is on the mapboard, it must acquire any subsequent targets by meeting the movement requirement.

After completing an attack, an aircraft may start acquiring its next target from that point or exit the mapboard. An aircraft never has more than one acquired target at a time.

Once a dive bomber completes its attack, it may acquire its new target using the Low Altitude information.

Aircraft cannot acquire targets located *inside* any Building hexes or Improved Positions, or located in Light Woods, Woods, Heavy Woods, Light Grove, or Grove hexes without the assistance of an FO unit.

6.7.3.1.2 Observers Spotting for Aircraft

Ground units located *inside* Buildings or Improved Positions, or located in Light Woods, Woods, Heavy Woods, Light Grove, or Grove hexes may not be acquired by aircraft unless a friendly FO unit can spot the target for the aircraft.

No other observers may spot for aircraft. If an FO unit is unavailable, the aircraft cannot acquire targets located in those terrain types.

The FO unit must have a clear line-of-sight to the target unit, and it must be within spotting range of the FO unit. The FO unit may simultaneously spot a single target for multiple aircraft.

The FO must have an OW command to spot for aircraft and it may not perform any other Overwatch related actions or observe for Indirect Fire.

Even with an FO Unit spotting a target, the aircraft unit must still acquire the target (see 6.7.3.1.1).

6.7.3.1.3 Blocking Terrain for Aircraft

In addition to Acquisition Range, an aircraft unit must have an unblocked line-of-sight to the target during its entire Acquisition Range movement.

Determining the line-of-sight from an aircraft to a target is a simpler process due to its higher altitude. The line-of-sight from an aircraft to a target is potentially blocked if the target is within a specific number of hexes of a specific height obstacle based on the Altitude of the aircraft. The aircraft's speed has no impact.

Potential blocking terrain heights are based on the highest point of the terrain, i.e., the tops of woods, groves or buildings. Based on the aircraft Altitude, the line-of-sight is blocked if the ground unit is adjacent to an obstacle or 1 additional hex from the obstacle for each Height over the listed base. The blocking ranges are found on the Aircraft Line-of-Sight Table on Game Card C (Panzer) or Game Card B (Panzer North Africa).

6.7.3.2 Strafing

All aircraft are armed with a certain number of internal machineguns and/or cannons. These are GP weapons that utilize a Strafe Pattern based on the Speed of the aircraft. Strafing attacks must be conducted from Low Altitude. All small arms strafing is considered Point Blank Range.

If the aircraft unit is strafing at Slow Speed, it hits the target unit's hex immediately in front of the aircraft and the next hex. If the aircraft is strafing at Fast Speed, it hits the target unit's hex immediately in front of the aircraft and the next two hexes.

Each ground unit (friendly or enemy) or Terrain Type (see 6.5.4.4.3) that falls within the Strafe Pattern is attacked individually. Each strafing attack is considered a single attack for aircraft Ammo Limits (see 5.16.2.6) purposes no matter the number of individual ground or Terrain Types that are actually attacked.

Strafing attacks use the GP Fire procedure (see 6.5.4). The Aircraft Combat modifiers are also checked to determine their effect, if any (see 6.7.3.5). These modifiers are found on the AA/Aircraft Modifiers Table found on Game Card C (Panzer) or Game Card B (Panzer North Africa).

6.7.3.3 Bombs

Bombs are dropped from Low, Medium or High Altitude and hit the target unit's hex immediately in front of the aircraft. Dive bomb attacks are dropped from Low Altitude. Non-dive bomb attacks are dropped from Medium or High Altitude. An Optional Rule (see 7.26) adds the chance of Bomb Scatter.

Bombs are GP weapons that have a Blast Pattern based on the Altitude of the aircraft. Dive bomb attacks affect just the target unit's hex. Bombs dropped from Medium Altitude affect the target unit's hex and the next hex. Bombs dropped from High Altitude affect the target unit's hex, the next hex, and the two adjacent hexes.

Each ground unit (friendly or enemy) or Terrain Type (see 6.5.4.4.3) that falls within the Bombing Pattern is attacked individually. Each bombing attack is considered a single attack for aircraft Ammo Limits (see 5.16.2.6) purposes no matter the number of individual ground or Terrain Types that are actually attacked.

Bombing attacks use the GP Fire procedure (see 6.5.4). The Aircraft Combat modifiers are also checked to determine their effect, if any (see 6.7.3.5). These modifiers are found on the AA/Aircraft Modifiers Table found on Game Card C (Panzer) or Game Card B (Panzer North Africa).

6.7.3.4 Rockets

Rockets represent a salvo of multiple projectiles that are fired at an acquired target directly to the front of the aircraft. They affect just the target unit's hex.

Rockets must be launched from Low Altitude. Like ground-based GP weapons, Rockets have a GP Range Factor and a GP Factor. They have a range of 2-10 hexes.

Each ground unit or Terrain Type (see 6.5.4.4.3) in the target's hex is attacked individually. Each rocket attack is considered a single attack

for aircraft Ammo Limits (see 5.16.2.6) purposes no matter the number of individual ground or Terrain Type that are actually attacked.

Rocket attacks use the GP Fire procedure (see 6.5.4). The Aircraft Combat modifiers are also checked to determine their effect, if any (see 6.7.3.5). These modifiers are found on the AA/Aircraft Modifiers Table found on Game Card C (Panzer) or Game Card B (Panzer North Africa).

6.7.3.5 Aircraft Combat Modifiers
All Aircraft Combat Modifiers are cumulative with any other GP modifiers applicable to the aircraft (Damaged or Suppressed) or the target, and together is called the Net Modifier.

Unit Grade modifiers apply only to strafing and rocket Attacks. Use Extreme Range when determining Strafing Attack Unit Grade modifiers.

Attack at Low Altitude
If the aircraft is attacking from Low Altitude (strafing, dive bombing and rockets), the modifier is +20.

Attack at Medium Altitude
If the aircraft is attacking from Medium Altitude (bombing), the modifier is +10.

Attack at Fast Speed
If the aircraft is attacking at Fast Speed (any), the modifier is –20.

6.7.4 Anti-Aircraft Combat
Not all ground units have the ability to use anti-aircraft fire. Only those units with an AA row in the Gunnery section of their Data Cards may use anti-aircraft fire. If there is no AA row, the unit may not employ anti-aircraft fire. AA units must have an OW command to execute AA fire.

6.7.4.1 Anti-Aircraft Spotting
Due to their relative high speed, aircraft must be tracked (spotted) before AA units are able to fire at them.

AA units have a 360o Line-of-Sight when tracking aircraft. They may only track those aircraft, with an unblocked line-of-sight.

6.7.4.1.1 Anti-Aircraft Tracking Targets
AA units require a certain number of hexes of aircraft movement to track a target. The AA unit must have an unblocked line-of-sight to the aircraft for the entire movement requirement. Aircraft turns do not impact the acquisition requirement.

Tracking Ranges are based on the aircraft's Speed and Altitude and are found on the AA/Aircraft Spotting Table on Game Card C (Panzer) or Game Card B (Panzer North Africa) in the Track column.

If Suppressed, double the range requirement for any new track. If Suppressed before it tracks a target, it must still meet the doubled requirement but subtracts the number of hexes already accumulated tracking the target.

Unblocked aircraft that appear on the mapboard edge are automatically acquired. The AA unit is considered to have acquired the target as it was flying up to the edge of the mapboard.

In addition to the Tracking Range, AA units must have an unblocked line-of-sight to the target aircraft during its entire Tracking Range movement. The method and determination is the same process as for determining blocking terrain for aircraft acquisition, just in reverse. If the aircraft can see the AA unit, the AA unit can see the aircraft (see 6.7.3.1.3).

All AA weapons are GP weapons. Each AA unit may take one Overwatch AA shot per turn no matter how many different aircraft they may track. AA fire must be announced. If announced after an aircraft announces its combat, the AA fire is resolved after the aircraft resolves its combat.

AA units *inside* Buildings or Improved Positions may not track or fire at aircraft.

6.7.4.1.2 AA Fields-of-Fire
AA units have a 360º Line-of-Sight when tracking aircraft. To fire at a tracked aircraft, it must fall within the AA unit's Field-of-Fire.

Turreted & Turretless 360º Vehicles & Vehicle Mounted AA (HMG) & AA (MMG)
These vehicles and weapons have all-round Fields-of-Fire for AA Fire. Some vehicles must have an Open Turret (OR) (see 7.8) for AA Fire.

Towed Units
Towed units have a Front Field-of-Fire. Platform Gun Mounts (OR) (see 7.16) expands on this limitation.

High Altitude Restriction
Some AA units may not fire at aircraft at High Altitude. They have N/A vs. High Altitude listed.

6.7.4.2 AA Procedure
AA fire uses the GP Fire procedure (see 6.5.4) with the exception that Overwatch GP Fire modifiers are not applicable.

All AA Combat modifiers are cumulative with any other GP fire modifiers applicable to the AA unit and together are called the Net Modifier. These modifiers are found on the AA/Aircraft Modifiers Table found on Game Card C (Panzer) or Game Card B (Panzer North Africa).

AA vs. Fast Speed or High Altitude
If the aircraft is flying at Fast Speed or at High Altitude, the modifier is –10 for each.

AA vs. Low Altitude
If the aircraft is flying at Low Altitude, the modifier is +10.

6.7.4.2.1 AA Fire Results
Aircraft are either eliminated (Effective Result), damaged (Effective Result), Suppressed, or missed (no Effect Result) as a result of AA fire.

No Effect Result
The shot missed the aircraft or did no appreciable damage; it continues its flight unabated.

Suppressed Result
The aircraft is Suppressed. Place a SUPPRESSION/ON counter next to it. Suppressed aircraft are limited in both combat (see 6.5.4.3) and the ability to acquire new targets (see 6.7.3.1.1).

Effective Result – Damaged
If the final modified dice roll ends in a 5 or 10, the target aircraft is Damaged. Place a DMGD counter next to it. Damaged aircraft are limited in combat (see 6.5.4.3). If damaged a second time, it is eliminated.

In addition, the aircraft must now fly at Slow Speed for the remainder of the current turn and future turns. If it is currently at Fast Speed it is immediately reduced to Slow Speed.

Effective Result – Eliminated
If the final modified dice roll does not end in a 5 or 10, the target aircraft is shot down and crashes. Roll (10). The result is the number of hexes the aircraft moves forward from its front facing before it crashes into the ground. Divide the result by 2 (round down) if the aircraft unit was at Low Altitude.

Each ground unit and Terrain Type occupying the crash hex is attacked individually with a GP Factor of 15. It is considered a non-small arms attack against all vehicles regardless of their GP Defense Factor. May start Fires (OR) (see 7.35).

Aircraft may never intentionally crash.

6.8 Advanced Game Adjustment Phase

Advanced Game Adjustment adds the Pivot, Full Cover, and Adjust/Remove Suppression Steps. The Adjust/Remove Counters step is expanded. Players simultaneously execute the Adjustment Steps in the order listed.

6.8.1 Pivot Step

Regardless of their commands, all dismounted leg and towed units, in any order, may change their facing to any hexside—pivot in place. Pivot does not expend movement; it is not marked with a SPOT/MOVE counter.

6.8.2 Adjust Full Cover Step

In any order, dismounted leg units (including motorcycle, bicycle and cavalry units) and dismounted towed units freely move into or out of Full Cover, regardless of their commands.

Adjust HASTY ENTRENCHMENT counters as necessary.

6.8.3 Adjust/Remove Suppression Step

In any order, the players first attempt to remove all SUPPRESSION/OFF counters from their units. The ability to recover from a Suppression is based on a unit's Unit Grade, whether it was attacked and its Command during the current turn.

Reference the Unit Grade modifiers and the Suppression Recovery Tables, both found on Game Card B (Panzer) or Game Card A (Panzer North Africa).

The base recovery range is found in the Sup'd Recvy column of the Unit Grade Modifiers Table. The terrain occupied by unit has no impact on its recovery. Roll (100) and apply any applicable Suppression modifiers found in the Suppression Recovery Table.

6.8.3.1 Adjust/Remove Suppression Modifiers

These are used exclusively and are cumulative. These modifiers do not apply to aircraft; they always use their base recovery range.

6.8.3.1.1 Command other than N/C

Units have a much greater chance of recovering from a Suppression is they attempt no actions during the turn. If the Suppressed unit has a command other than N/C marked for the current turn, the modifier is +20.

6.8.3.1.2 Under Direct or Indirect Fire

If the Suppressed unit was attacked by AP or GP Direct Fire or GP Indirect Fire during the current turn; the modifier is +10. If there is any difficulty recalling which Suppressed units were attacked, mark them with Under Fire counters.

The effectiveness of the fire is not a factor, just that it occurred. It does not matter how many times a unit is attacked, just if any of these fire types occurred. It is not cumulative.

6.8.3.2 Adjust/Remove Suppression Results

If the net result falls within the listed range, the SUPPRESSION/OFF counter is removed. If the result does not fall within the listed range, the SUPPRESSION/OFF counter is retained; it is not replaced by a SUPPRESSION/ON counter.

6.8.4 Adjust/Remove Counters Step

Remove all UNDER FIRE, SMOKE/OFF, and DUST/OFF counters and any Smoke/DS (OR) counter that is under its vehicle. Replace all SMOKE/ON, DUST/ON, SUPPRESSION/ON, HESITATION/ON (OR), and BREAK/ON (OR) counters with their corresponding Off counters and place any SMOKE/DS counter (OR) under the vehicle that fired it.

7.0 Optional Rules

Optional Rules should be thought of as nothing more than that—optional. While typically adding more depth or realism to certain aspects of the game, many of them come with a cost—greater complexity and/or record keeping—and therefore increase play time.

There is no requirement to employ any or all of the Optional Rules. They each stand on their own merits and are not necessarily interdependent.

7.1 Morale

Morale is a descriptive term used to convey the overall status of a formation's ability to stand in a fight. Keep in mind that a formation's morale is totally different from its Grade. Grade, at the Force, Formation or Unit level, is a measure of skill and training, while Morale is a measure of relative stability in the face of the enemy.

Two key elements make up the Morale System: the Numeric Cohesion Point and the Break Point. The Numeric Cohesion Point should be thought of as the trigger point. Until it is reached, a formation functions normally in all respects, although certain special events may cause a unit to take a Morale Check. After the Numeric Cohesion Point is reached, the units within a formation become more likely to break with each passing turn.

The Break Point is a representation of probability of a unit's breaking. Breaking is not automatic. Some units have a greater chance of breaking than others. Once a unit breaks, it is severely limited in its ability to function and must recover before it can again function normally.

A third element also comes into play: Hesitation. A unit may not break, but it is not quite certain of its situation; it is Hesitating. The addition of this element or status removes breaking as an all or nothing situation. The impact of Hesitation is not as severe as breaking. In addition, units automatically recover from Hesitation.

While a formation's units are more effective when operating within Command Range of non-command units, this can have just the opposite effect once morale starts to break down. Fear, the inability to function effectively, or whatever breaking actually represents, unfortunately breeds more of the same. Breaking has a tendency to cascade through a formation once it starts; units see other broken units and more often than not decide to join the fray.

When employing the Morale Option, players must record each formation's Morale information on a Formation Summary. List the Formation's name and circle its Numeric Cohesion Point in the Cohesion Point Box for that formation.

7.1.1 Cohesion Point

The Cohesion Point is an expression of a formation's initial unit composition. It is presented as a descriptive term as one of nine possible levels from Superb (the best) to Poor (the worst). That information is then translated into the formation's Numeric Cohesion Point listed as CP #.

Only Combat units are counted when determining a formation's Numeric Cohesion Point. The loss of non-combat units does not count toward a formation's Cohesion Point.

However, all units in a formation, whether combat or non-combat, are subject to Morale Checks.

Scenarios indicate each formation's Cohesion Point and Numeric Cohesion Point.

Use the Determining the Cohesion Point process (see 7.1.1.1) to vary a scenario's listed Cohesion Point or when creating scenarios.

7.1.1.1 Determining the Cohesion Point

Reference the Cohesion Point and Numeric Cohesion Point Tables on Game Card C (Panzer) or Game Card B (Panzer North Africa). The

Cohesion Point is calculated by rolling (100) and by combining the modifiers listed on the Cohesion Point Table for the correct nationality/time period and then adding any adjustments for Formation Grade from the Cohesion Modifiers Table.

The result is then checked on the Numeric Cohesion Point Table to determine the actual Numeric Cohesion Point. It is read in the same manner as the Available Commands Table (see 6.2.1.1.1).

When varying the listed Cohesion Pont in an existing scenario, certain limitations apply:

For German, USA (Late '43+), French (1944+) or UK formations, do not increase or decrease the listed Cohesion Point by more than two levels.

For Soviet, USA (1942-Early '43), French (1940) or Italian formations do not increase the listed Cohesion Point by more than one level; it may decrease to any level.

As an added twist, wait to determine the Cohesion Point until a formation suffers it first loss. That way players are unsure of a formation's Cohesion Point until a battle is engaged, a much more realistic situation.

7.1.1.2 Tracking the Cohesion Point

As a formation suffers combat unit losses, check off one number, starting at 1, for each of its eliminated *combat* leg or towed units (the reduction of a squad to a half-squad is not recorded) and each of its *combat* vehicles Bailed Out, Knocked Out or Brewed Up (Track or Damaged results are not recorded). Artillery and aircraft losses do not count.

Once a formation's recorded losses reach its Numeric Cohesion Point its remaining combat and non-combat units are subject to Breaking.

7.1.2 Normal Morale Check

Once a formation equals or exceeds its numeric Cohesion Point, all combat or non-combat units from the formation must immediately take a Morale Check whenever a unit:

- Moves from its current hex.
- Is attacked by Direct or Indirect Fire, or any air attack.
- Is attacked by Overrun, Close Assault, or Hand-to-Hand com-bat.
- Has a formation vehicle Brew Up in the same hex.
- Has a formation *command* unit eliminated that is within Com-mand Range (see 6.2.1.1.2). The command unit must be in the unit's chain of command, e.g., if a unit is part of company A it is not affected if a command unit from company B is eliminated. However, it is affected if its battalion or higher command unit is eliminated. This requirement also applies to command units if a higher level command unit is eliminated.
- Is a leg or towed unit that has a formation leg or towed unit eliminated by Overrun or Hand-to-Hand combat in the same hex.

All Morale Checks are taken at the completion of the triggering event, e.g., a move is completed or the Hand-to-Hand combat has determined a victor.

7.1.3 Forced Morale Check

If a unit's formation has not yet reached its Cohesion Point, combat and non-combat units are required to immediately take a Morale Check whenever a unit:

- Receives a flame attack as part of Close Assault or Hand-to-Hand combat.
- Is attacked by Overrun combat, except if occupying an Improved Position or Building hex.
- Has a formation *command* unit eliminated that is within Command Range (see 7.1.2).

- Is a leg or towed unit that has a formation leg or towed unit eliminated by Overrun or Hand-to-Hand combat in the same hex.

Once a formation reaches its Numeric Cohesion Point, all of its units follow the Morale Check conditions (see 7.1.2).

7.1.4 Morale Check Procedure

The Break Point Table on Game Card C (Panzer) or Game Card B (Panzer North Africa) is used whenever a unit takes a Morale Check. The row on the table that corresponds to the unit's nationality is used to determine if the unit Breaks, Hesitates or is unaffected by the Morale Check.

If a unit Breaks it is marked with a BREAK/ON counter; if it Hesitates, it is marked with a HESITATION/ON counter. If a Broken unit receives a Hesitation result, it retains its current Break status (On or Off) instead.

Roll (100) and apply all applicable modifiers:

Elite Unit Grade
If the unit's Unit Grade is Elite, the modifier is +20.

Veteran Unit Grade
If the unit's Unit Grade is Veteran, the modifier is +10

Regulars Unit Grade
If the unit's Unit Grade is Regulars, the modifier is –10.

Green Unit Grade
If the unit's Unit Grade is Green, the modifier is –20.

In Medium Cover
If the unit is in Medium Cover, the modifier is +10.

In Heavy Cover
If the unit is in Heavy Cover, the modifier is +20.

Unbroken Command Unit in Cmd Rng
If an unbroken (it may be Hesitating, Suppressed or Damaged) *command* unit from the unit's formation (see 7.1.2) is within Command Range, the modifier is +20.

The maximum is +20 no matter how many command units are within Command Range.

Suppressed or Damaged
If the unit is Suppressed or Damaged, the modifier is –20 each.

Forced Morale Check
If the unit is taking a Forced Morale Check, the modifier is +20.

Broken unit from Formation in Cmd Rng
If any Broken unit from the same formation is in Command Range of the unit, the modifier is –10.

Spotted Unit within 2 Hexes
If there is a spotted opposing unit within 1 or 2 hexes, the modifier is –20.

Spotted Unit within 5 hexes
If there is a spotted opposing unit within 3, 4 or 5 hexes, the modifier is –10.

Suppressed and Full Cover units are less able to spot units. Ignorance is bliss.

Command other than N/C
If the unit has a command other than N/C marked for the current turn, the modifier is –20.

7.1.5 Morale Check Results

If a unit Breaks or is Hesitating, it is subject to the following limitations until it recovers.

7.1.5.1 Hesitating

Any unit with a HESITATION/ON or HESITATION/OFF counter has the following limitations:

- If employing Direct or Indirect Fire, applies the following modifiers:
  - o –3 to all AP combat
  - o –10 to all GP combat
- May not initiate Overrun, Close Assault or Hand-to-Hand combat.
- If in Hand-to-Hand combat, the modifier is –10.
- Moves at normal speed; automatically changed to HESITA-TION/ON if currently HESITATION/OFF.
- For Called or continuous Indirect Fire response, the modifier is 1.
- Vehicle crew checking for Bail Out, the modifier is –10.

7.1.5.2 Broken

Any unit with a BREAK/ON or BREAK/OFF counter has the following limitations:

- Does not count as an active unit for command purposes; have their command span reduced to 0.
- Applies a –2 spotting modifier by moving 2 down on the table.
- If employing Direct or Indirect Fire, applies the following modifiers:
  - o –5 to all AP combat
  - o –20 to all GP combat
- May not initiate Overrun, Close Assault or Hand-to-Hand combat.
- If in Hand-to-Hand combat– the modifier is –20.
- Moves at ½ speed (round down); this is cumulative with other movement modifiers. Automatically changed to BREAK/ON if currently BREAK/OFF.
- For Called or Continuous Indirect Fire Response, the modifier is –2.
- Vehicle crew checking for Bail Out, the modifier is –20.

7.1.6 Recovery

During the Adjustment/Remove Morale Counters Step of the Adjustment Phase units may attempt to Recover.

7.1.6.1 Hesitation Recovery

All units with HESITATION/OFF counters automatically recover; remove the counters.

7.1.6.2 Break Recovery

All units with BREAK/OFF counters may attempt to recover. This is just like suppression recovery, but in this case, all units have a base recovery range of 51-00 regardless of Unit Grade. If a unit recovers, remove the counter.

Roll (100) and apply all applicable modifiers (see 7.1.4).

7.2 Hidden Units

In board wargames, it is often very difficult to maintain the element of surprise and concealment when all on-map units are displayed in full view. It is also a very difficult and time consuming process to plot hidden movement either before the start of a scenario, or, for that matter, during a scenario.

This option helps to bridge the gap between fully open deployment and plotting hidden units.

7.2.1 Hidden Unit Counters

As dictated by a scenario's Special Conditions one or both forces' ground units may start a scenario Hidden; replaced by a HIDDEN UNIT counter. These counters are provided in two sets, red and gray. Assign one color to one side and the other color to the other side.

A Hidden Unit counter may be used to represent nothing, a fake position to fool the opposing side, or one or more units from the *same* formation. A HIDDEN UNIT counter may not represent units from different formations.

7.2.2 Placing Hidden Unit Counters

For HIDDEN UNIT counters that actually represent one or more units, place the counter in any legal hex. A counter may be used to represent a mix of vehicle, towed and leg units or just one particular type. The number of HIDDEN UNIT counters on the mapboard may not exceed the designated limit in a scenario.

Place the hidden units on the Turn Track, Transport & Summary and Hidden Unit Card in the box that corresponds to the number on the HIDDEN UNIT counter. Place the card in a secure location away from the prying eyes of the opposing players. The hex of the HIDDEN UNIT counter represents the actual location of at least one of the hidden units.

For fake HIDDEN UNIT counters, just place it on the map board in any legal hex. Obviously, no units are placed on the hidden unit card.

7.2.2.1 Spotting Hidden Units

Players spot HIDDEN UNIT counters just like any other ground units. The actual position of the units around a counter is not known until the units are placed on the mapboard, so the counter itself is used for spotting determination. If a counter is spotted, all of the units represented by that counter are placed on the mapboard whether or not all of the units could actually be spotted.

The unit type represented by a HIDDEN UNIT counter that affords the greatest spotting range is used when determining spotting.

At least one hidden unit of the type spotted must be placed in the hex occupied by the HIDDEN UNIT counter. The remainder of the units may be placed in that hex or any legal hex (by not crossing impassable terrain) within Command Range of the counter; units may face in any direction.

Players may treat fake counters as any unit type, vehicle, towed or leg. However, when an opposing unit reaches the range at which even a leg unit would be spotted, the owning player must reveal the HIDDEN UNIT counter as a fake.

7.2.2.2 Moving Hidden Unit Counters

Players may move HIDDEN UNIT counters just like regular ground units. If the counter represents one or multiple types, it may not move faster than the Movement Factor of the slowest hidden unit.

Hidden units may mount or dismount following the normal rules for those actions. Moving HIDDEN UNIT counters are subject to greater spotting ranges just like visible units. Hidden units may enter Full Cover.

Fake counters may move as if they were any unit type. However, if a fake counter moves at a rate that would suggest it is a vehicle, it can not then be treated as a towed or leg unit for spotting purposes.

7.2.2.3 Revealing Hidden Unit Counters

With the exception of Indirect Fire, any hidden unit that engages in any other form of combat is automatically revealed and *all* units represented by the HIDDEN UNIT counter are placed on the mapboard (see 7.2.2.1). Units that either observe for or engage in Indirect Fire are not revealed by that fire.

Any HIDDEN UNIT counter that is the target of Indirect Fire or an Aircraft bomb or rocket attack is automatically revealed and all units represented by the HIDDEN UNIT counter are placed on the mapboard (see 7.2.2.1).

7.2.3 Adding Hidden Unit Counters

While not quite as mysterious as units that start a scenario hidden, players may, during the course of a scenario, hide units that are not currently spotted by removing them from the mapboard and replacing them with one or more HIDDEN UNIT counters. These units must still be from the same formation. Fake counters may also be added. The number of existing and new HIDDEN UNIT counters may not exceed the designated limit.

7.3 Platoon & Section Command Control

Only combat units and *activated* unarmed units that are all from the same Platoon, Section or Troop (UK) Formation and are within Command Range of one another may utilize the same unique Command counter. Units from other platoons, sections or troops, including noncommand HQ units, even if they are part of the same formation may not share the same command.

Command units from the same formation, at any level, may share commands with subordinate platoons or sections, e.g., regimental Command units may share a command with a platoon or section unit in their regiment.

The command unit must be in the unit's chain of command, e.g., if a unit is part of company A it may not share with a command unit that is from company B.

Utilization of this option requires the players to document the Formation organization for each platoon and section. The unit numbers for each platoon or section should be noted on the Formation Summary.

7.4 Without Radio Sets

In the early stages of the war, and even throughout the war, many vehicles were not equipped with radio sets or were only equipped with rudimentary Morse code sets. This greatly limited their tactical flexibility, forcing the vehicles to fight and move in close proximity to one another. Those vehicles without radio sets have an R notation listed in the Unit Identifier section of their Data Cards.

Many of these vehicles were later fitted with radio sets or command vehicles of their type were equipped with radio sets. The Notes section of their Data Cards lists these exceptions.

7.4.1 Spotting Limitation

Vehicles from one platoon, section or troop (UK) may not hand off spotted targets (see 4.1.1) to or receive spotted targets from units from a different platoon, section or troop (UK).

7.4.2 Command Limitation

Vehicles from the same platoon, section or troop (UK) must share the same Command counter no matter the number of available commands. Their Command Range is treated as 0 regardless if their Formation Grade is Seasoned, Veteran or Elite.

If a tank suffers a track hit the remaining platoon members may leave it behind (see 6.5.2.2.1). Damaged vehicles may not be separated from the platoon. If a platoon member suffers a track hit, in later turns, it may be assigned a command up to limits of what is available to the company.

Recon vehicles maintain all of their special abilities with the exception of the Observer Limitation (see below).

7.4.3 Observer Limitation

Vehicles may not call Indirect Fire or observe targets for aircraft.

7.4.4 Morale Limitation

To receive the modifier associated with the presence of an unbroken command unit, that command unit, regardless if it is equipped with a radio set, must occupy the same hex as the vehicle taking a morale check.

Some of the early war tactical advantages demonstrated by the German forces can be attributed to the wise installation of radio sets in their vehicles.

7.5 Soviet Early War Communications

When the Germans invaded the Soviet Union in 1941, the Soviet communications network was somewhat primitive, lacking an adequate number of radios and also challenged with having to manage poor indirect fire integration.

To model these limitations, for scenarios set in 1941, Soviet Observers should apply a –2 modifier to all Indirect Fire calls. For scenarios set in 1942, Soviet Observers should apply a –1 modifier to all Indirect Fire calls. Planned Indirect Fire is unaffected by these limitations.

For any scenario, the players certainly could determine that better supplied or trained Soviet units are available during 1941 or 1942 and not apply or adjust these modifiers.

7.6 Tank Fright

Prior to executing Close Assault attacks, leg units must first pass a Forced Morale Check (see 7.1.3). This option applies to all forces in 1941. At their discretion, players may also apply this option at any time during the war to leg units with Green Unit Grade.

This Morale Check does not use the Spotted Unit Morale Check modifiers. All of the other listed Break Point modifiers are applicable.

Units executing an Advancing Attack (see 6.6.1.1) conduct this Morale Check prior to executing the move. The Tank Fright Morale Check does not in and of itself trigger Overwatch Fire, the unit must still actually move.

If the Morale Check result is *Break*, mark the unit with a SUPPRESSED/ON counter instead. If the result is *Hesitate*, mark the unit with a SUPPRESSED/OFF counter instead. If the unit passes the Morale Check, it conducts the Close Assault normally.

7.7 Limited Spotting

The absolute nature of spotting a target unit is a chance situation, especially as spotting ranges increase. With this option players must attempt to spot units when the spotting range is greater than 1; units at a range of 1 are still automatically spotted.

7.7.1 Spotting Ranges

The ability to spot is based on the spotting unit's Unit Grade and its range to the target unit. Reference the Spotting (OR) Table on Game Card A (Panzer) or Game Card B (Panzer North Africa).

For each Unit Grade, two values are listed: if the spotting range is equal to or less than ½ of the maximum spotting range (round down) use the first value; for ranges greater than ½ up to the maximum range use the second value.

If more than one friendly unit is attempting to spot the same opposing unit, utilize the friendly unit that has the greatest probability of actually spotting the target unit since only one attempt is made to spot a unit; each spotting unit does not roll individually. However, for each unit attempting to spot the same target unit, apply a +10 modifier to the attempt. A spotted target is handed off to other friendly units as long as the target unit is within their maximum spotting range.

Roll (100) if the result is less than or equal to the listed value, it is spotted. Failure does not cancel Overwatch Fire.

7.7.2 Maximum Spots

A subset of this option limits the total number of spotted units a single unit is able to maintain. This limitation is also based on its Unit Grade.

Reference the Spotting (OR) Table on Game Card A (Panzer) or Game Card B (Panzer North Africa). The value listed in the Max column is the maximum number of spots a unit of any particular Unit Grade may individually maintain including hand-offs. Any spots in excess of the Max value are ignored or must be removed.

7.8 Turrets

This option adds moveable Turret counters for vehicles. Turret counters display an image of either a German, Italian, or a British turret, but any may be utilized as there is no functional difference between the three types. The front side of the counter designates Open turrets while the reverse B side designates Buttoned-up turrets.

The use of Turret counters enables turreted vehicles to face their turrets to different hexsides from their hulls. This presents a more realistic game model as turreted vehicles may only direct fire at targets that fall within their turret's Field-of-Fire (60°). It also enables them to minimize the impact of the Overwatch Adjust modifier by positioning their turrets to cover specific areas.

Whether a turret is open or buttoned-up also impacts the potential damage sustained from GP Fire by A-Type vehicles.

7.8.1 Adjust Turrets

Like vehicle counters, turrets must face a specific hexside. They are adjusted during movement and/or the Adjust Turret Step of the Adjustment Phase. The maximum number of hexsides a turret may turn is equal to its TT Factor found in the Weapon Data row of its Data Card. TT Factors range from 1 to 3. Turretless vehicles have a factor of 0.

As a vehicle moves, it may adjust its turret up to its listed TT Factor for each new hex entered or maintain its turret's facing in relation to its hull. The non-phasing player may fire eligible units in Overwatch at any time while the phasing player adjusts a turret, by simply interrupting the phasing player, prior to or after a turret adjustment. Tracked vehicles retain their listed TT Factor. A Damaged vehicles' TT Factor is reduced to 1 if not already a 1.

7.8.2 Turreted Vehicle Hit Locations

When a vehicle is hit by AP Direct Fire, its turret may have the same or a different Hit Angle than its hull. When determining the Hit Location, if the Hit Location is a Hull Hit, continue on to the next step.

However, if the result is a Turret Hit, an additional check is made. If the Turret's Hit Angle is the same as the Hull's Hit Angle continue on to the next step. However, if it is not, determine its Hit Angle and apply the same result (the dice are not rolled again) against the Turret's Hit Angle.

7.8.3 Open & Buttoned Up Turrets

A-Type vehicle turrets are positioned as Open or Buttoned Up. This Turret status is selected during the Adjust Turret Step of the Adjustment Phase and applies to the entire next turn. Turret status may not change during a turn.

Non-turreted A-Type vehicles may Button Up; they just, of course, do not adjust their turrets. There are turreted P-Type vehicles; however, they never Button Up.

Turret status affects a vehicle's ability to spot targets and the impact of Direct or Indirect GP Fire and Aircraft Combat. Vehicles with Open Turrets spot normally, but are more susceptible to GP Fire and Aircraft Combat. Vehicles with Buttoned Up turrets have spotting limitations, but resolve GP Fire normally.

Vehicles with Buttoned Up turrets must apply a –1 Spotting modifier by moving 1 row down on the table.

Vehicles with Open Turrets may suffer increased damage from GP Fire. AP Direct Fire is not affected.

- With non-small arms fire with an Effective Result, the vehicle is Damaged if the shooter's maximum GP Effectiveness Factor is less than the vehicle's GP Defense.

- With small arms fire with an Effective Result at Point Blank Range, the vehicle is Damaged.

7.8.4 Overwatch Fire

If the firing vehicle is executing Overwatch Fire at a target located outside of the turret's Field-of-Fire—the modifier is –3. Based on its TT Factor, the turret must be able to adjust its facing a number of hexsides to place the target within its Field-of-Fire. This becomes the turret's new facing.

Again, the Target Moving modifier is also applicable in addition to this modifier if triggered by movement.

7.9 Smoke Dischargers

Vehicles equipped with Smoke Dischargers (see 5.16.2) may create a smoke cloud that covers just that vehicle and any units it is transporting. It may attempt to create a smoke cloud only once per turn during its Command Phase before placing its command.

Since this process actually takes place before the current turn's Initiative Phase, the previous turn's First Player places all DS smoke first followed by the Second Player.

To determine if a vehicle creates a smoke cloud, roll (10) and compare the result to the listed Ammo Limit value (see 5.16.2.3). If the result is less than or equal to the Ammo Limit value, place a SMOKE/DS counter on the vehicle; if it is greater than the Ammo Limit value, the attempt failed.

The smoke cloud is treated as Open/SHEAF Smoke that applies only to fire to or from the vehicle and its passengers not to any other units in the hex. It does not apply to Indirect Fire or Aircraft Combat.

The SMOKE/DS counter is removed during the current turn's Adjust/Remove Counters Step (see 6.8.4) or if the vehicle moves to a new hex or moves within its hex. Place the counter under the vehicle unit; vehicles may not create discharger smoke in consecutive turns. It is removed during the next turn's Adjust/Remove Counters Step.

7.10 CE Ammo Types

With the advent of HEAT-Type anti-tank shells, including those fired from guns as well as hand-held anti-tank weapons, the Germans were the first to develop countermeasures to degrade or attempt to defeat their performance.

This took the form of light armor skirts or plates mounted in such a way to create a standoff distance from the main armor. This would theoretically cause a HEAT shell to pre-detonate, thereby reducing its penetrative power.

7.10.1 CE-Type Armor

German vehicles so equipped have special notations in the Defensive Information section of their Data Cards. Those protected Hit Locations are highlighted. In addition, a CEx# notation indicates to what extent the CE-Type Armor increases the listed Armor Factor.

German add-on armor was very susceptible to battlefield damage. It was not uncommon to find vehicles with their side skirts, and to a lesser extent turret armor, missing. Feel free to field vehicles with missing armor.

7.10.2 CE Ammo & S-Type Vehicles

CE rounds vs. S-Type vehicles do not apply the –2 damage modifier.

7.11 BU Modifier

Based on their turret layout or ammo storage, some vehicles are more susceptible to explosive damage when receiving a Knocked Out result from combat. Those vehicles have a *BU* notation listed in the Unit Identifier section their Data Cards.

The Bu modifier does not increase the overall chance of damage; it just increases the chance of a Knock Out becoming a Brew Up. A modified Damage Result is never greater than 10. It is not applicable with Basic Game Damage. The modifiers are +2 for AP Fire and –2 for GP Fire.

7.12 Variable AP Penetration

AP penetrations values (KE and CE-Type shells) are presented in absolute terms based on a long study of ballistic data. The actual penetration values did vary due to the variances in the quality of the shells or caused by slight deviations in the angle of impact or the quality of the vehicle armor at any given impact point.

With this option, whenever an AP Hit is made, before the Hit Location-Damage roll, the firing player rolls (10x2) and references the AP Penetration (OR) Table on Game Card A. Reference the row on the table that corresponds to the listed AP Penetration Factor.

The two dice are read separately. Add the two listed results together to find the total adjustment. It may not be plus or minus greater than the listed Max Value.

Note that dice roll results of 1, 2, 3, and 4 subtract from the AP Penetration Factor, while results of 7, 8, 9, and 10 add to it. Results of 5 and 6 have no effect.

As an added variable to this option, subtract 1 from all Soviet roll (10) results when determining variable AP Penetration. This simulates the lower quality of Soviet metallurgy and its effect on their AP shells.

7.13 Lower Hull Hits

This option models the possibility of hitting a vehicle's less armored lower hull front with AP Direct Fire. It is only possible when a moving vehicle is changing elevation or its Height is 2 or more above an opposing unit.

7.13.1 Changing Elevation

When a vehicle moves out of a Gully, Ford or Stream hex or crosses a Wall hex, any *overwatching* unit at a Height equal to the Vehicle's new Height hitting the HF utilizes an Armor Factor equal to ½ (round down, not less than 1) of the listed Rising HF Armor Factor. Note that Rising Shot is utilized even though it is actually a Level Shot.

7.13.2 Height Difference

When the target vehicle is not in a Hull Down or an automatic Partial Hull Down position and the firing unit's range is equal to or less than twice the Height difference hitting the HF utilizes an Armor Factor equal to ½ (round down, not less than 1) of the listed Rising HF Armor Factor.

7.14 Fire Priority

In the heat of battle, vehicles typically engage opposing vehicle targets posing the greatest threat and those tend to be the closest targets. A vehicle with a FIRE or SHORT HALT command must fire at the closest opposing vehicle combat unit (see 4.1.1) unless it is already engaged by another vehicle from the same formation. Friendly leg and towed units firing at a vehicle do not offset this requirement.

7.15 CE Ammo GP Direct Fire

CE-Type ammo has considerable explosive force and can be used for GP Direct Fire. However, the construction of the shells makes them somewhat less effective in open areas.

When hand-held ant-tank rocket weapons are fired at dismounted leg or towed units in terrain other than inside of buildings or Improved Positions, apply a –10 modifier.

7.16 Towed Unit Platform Gun Mounts

Some anti-tank and anti-aircraft guns were mounted on platform or turntable mounts that enabled them to quickly engage targets located in any direction. The Towed Data Cards indicate which units have Platform Gun Mounts.

Like Turretless 360° vehicles, for the purposes of Overwatch and Anti-Aircraft Fire, their Field-of-Fire is always assumed to be facing the target. These units always use the Overwatch Front Modifier for all Overwatch Shots.

If they fire at a target located in their Side or rear Fields-of-Fire, pivot the towed unit to face the correct Field-of-Fire.

7.17 Attached Weapon Loss

When a full squad is reduced as a result of GP Fire or Hand-to-Hand combat, roll (10) for each attached weapon the squad was carrying. On a result of 1-5, the attached weapon is destroyed.

If the squad was carrying more than one attached weapon, apply a –2 modifier to the first roll (10). Randomly select which is the first attached weapon.

7.18 Pinning Fire

Ground units employing small arms Direct GP Fire against leg or towed units may use Pinning Fire against the target. Pinning Fire simulates a unit spraying fire in the proximity on a target unit to pin or force them to keep their heads down as opposed to trying to eliminate them.

Pinning Fire may be used with FIRE, SHORT HALT or OW commands. It must be declared at the point the fire is announced. The GP Fire is resolved normally; the +20 Pinning Fire modifier is applied.

An Effective Result is treated as a Suppressed result instead. It is not possible to achieve an Effective Result with Pinning Fire.

7.19 Engineer vs. Terrain Combat

Engineer squads, half-squads and sections are the only ground units that may directly attack certain types of terrain. All Terrain types possessing a GP Defense Factor, with the exception of Building hexes, may be attacked as if they are normal ground units.

The engineer unit must have a MOVE command. With an Effective Result roll (100) again. These attacks utilize the Close Assault combat procedures. With two Effective Results the Terrain type is destroyed; otherwise there is no effect.

7.20 Long Guns

If utilizing the Optional Turrets Rule (see 7.8), some turreted vehicles have long guns that can inhibit their movement in Alley, Woods and Light Woods hexes. Units so equipped have Long Gun listed in the Notes section of their Data Card.

If a Long Gun turreted vehicle unit moves into or within an alley hex or a Woods or Light Woods hex, its turret must be positioned directly to the vehicle's front or rear. While stationary, it may turn its turret to any hexside.

If a Long Gun turreted vehicle unit is following the route described by a Path or Road (see 4.5.1.1.5), its turret may be positioned in any direction.

7.21 Variable Track Damage

In reality, small caliber guns would have a difficult time achieving a track hit against many of the more heavily armored vehicles. With this option, an additional calculation is required to determine if a track hit is actually made. This same method of calculation is used whether firing AP or GP weapons.

Double the firing unit's maximum GP Effective Factor for its GP weapon. If the result is equal to or greater than the target's GP Defense Factor, the Track Hit was made; if it is less, the Track Hit is treated as a miss instead. If treated as a miss, no Bail Out attempt is required.

For firing units with small arms or for those that lack a GP weapon, they are assumed to have a doubled factor of 1. Hand-held anti-tank weapons are excluded from this calculation.

7.22 Infantry Smoke

Squads and half-squads receive a Smoke Ammunition limit based on their nationality, Unit Grade and engineer status. Unsuppressed, nonhesitating, and non-broken units may create smoke in their current hex if it does not contain any other dismounted leg or towed units.

7.22.1 Direct Fire Smoke

Only units with FIRE or SHORT HALT commands may place smoke within the Ammo Limits (see 5.16.2) constraints as Small Arms Fire. The unit may still utilize any attached weapons.

Place a SMOKE/ON counter in the hex. The smoke affects just the target unit and is the equivalent of an Open SHEAF Pattern.

7.22.2 Smoke Ammo Limits

Smoke Ammo limits by Nationality:

- German: S5
- Soviet: S2
- USA: S5
- UK: S4
- France '41+: S3
- France '44: S5
- Italy: S3

Special Ammo Limit modifiers:

- Elite Unit Grade: +2
- Veteran Unit Grade: +1
- Green Unit Grade: –1
- Engineer: +3

7.23 Vehicle Collateral Damage

This option requires some form of record keeping or unit notation.

Any AP hit on an A-Type or P-Type vehicle that penetrates but results in No Damage may cause Collateral Damage. Each collateral hit is only applied once. Cross-reference with the vehicle hit location and roll (10):

7.23.1 TF – Turret Front

On a result of 1: Optics damaged.

> Apply a –1 AP Direct Fire modifier for the remainder of the scenario.

> Apply a –5 GP Direct Fire modifier for the remainder of the scenario.

On a result of 2: Coax MG damaged if equipped, otherwise, mark a SUPPRESSED/ON counter.

> The vehicle no longer applies the +10 Coax MG modifier to GP Direct Fire or Overrun combats.

On a result of 3-10: No effect.

7.23.2 TS/TR – Turret Side or Turret Rear

On a result of 1: Turret Ring.

> The turret is fixed in its current position. It may not rotate for the remainder of the scenario.

> For Turretless 360º (see 4.4.3.1.2) and Turretless (see 4.4.3.1.1) vehicles, mark a SUPPRESSED/ON counter.

On a result of 2: Radio damaged.

> The vehicle loses any *Command* and/or Recon abilities. For ultimate realism, the vehicle must also follow Optional Rule 7.4, Without Radio Sets.

On a result of 3-10: No effect.

7.23.3 HF – Hull Front

On a result of 1: Running Gear Damage.

> The vehicle loses 2 Movement Factors (minimum 1) for the remainder of the scenario.

On a result of 2-10: No effect.

7.23.4 HS/HR – Hull Side or Hull Rear
On a result of 1: Fuel Damage—at the beginning of each Movement Phase roll (10).

> On a result of 1: the vehicle is out of fuel for the remainder of the scenario. Mark a TK Hit (including Bail Out attempt).

> On a result of 2: the vehicle catches fire and suffers a BU Hit (including Bail Out attempt and Suppression effects).

> On a result of 3-10: No effect.

On a result of 2-10: No effect.

7.24 Camouflage
As dictated by a scenario's Special Conditions one or both forces' ground units may limit the ability of opposing forces to spot them by the use of camouflage. Only those units that start a scenario setup on the mapboard may camouflage. Use the Formation Summary to list camouflaged units.

Camouflage does not function in the same manner as Hidden units (see 7.2). Camouflaged units remain on the mapboard at all times. The controlling player must announce a camouflaged unit at the point the opposing player announces a spot. Camouflaged units are automatically spotted at a range of 1 hex.

After meeting normal spotting range requirements, the spotting player rolls (10); the result must be less than or equal to the spotting range found on the Spotting Ranges Table on Game Card A (Panzer) or Game Card B (Panzer North Africa) for the unit being spotted. Spotting units hand off spotted camouflaged units to other friendly units at the same range or less.

Camouflaged units permanently lose their camouflage status once they execute a MOVE or SHORT HALT command. They also permanently lose their camouflage status once they execute a FIRE or OW command if an opposing unit meets the normal spotting range requirements. No spotting roll is necessary.

7.25 Weapon Malfunction
AP Direct Fire combat resulting in 00 or GP Direct Fire combat resulting in an unmodified 01 is treated as a weapon malfunction.

It may not fire again until repaired. The combat that resulted in the malfunction is resolved normally.

To repair, roll (10) at the *end* of the Command Phase:

- If the final result is a 2 or less, the weapon is repaired and functions normally on all subsequent turns.
- If the result is a 10, the weapon is permanently out of action and may not attempt repair during future turns.
- If the unit has an N/C Command, apply a –2 modifier.

7.26 Indirect Fire Scatter
When the modified response roll equals the value listed for the observer on the Called Indirect Fire Response Table on Game Card B (Panzer) or Game Card A (Panzer North Africa), the Impact Point for that firing unit missed the designated target hex and has scattered 1 or 2 hexes.

Roll (10). On a result of 1-6, it scatters 1 hex; on a result of 7-10, it scatters 2 hexes. It may be easier when determining fire response to just roll (10x2) on the chance fire scatter occurs. Roll (d6) and reference the Directional Hex on the mapboard or geomorphic map panel and move the Impact Point the required number of hexes in the indicated direction.

If the new Impact Point is still within the observer's line-of-sight, the Indirect Fire may be continued or adjusted normally next turn.

An expansion of this optional rule adds aircraft bomb scatter. If bombs are dropped from an aircraft flying at Medium or High Altitude that was attacked by Anti-Aircraft fire within 5 hexes of the drop hex, may result in bomb scatter.

- If a No Effect result from the Anti-Aircraft Fire, roll (10). If the result is a 1 or a 2, the bombs scatter.
- If a Suppressed or Damage result from the Anti-Aircraft Fire, roll (10). If the result is 6 or less, the bombs scatter.
- Based on the Aircraft's Unit Grade, apply the following modifiers:
  - Elite: +2
  - Veteran: +1
  - Regulars: –1
  - Green: –2

Roll (d6) and reference the Directional Hex on the mapboard or geomorphic map and move the Impact Point in the indicated direction 1 hex if at Medium Altitude or 2 hexes if at High Altitude.

7.27 Illumination Indirect Fire Missions
Illumination Fire Missions are used to increase spotting ranges during night/limited visibility conditions. Illumination rounds may be fired only in non-linear Closed SHEAFs. Illumination rounds function in a similar manner as Smoke rounds with an On/Off state.

They illuminate the area described by the SHEAF Pattern. Any unit within the area applies a +2 spotting modifier as long as the area remains illuminated. The illumination modifier never increases the Spotting Level above 0.

Illumination has either ILLUMINATION/ON or ILLUMINATION/OFF counters to indicate its status.

Illumination is recorded by placing an ILLUMINATION/ON counter; or by rotating an existing ILLUMINATION/OFF counter to ILLUMINATION/ON. ILLUMINATION/OFF counters are removed during the Adjust/Remove Counters Step, see 6.8.4.

7.28 Counter Battery Fire
Counter Battery Fire is the action of locating opposing off-map artillery batteries and then executing disruptive fire missions to suppress or eliminate those batteries.

Counter Battery Fire is conducted only by off-map batteries dedicated to counter battery fire missions. They are not the same organic or attached batteries assigned to the support of the friendly forces. They must be included as specific Counter Battery Fire assets in the list of friendly forces in a scenario.

7.28.1 Utilizing Counter Battery Fire
A Counter Battery unit is considered to be available at all times, may be used any number of times, and each may attempt to find one opposing off-map artillery battery per turn. Whenever opposing off-map artillery responds to Called Indirect Fire, continues a fire mission or arrives as planned fire, "counter battery fire" may be announced.

All Counter Battery Fire takes places after the targeted artillery battery resolves the fire mission for the current turn.

7.28.2 Resolving Counter Battery Fire
For each Counter Battery Fire announced, the controlling player rolls (100) to first determine if its counter battery firing unit located the targeted artillery battery.

Reference the Artillery Data Card for the Counter Battery Fire information. If the location result falls within the range of 01-20, the artillery battery is located. Otherwise, the location attempt failed.

The following location modifiers apply:

- If the targeted artillery battery's current fire mission equals or exceeds the listed number of consecutive turns, e.g., German counter battery attempting to locate a battery firing for 3 or more consecutive turns, apply a –10 modifier.

- If the targeted artillery battery is self-propelled (SP), apply a +10 modifier.
- If a Soviet counter battery unit attempts to locate in 1941 or 1942, apply a +10 or +5 modifier, respectively.
- If an Italian counter battery unit attempts to locate in 1940 or early-1941, apply a +10 or +5 modifier, respectively.

If the artillery battery is located, roll (100).

- On a result of 01-50, the targeted artillery battery is suppressed.
    - o Suppressed artillery batteries may still function and conduct normal operations, but apply the Shooter Suppressed –20 GP Fire modifier (see 6.5.4.3). Place a SUPPRESSED/ON counter on the battery's Data Card for reference.
    - o All artillery batteries have a fixed recovery range of 01-50 when attempting to recover from Suppression. No Suppression modifiers apply.
- On a result of 51-80, the targeted artillery battery is Damaged.
    - o Damaged artillery batteries may still function and conduct normal operations, but apply the Shooter Damage –10 GP Fire modifier (see 6.5.4.3). Place a DMGD counter on the battery's Data Card for reference.
    - o All damaged batteries apply a –2 modifier when determining fire response.
    - o A second damage results in a Knock Out.
- On a result of 81-00, the artillery battery is Knocked Out.
    - o It may not fire for the remainder of the scenario.
    - o Its listed Victory Points are awarded to the opposing side.

7.28.3 Counter-Counter Battery Fire
If both forces possess Counter Battery Fire assets, they are also subject to Counter-Counter Battery Fire. Once Counter Battery Fire is announced and resolved an opposing Counter Battery Fire unit may attempt to locate and fire on the first counter battery unit.

In this case, a Suppression result is ignored. A Damage or Knock Out result eliminates a counter battery unit for the remainder of the scenario. Its listed Victory Points are awarded to the opposing side.

7.29 Bogging Down
Unhidden vehicles are subject to Bogging Down in some terrain types. Reference the Bog column on the Terrain Effects Table on Game Card A (Panzer) or Game Card B (Panzer North Africa). Only those Terrain types with a listed numerical range are subject to Bogging unless otherwise instructed by the Set Up or Special Conditions in a scenario.

Some vehicles have a positive or negative Bog modifier listed in the Movement row or in their Notes section of their Data Cards and on their counters. In addition, all vehicles currently towing another unit, apply a –5 modifier.

If any vehicle has a MOVE or SHORT HALT command while occupying one of the listed Terrain types, it first checks for Bogging Down. Vehicles employing the Path or Road bonus are not subject to bogging.

A vehicle entering a hex of the listed Terrain types does not check for bogging. However, if it attempts to exit the hex or move within the hex, e.g., searching for a Hull Down position or entering a building, it must check for bogging before exiting the hex or moving within the hex.

The controlling player rolls (100). If the net result (modified for any vehicle specific modifiers) falls within the listed range for the Terrain type, the vehicle immediately ceases movement and may not turn for the remainder of the turn.

A bogged vehicle moves during the next turn with no additional penalties. It must again check for bogging before exiting or moving within the hex. Passengers mount or dismount normally from a bogged vehicle. A bogged vehicle still marks a SPOT/MOVE counter.

Vehicles sharing MOVE or SHORT HALT commands must maintain Command Range upon completion of their move. However, if one or more of those units bog, thereby limiting movement, all attempts must be made to maintain Command Range upon completion of their move. If this is not possible, there may be cases where the moving units may not be able to maintain Command Range. Units are not required to retrace their movement.

7.30 Narrow Roads & Paths
As dictated by a scenario's Special Conditions roads and paths through Building hexes or Woods, Light Woods or Heavy Woods hexes may be classified as Narrow Roads or Paths. This Optional Rule could also apply to a narrow bridge.

In those cases, vehicles and dismounted towed units may not enter or move through a hex occupied by opposing vehicles. Vehicles may only move through a hex occupied by dismounted towed or leg units by Overrun combat. All units may enter a hex occupied by friendly vehicles, towed units or a wreck, but may not exit the hex. Dismounted leg unit movement is not restricted.

Vehicles and dismounted towed units may not exceed stacking limits (see 5.13). The order of entry of the units in a hex are stacked first on top (excluding wrecks).

By expending their entire movement speed allowance, tracked vehicles with a Move command may attempt to push a wreck, immobile vehicle, or towed unit to the shoulder of the road or path hex.

- The pushing vehicle's Weight must be equal to or greater than the immobile unit.
- Roll (100). On a result of 51+, the immobile unit is moved to the shoulder of the road or path, but still considered to be in the same hex. Otherwise, no movement is possible.
- For each full 5 tons of additional Weight the pushing vehicle has over the unit to be pushed, apply a +5 modifier.
- Units pushed to the shoulder of a road do not stop a vehicle from using its Path or Road movement factor.

This Optional Rule could also apply to sunken roads. Players may at their option or as dictated by a scenario's Special Conditions, allow units to exit the sides of a sunken road. Sunken roads typically have a Height of –1.

7.31 Mines & Minefields
Mines are employed to deny or channel movement into an area or in a certain direction. In some respects, they are an effective offensive weapon not just a defensive weapon.

There are two types of mines: anti-vehicular (effective against vehicle units) and anti-personnel (effective against dismounted leg and towed units). Anti-vehicular mines have the capability of damaging or inflicting track hits on vehicles. Anti-personnel mines can inflict effective results on leg and towed units. Unless otherwise indicated, minefields may contain either or both types.

Mines are not employed individually; they are laid in minefields covering multiple hexes. Correspondingly, there are two types of minefields: Hasty and Deliberate.

The scenarios indicated the type and availability of mines.

7.31.1 Minefield Placement
Minefields typically occupy a multiple hex area of the mapboard. The controlling player plots their location during the setup of a scenario after all terrain counters are placed on the mapboard, but before any units are placed. In most cases, the location of minefields is kept hidden from the opposing side. The scenarios indicate when a visible minefield is in play.

Use the back of the Formations Summary to note their type and location. Once placed, minefields may not move or alter their type.

Minefields may not be placed in bridge (although they may be placed in any path or road hex), building, alley, ditch, ford, gully, Improved Position, rubble, shell hole, stream, or water hexes. The plotted location of a minefield may surround these terrain types, but may not occupy their hex.

Minefield plots must include the minefield hexes, the type of minefield (Hasty or Deliberate) and the type of mine (anti-vehicular, antipersonnel or both). Unless otherwise indicated, a minefield's hexes must be contiguous.

7.31.2 Minefield Combat

Friendly units are assumed to know the exact placement of minefields and the clear paths through them unless otherwise indicated by the scenario. They may freely move through friendly minefield hexes without being attacked.

When an opposing unit *enters* a minefield hex, the controlling player *must* announce that a minefield hex was entered and resolve the minefield attack. The controlling player is not required to announce the entry into a minefield hex if a vehicle enters an anti-personnel minefield or a dismounted leg or towed unit enters an anti-vehicular minefield hex. Once a minefield hex is discovered, the opposing player may place a MINEFIELD counter as a reminder of its location.

Leg or towed units that dismount into an anti-personnel minefield hex are immediately attacked. Leg or towed units that mount a vehicle while occupying anti-personnel minefield hex are not attacked as a result of mounting.

Units that move within a minefield hex are attacked again.

7.31.2.1 Anti-Vehicular Minefield Combat

Reference the Minefield Effects Table on Game Card B and find the column containing the vehicle's GP Defense Factor; the vehicle's target type A, P or S is not a factor. Cross-reference this with the two rows indicating the type of minefield, Deliberate or Hasty.

The player controlling the minefield rolls (100) and the indicated result, if any, is immediately applied with the normal effects for that type.

Note that transported leg or towed units bailing out into an antipersonnel minefield are immediately attacked.

7.31.2.2 Anti-Personnel Minefield Combat

Reference the Minefield Effects Table on Game Card B and find the Leg & Towed column and cross-reference this with the row indicating the type of minefield, Hasty or Deliberate.

The player controlling the minefield rolls (100) and the indicated result, if any, is immediately applied with the normal effects for that type.

Squads are reduced to a half-squad and Suppressed, while all other leg and towed units are eliminated by an Effective Result.

If a squad, half-squad or section enters or moves within an antipersonnel minefield using Quickmarch (see 6.6.4.2), apply a –20 modifier.

7.31.3 Eliminating Minefields

Minefield are not consumed or used up by attacking ground units. They are deployed densely enough to attack all units that may enter their location for the duration of the scenario. They may be eliminated in three ways: by Indirect Fire, aircraft bombs and rockets, or by engineer leg units.

Minefields have a GP Defense Factor and are treated as a Terrain type. However, in the case of mines, only a single effective result is required for elimination. Unless indicated otherwise in a scenario, Hasty minefields have a GP Defense Factor of 3 while Deliberate minefields have a GP Defense Factor of 6.

7.31.3.1 Indirect Fire vs. Minefields

Both off-map and on-map Indirect Fire attacks *visible* minefield hexes that fall within the area defined by their SHEAF Patterns. Smoke and Illumination Fire Missions do not attack minefields.

7.31.3.2 Bombs & Rockets vs. Minefields

Aircraft bombs and rockets attack *visible* minefield hexes that fall within the area defined by the bomb or rocket impact patterns.

On the off chance an aircraft crashes into a visible minefield hex, it attacks it with 15 GP Factors.

7.31.3.3 Engineer Units vs. Minefields

Engineer leg units attack *visible* minefield hexes in the same manner as other terrain types.

Why only visible minefield hexes? It is the cleanest method of dealing with minefield elimination without a great deal of record keeping, delayed elimination determination, or forcing the controlling player to reveal the location of hidden minefields.

As an offset, it requires only a single Effective Result to clear a minefield hex.

7.32 Weight Limitations

Bridges may be assigned a weight limitation in a scenario. Unless specifically addressed, the weight limit for a bridge is considered unlimited and any unit may cross it. If a unit is too heavy to cross a bridge, it must use an alternate route; it may not enter the bridge.

A scenario may designate that a stream is frozen over and may also indicate a weight limit for its ice. Units that may cross the ice treat the terrain as if it were Clear terrain. If a unit is too heavy for the ice, it may only cross at a Ford by expending the indicated movement costs.

7.33 Dual Driving Controls

A few armored cars are equipped with dual-driving controls that enable them to move in reverse without expending the twice normal movement cost for the terrain entered. They expend the same cost as if they are moving forward. Units so equipped have an R following their mode of traction on their Data Card.

7.34 Amphibious Movement

A few vehicles have an amphibious movement capability enabling them to traverse impassable streams or water hexes. Units so equipped have an *A* following their mode of traction on their Data Card.

Amphibious units may only move one hex per turn when entering an impassable stream or water hex. They may not transport towed units.

If an amphibious unit suffers a Track Hit, is Damaged, Knocked Out or Brewed Up while occupying an impassable stream or water hex, it immediately sinks and is eliminated and removed from play. No Bail Out is possible.

7.35 Fires

Buildings or Rubble may catch fire and burn as a result of Direct GP Fire that is directed at units located in a building or rubble hex or Indirect GP Fire and aircraft bombs and rockets that includes a building or rubble hex that fall within the SHEAF or impact patterns. Close Assaults, Overruns and Hand-to-Hand combats do not normally start fires.

In all cases, there can only be one fire in a hex; it is either on fire or not. Once a fire starts, it continues to burn for the remainder of the scenario.

7.35.1 Start Fires

Indirect or Aircraft delivered GP Fire directed at a unit occupying the hex or if it falls within a SHEAF or impact pattern must be checked to determine if a fire has started. The check for fire starts anytime during the Adjustment Phase. Small arms may not start fires.

Reference the Building Effects Table on Game Card B and cross-reference the building/rubble type with the largest GP Factor that was directed at a building or rubble hex during the turn. No matter how many shots were directed at the hex during a turn, only one fire determination is made.

Roll (100). If the result falls within the listed range a fire starts. Mark the building or rubble hex with an ON FIRE counter.

If checking for a fire start in Rubble hex, apply a –10 modifier.

Close Assaults, Overruns and Hand-to-Hand combats may not start fires unless a flamethrower was utilized in the attack. If a flamethrower was involved in an attack directed at a target in a building or rubble hex, the fire automatically starts.

7.35.2 Ground Units in Fires
Ground units may not remain in a fire hex. Any ground unit that has not vacated a fire hex by the end of the next turn after the fire started is eliminated and removed from play. Do not place WRECK counters.

7.35.3 Hand-Held Anti-Tank Rockets
As an added option, if a hand-held anti-tank rocket fires at a vehicle located in a building or rubble hex and the shot misses, determine if the errant shot starts a fire; utilized their fixed GP Factor listed in Ammo Type column.

7.35.4 Fire in Woods & Groves
As indicated by the scenarios, fires may start in Woods, Light Woods, Heavy Woods, Light Grove or Grove hexes. These Terrain types are not listed on the Game Card as this option is treated as special case only.

The scenario must list that the Woods, Light Woods, Heavy Woods, Light Grove or Grove hexes are treated as if they are a Wood, Brick or Stone Building hex, plus any additional modifiers, for starting a fire purposes.

7.36 Terrain, Time of Day & Weather Conditions
The basic conditions in the game are daytime, clear weather and no adverse terrain conditions. However, in many cases alternative conditions may exist. The scenarios indicate if any alternate conditions are applicable.

7.36.1 Alternate Spotting Conditions
The time of day when a scenario takes place may have limited visibility. Limited visibility applies a –1 to –5 spotting modifiers so it works well to represent dusk, twilight or dusty conditions as well as fog or moonlight conditions.

Battles, other than chance encounters or small unit infiltrations, rarely took place during total night or very poor conditions.

7.36.2 Cautious Movement
During periods of limited visibility, units naturally were more cautious when executing movement.

If the scenario calls for it, reduce vehicle movement factor by ½ (round down). Squads and half-squads may not quickmarch. During limited visibility conditions, vehicles reduce the vehicle path and road movement factor by ½ (round down); during very limited visibility conditions vehicles may not use the path or road movement bonus (see 4.5.1.1.5).

7.36.3 Ground Weather Conditions
Combat forces did not take a vacation during the winter. As such, less than desirable ground conditions such as snow or mud could dominate a battlefield. In addition, during snow conditions, streams may be frozen over or overflowing their banks making them impassable during springtime thawing or rainy conditions.

These special ground conditions may be designated as applicable to only certain portions of the mapboard.

With *snow* ground conditions, add 1 to the listed movement cost for all impacted Terrain types.

With *mud* ground conditions, double the listed bogging range for all impacted Terrain types.

During snow or mud conditions, transporting vehicles must apply a –5 modifier per each unit of the passenger unit's towed capacity when checking for bogging.

7.36.4 Khamsin
Khamsins are desert dust and sand storms that swept the battlefield in North Africa. During Khamsins, spotting modifiers apply as well as Combat modifiers and potentially Cautions Movement. The specific Khamsin effects are listed in the scenario's Limited Spotting Table.

Khamsin effects are only applicable if specified in a scenario's Setup Conditions. For example, scenarios 71 and 73 in Panzer North Africa have Khamsin effects.

7.37 Artillery Reconnaissance by Fire
The standard artillery rules do not allow the possibility of calling fire against an unsighted hex, i.e., the target hex must contain at least one spotted unit. In reality, the ability to target open areas is a major force multiplier of artillery fire. It is strongly recommended that this Optional Rule only be employed if the Hidden units option (see 7.2) is also in play.

To call artillery reconnaissance fire, the observer must have a clear line-of-sight to the target hex and must be within the maximum range of the firing unit. Only an FO may call artillery reconnaissance by fire and only from a single artillery battery; on-map units may not be utilized. It must be a Closed SHEAF, GP Fire mission. In addition to all the other Fire Response modifiers, the FO must also apply a –2 Fire Response modifier.

The fire must check the next turn; it may not be adjusted or continued.

Why a –2 Fire Response modifier? Yes, it is really not any more difficult to call reconnaissance by fire than standard Indirect Fire. However, having the knowledge of where the opposing forces are most likely located, even if employing hidden units, is a very large advantage those in the real world do not possess. The –2 modifier just balances that out.

7.38 Special Units
A few units have special capabilities that require some explanation and a few additional rules.

7.38.1 British Mounted Fire [B-5A (Panzer), B-16A (Panzer North Africa) & B-8B]
HMG, OML 2-in Mortars, and OML 3-in Mortar Sections transported by Universal Carriers may fire without first dismounting.

Their field-of-fire and their fire capabilities are unaffected if they fire while mounted. They may dismount and fire normally. They are not required to fire while mounted.

7.38.2 British Churchill Crocodile [B-12B (Panzer)]
The Churchill Crocodile was a specially modified version of the standard Churchill VII tank with an added flamethrower capability.

These tanks first entered combat at the Normandy landings on D-Day and saw much use after that in support of British, Commonwealth and U.S. units. In Northwest Europe, the three Crocodile regiments formed the 31st Armoured Brigade. In Italy, they formed part of the 25th Armoured Brigade. A troop typically fielded four vehicles.

The flame fuel was towed in a detachable armored trailer. The trailer could be quickly jettisoned if it became damaged or knocked out.

7.38.2.1 Flame Combat
The Crocodile's Ronson flamethrower was mounted in the hull front in place of the bow machinegun. Therefore, the flamethrower is limited to a front field-of-fire. As long as the fuel trailer is connected to the tank, it may not move in reverse.

7.38.2.2 Fuel Trailer Hits
The fuel trailer is subject to being hit separately from the towing Churchill tank unit and it must be determined if any Rear-Side or Rear Hit Locations hits actually hit the fuel trailer instead of the tank itself. Note that HS hits from the Front-Side may not hit the fuel trailer.

Roll (100):

• For HS hits, if the result falls within 01-25 the trailer is hit. Otherwise, resolve the hit normally on the Churchill Crocodile.
• For HR hits, if the result falls within 01-60 the trailer is hit. Otherwise, resolve the hit normally on the Churchill Crocodile. The trailer has an armor value of 5 from all angles and elevations. If the hit penetrates, damage is applied normally.
• If a BU result, the trailer is immediately jettisoned. No further flame combat is possible. The Churchill Crocodile is immediately suppressed (AG) along with any friendly units in the same hex.
• If a KO result, the trailer is immediately jettisoned. No further flame combat is possible.
• If a Dmgd result, the Ammo Limit for the Ronson flamethrower is immediately reduced to A: 5. Place the DMGD counter at the rear of the tank or under it to indicate that the damage applies just to the Ronson flamethrower. If damaged a second time, the trailer is immediately jettisoned. No further flame combat is possible. Once the trailer is jettisoned for any reason, the Churchill Crocodile may continue to operate normally. It may be voluntarily jettisoned at any time whether it is damaged or not.

7.38.3 British FO Tanks [B-1A, B-9A (Panzer) & B-9B (Panzer North Africa)]
British observation post tanks (OPs) mounted dummy wooden guns in place of the 75mm gun that normally equips the tanks, requiring the tank to utilize the turret mounted coax machinegun as their main weapon. When these vehicles are fielded as FO tanks, they must use just the GP-OP row on their Data Cards. Non-OP tanks of the same type do not utilize the GP-OP row.

7.38.4 British White Scout Car [B-15B]
The US designed/built White Scout car was often pressed into service for infantry transport. When utilized in that role, change the transport capacity to Tr: 0-2, but reduce the transported squad's GPD to 2S due to the extra troops.

Players may also utilize this option with the Soviet version of this vehicle, the M3A1 Scout Car [S-15A].

7.38.5 British Archer [B-12A (Panzer)]
The Archer was a modification of the Valentine tank mounting the hard-hitting 17-pdr gun. The rear facing gun recoiled directly through the driver's position when fired limiting quick move and fire actions. Therefore, the Archer may not utilize SHORT HALT orders.

7.38.6 British Littlejohn Adapter [B-16A (Panzer)]
The British Littlejohn Adapter enabled 2-pdr armed units to fire a special ammo type APCNR (Armored Piercing Composite Non-Rigid) called APSV (Armored Piercing Super Velocity) in use. It used a squeeze-bore principle similar to the German 2.8cm sPzB 41.

In this case, the special 40mm round was compressed to 30mm once it exited the Littlejohn Adapter mounted at the end of the standard 2-pdr barrel. The higher compression produced, combined with a round that had a higher weight compared to its cross-section greatly increased its performance.

The adapter was attached in a semi-permanent fashion. Therefore, both standard AP and APSV ammo types may not be fired by a unit mounting the adapter; it carries one or the other ammo type during a scenario.

The "Littlejohn" title was literally derived from the name of its Czech designer, František Janeček.

7.38.7 German Schwimmwagen
The German Schwimmwagen was a small light truck with an amphibious capability. Since it does not have an individual Data Card (use G-5B2 Truck counters), its specifications are listed below:

• PTS: 3
• M: 6WA 12-18 B: –15
• TR: 0-1*
• WT: 1.3
• Unarmed
• GPD: 1S
• SIZE: –2
• KE or CE: All Locations, Level, Rising, or Falling: 0

NOTES: Available from early-41. Armor 0/0. May transport only section-sized leg units.

7.38.8 US 12.7mm AAMG [U-16A (Panzer)]
The 12.7mm AAMG was small and light enough to be manhandled *inside* of a building. During the course of a scenario, this unit may move inside of a building when occupying a Building hex. Mark the unit with a LOCATION counter with the INB side facing front. When inside of a building, it may no longer spot aircraft.

Players may also utilize this option with the Soviet 12.7mm AAMG [S-30B] too.

7.38.9 German Tank Armor [G-2A (Alt) & G-12B (Alt)] [Available in Panzer Expansion #3]
At their option, players may employ these alternate versions of the German PzKpfw IVH and PzKpfw IVJ Data Cards. They reflect different values for TF Front and Front/Side Armor and Points.

Thanks to Brent Pollock for this suggestion.

7.38.10 French Char B1-bis [F-4B]
The Char B1-bis turret and 47mm main gun were the same as those fitted on the S-35 [F-4A]. The Char B1-bis also carried a bow-mounted 75mm howitzer that was aimed and fired by the vehicle's driver.

The 75mm gun was elevated normally, but its lateral position was fixed. The driver had to slew the vehicle to the left or right to train the gun in the horizontal plane. To aid in this, a special hydrostatically controlled differential was used to provide the correct adjustments to the steering.

7.38.10.1 75mm Combat
The 75mm gun is Limited (see 6.1.4.1.2). It may not fire when the vehicle occupies a hull down position, but may fire when it occupies a partial hull down position. It may not utilize SHORT HALT orders to fire. It also has an AP ammo limit of A3 and is subject to the Dual Fire rules (see 5.14).

If the 75mm gun fires at a moving target, an additional –1 AP or –5 GP modifier is applied in addition to any other terrain, moving or Overwatch modifiers.

7.38.10.2 Rear Left Side Hull Armor
The Char B1-bis' left rear hull side sported a fairly large engine air intake grill, which represented a somewhat weaker spot in her otherwise excellent armor. Whenever the left Rear/Side hit location is a 5 or 6, ignore the listed Armor Value and instead treat it as a value of 8 for penetration purposes from all elevations.

Note that the hit locations are still subject to Hull Down and Partial Hull Down limitations.

7.38.11 French 25mm Gun [F-5A and F-10A]

The French 25mm anti-tank gun [F-10A] and the 25mm gun armed AMD 35 [F-6A] had similar AP performance even though the two guns' lengths in calibers were different, L/73 vs. L/60, respectively.

The 25mm CA35 gun mounted on the AMD 35 fired AP rounds with a heavier charge resulting in a higher muzzle velocity that compensated for its shorter barrel.

7.38.12 Italian L3/35 Lf [I-5A]

The L3/35 Lf was a specially modified version of the standard L3/35 tank with an added flamethrower capability.

The flame fuel was towed in a detachable armored trailer. The trailer could be quickly jettisoned if it became damaged or knocked out.

7.38.12.1 Flame Combat

The tank's flamethrower was mounted in the hull front in place of one of the MMGs. Therefore, the flamethrower is limited to a front field-of-fire. As long as the fuel trailer is connected to the tank, it may not move in reverse.

7.38.12.2 Fuel Trailer Hits

The fuel trailer is subject to being hit separately from the towing L3/35 Lf tank unit and it must be determined if any Rear-Side or Rear Hit Locations hits actually hit the fuel trailer instead of the tank itself. Note that HS hits from the Front-Side may not hit the fuel trailer.

Roll (100):

- For HS hits, if the result falls within 01-25 the trailer is hit. Otherwise, resolve the hit normally on the L3/35 Lf.
- For HR hits, if the result falls within 01-60 the trailer is hit. Otherwise, resolve the hit normally on the L3/35 Lf. The trailer has an armor value of 5 from all angles and elevations. If the hit penetrates, damage is applied normally.
- If a BU result, the trailer is immediately jettisoned. No further flame combat is possible. The L3/35 Lf is immediately suppressed (AG) along with any friendly units in the same hex.
- If a KO result, the trailer is immediately jettisoned. No further flame combat is possible.
- If a Dmgd result, the Ammo Limit for the flamethrower is immediately reduced to A: 5. Place the DMGD counter at the rear of the tank or under it to indicate that the damage applies just to the flamethrower. If damaged a second time, the trailer is immediately jettisoned. No further flame combat is possible. Once the trailer is jettisoned for any reason, the L3/35 Lf may continue to operate normally. It may be voluntarily jettisoned at any time whether it is damaged or not.

7.38.13 British CS Tank Howitzers

The early war A9 (B-2A) and A10 (B-2B) (Panzer North Africa) Close Support (CS) tanks fielded a 3.7in. howitzer that primarily fired smoke. At the time, the tactical theory was to "smoke parts of an enemy force" to cut them off from the battle to secure a numerical, if limited, advantage over the remaining force. It has an ammo limit of A: G3 reflecting its limited GP fire capability.

In contrast, the Crusader I (B-5B), Crusader II (B-6B), and Matilda II (B-10A) Close Support (CS) tanks fielded a 3in. howitzer with full GP fire capability and less focus on the use of smoke.

7.39 Morale & Vehicle Bailout

Morale status does have an impact when attempting to bail out from broken and hesitating vehicles. When employing this option, apply the following:

- If the vehicle is Broken, the modifier is –20
- If the vehicle is Hesitating, the modifier is –10.

7.40 Road/Path Movement [Expanded]

Vehicles may move at the road/path rate of 1 movement factor per hex (not at the bonus movement rate or change elevation bonus) when on a road/path through terrain even if they did not start on a road/path when moving along a road/path. It must maintain facing while moving.

Thanks to Richard Bing for suggesting this optional rule.

7.41 Removing Spot Counters

Originally included in the playtest version of the game, this Optional Rule was a secondary part of the Limited Spotting Optional Rule (see 7.7) where eligible SPOT/FIRE and SPOT/MOVE counters were checked to see if they were removed. Employing this Optional Rule will add a fair amount of play time to a scenario. Reference the Spot Removal Table (OR) on Game Card B (Panzer North Africa).

During the Spotting Phase of each turn for each unit with a SPOT/FIRE and SPOT/MOVE counter: SPOT counters *not* eligible for removal:

- Spotted unit occupies None-type Cover.
- Spotted unit is adjacent to one or more Unsuppressed, Non-Full Cover, Unbroken opposing combat units.

SPOT counters eligible for removal:

- Spotted unit occupies Light, Medium or Heavy Cover. Note that all Building hexes are treated as Heavy Cover for spotting for leg units and for vehicles and towed units inside the buildings.

Count of the number of Unsuppressed, Non-Full Cover, Unbroken opposing combat units who are able to spot the unit. Based on the count above, for each Cover type, two values are listed: if the spotting range for any of the units included in the above count is equal to or less than 1/2 of the maximum spotting range (round down) use the first value; for ranges greater than ½ up to the maximum range use the second value.

Roll (100) if the net result is less than or equal to the listed value, the SPOT counter is removed.

Apply the following modifiers:

- Based on the highest Unit Grade of any of the units included in the above count, apply the indicated modifier.
- If one or more Recon units are included in the above count, a +10 modifier applies.

7.42 Staggered Initiative

Originally published in *Panzer Expansion 3*, this is an alternative method of determining the Initiative for each turn as opposed to the single roll (100) method (see 4.3 & 6.3). Depending on the granularity employed, it may add a fair amount of play time to a scenario.

In this approach, Initiative is triggered on a formation by formation basis. To keep it manageable, base it on the largest formations possible. In scenarios that field multiple companies per force, use companies as the basis. With smaller scenarios of a single company per side, use a company's individual platoons and sections as depicted in the force summaries; or use any predetermined grouping. The players need to agree upfront as to the initiative organization used and maintain that structure throughout the scenario.

It should be noted that this option requires that players note the order in which the Initiative was triggered, because the same order, in reverse, is followed during the Movement Phase [Exception see 7.42.3].

7.42.1 Determining Initiative – Initial First Player

During the Initiative Phase each Force selects a specific formation, rolls (100) and applies their Force Grade Modifier to their roll; the net result may be greater than 100 or less than 0. Reroll ties unless instructed otherwise in the scenario Special Conditions. Note that while formations trigger initiative on a formation by formation basis, Force Grade, not Formation or Unit Grade determines the modifier to apply.

The Force rolling the higher result is the First Player for the Indirect Fire Combat Step and resolves all Indirect Fire followed by the Second Player. Flip the Turn counter to indicate the initial First Player.

In scenarios where one or both Forces apply a Initiative DRM based on whether or not they won the Initiative during the previous turn, its application is determined by which Force was designated as the initial First Player the previous turn.

The First Player from above then utilizes the announced formation to resolve its fire first during the following Direct Fire Combat Step. Make a note of the formation executing its Direct Fire.

7.42.1.1 Subsequent Formations
After resolving the initial formation's Direct Fire, each Force again identifies a formation and rolls (100) and applies their Force Grade Modifier to their roll. The Force rolling the higher result is next to resolve its formation's fire during the Direct Fire Combat Step. The formation now firing may be from the same Force or the other Force. Make a note of the formation now executing its Direct Fire.

Continue identifying formations to next resolve their Direct Fire until all Direct Fire is complete. Note that one Force may have a greater number of formations than the other or resolve all of its Force's Direct Fire before the other Force. In that case, all of a Force's remaining formations resolve their fire in any order desired. The order of execution is still noted.

7.42.1.2 Combining Fire
All of a formation's fire on a single opposing unit must be announced before any of that formation's fire is resolved. Subsequent formations may again fire on this same unit by announcing all fire against the same opposing unit before any of that formation's fire is resolved.

Note that this is an exception to the rule where all units had to announce their Direct Fire against a single opposing unit before that fire was resolved (see 4.4.1, 6th bullet).

A unit that must take a Morale Check due to Direct Fire, takes a single check after all fire directed at it is resolved from all opposing formations. Use Under Fire counters as necessary to note pending checks. However, it must take the Morale Check before it resolves its own Direct Fire even if all opposing units have not yet fired. It still only takes a single Morale Check.

7.42.1.3 Overwatch Fire
After all formations have executed their Direct Fire, resolve all Overwatch Fire with the original First Player announcing and resolving its Overwatch Fire followed by the original Second Player.

7.42.2 Movement Phase
During that Step, the initial First Player announces and resolves all Close Assaults/Hand-to-Hand Combats followed by the initial Second Player.

During the Movement and Overrun Combat Step, formations execute their movement in reverse order with the last formation to resolve its Direct Fire moving first followed in reverse order ending with the formation that resolved its fire first moving last.

Overwatch Fire may trigger normally as each formation resolves its movement.

A unit that must take a Morale Check due to being Overrun, takes a single check after all Overruns directed at it are resolved.

7.42.3 Streamlined Movement Phase
The Movement Phase is executed as described in the Basic and Advanced Game. This eliminates the need to note the formation order in which the Initiative was initially triggered. The initial Second Player moves all units, followed by the initial First Play.

7.43 Recon Unit Capabilities [Expanded]
In addition to their current capabilities, recon units may also apply:

- +1 Spotting modifier on the Spotting Ranges Table
- +10 modifier when employing OR 7.7
- –1 modifier when employing OR 7.24
- +10 modifier when employing OR 7.41

7.44 Airborne operations
Airborne operations include the use of both paratroops and gliders. Both were a critical element of many Allied operations in Northwest Europe and in the Mediterranean. To a much lesser extent, Germany utilized and even maintained an airborne capability into the later stages of the war, although nothing approaching the massive scale employed by the Allies.

7.44.1 Paratroops
Parachute (airborne) infantry were often employed to spearhead attacks, screen ground forces, knock out or capture key positions and disrupt enemy lines of supply, movement and communications.

Their use requires plotting the turn of arrival and their Drop Zone hex. They are then "dropped" on the mapboard during the Movement Phase of their turn of arrival. They may be targeted by Overwatch Fire as moving units (see 7.44.1.3). Since aircraft are not utilized, paratroops are typically not subject to Anti-Aircraft Fire, but may be attacked in an abstract manner (see 7.44.1.4).

Any hex on the mapboard may be designated as a Drop Zone hex, even illegal landing hexes. The same Drop Zone hex may be plotted for any number of parachute units, although no more than 3 individual units may land in the same hex. Pathfinders are typically placed on the mapboard and are not dropped.

The possible turns of arrival are outlined in each Scenario's Setup Section. This information must be plotted prior to the placement of opposing forces. The conditions for use of Pathfinders are also outlined in each Scenario's Setup Section.

7.44.1.1 Parachute Landing
On the turn of arrival, during their Movement Phase, the paratroop units being dropped that turn are individually placed in their Drop Zone hex in any order desired.

1. Each unit must each check for scatter. Roll (d6); this represents the first scatter direction. Roll (d6) a second time to determine the second scatter direction. Reference the Directional Hex on the mapboard or geomorphic mapboards to determine the scatter directions. Keep the order of the scatter directions in hand.

2. Now roll (100) and reference the following Paratroop Scatter Table (OR) (also located on the back cover of Panzer Expansion #3) to determine how far the unit scatters in the first direction. Move the unit in the first direction the listed number of hexes. Then roll (100) a second time to determine how far the unit scatters in the second direction. Move the unit in the second direction the listed number of hexes; this is the unit's landing hex. Note that a unit could scatter 0 hexes in either or both directions or return to its original Drop Zone hex.

3. The number of hexes scattered assumes the paratroops are landing during Moonlight conditions. If during Day or Dusk Conditions, apply the listed modifier to each scatter roll.

4. Pathfinders only affect the original Drop Zone hex. If a Pathfinder is located in the Drop Zone hex, a -20 modifier applies only during Moonlight conditions to both scatter determinations.

5. If 3 or more friendly units (excluding Pathfinders) are currently located in the final landing hex (not the original Drop Zone hex or first scatter hex), reroll to determine the number of hexes to scatter,

procedure 2 above. Otherwise, the paratroop unit lands; check for landing status.

6. If a paratroop unit would scatter off the mapboard, the unit is instead placed in the edge hex and is moved no further. If this happens on the first scatter direction, the second scatter direction is ignored. If any opposing units are currently located in the edge landing hex, they are ignored as the paratroop unit is not actually located in that hex. Make a note of the number of hexes the unit was unable to scatter. This represents the number of turns the unit must wait before it becomes active. Once it becomes active, it may start in its edge landing hex or an adjacent hex, if free of opposing units. Otherwise, it may be moved to a further adjacent hex that is free of opposing units. Until it is active, it may not be targeted. It may be the target of Overwatch Fire the turn it becomes active.

7. If a paratroop unit lands in a hex containing just one or more opposing vehicles (no leg and/or towed units), after determining the paratroop unit's Landing Status, roll (d6) and reference the Directional Hex. Move the paratroop unit 1 hex in the indicated direction. If that hex is also occupied by just one or more opposing vehicles, roll (d6) again and move the unit 1 hex in the indicated direction until it lands in hex free of opposing vehicles. Do not again check for landing status. If the unit would move off the mapboard, rerol1 (d6).

8. If a paratroop unit lands a hex containing one or more opposing leg and/or towed units (the hex may also contain vehicles), an immediate Hand-to-Hand Combat is resolved after determining the paratroop unit's Landing Status. In this case, the opposing player chooses the defending unit in the combat if more than one leg and/or towed unit is in the landing hex. The paratroop unit applies a -10 modifier in addition to any other applicable modifiers (including Suppression) and may not utilize an attached flamethrower. This is the only case in which a Suppressed attacking leg unit may initiate a Hand-to-Hand Combat. Once the combat is resolved, if victorious, the paratroop unit occupies the hex if it is free from opposing units; if occupied by just vehicles, follow procedure 7 to move to a new hex. Do not again check for landing status. If additional opposing leg and/or towed units remain in the hex or the hex just moved into, additional Hand-to-Hand Combats are resolved until the paratroop unit is eliminated or all opposing leg and/or towed units are eliminated. For all subsequent combats the opposing player again chooses the defending unit in the combat, but the paratroop unit does not apply the -10 modifier.

7.44.1.2 Parachute Landing Status
With the exception of a paratroop unit that would scatter off the mapboard, once determining the actual landing hex, landing status is checked on the following Landing Status Table (OR) (also located on the back cover of Panzer Expansion #3).

Roll (100) and reference the terrain type in the landing hex:

- **NE (No Effect)**: the unit is unaffected and may begin normal ground operations.

- **SPR (Suppressed)**: the unit is Suppressed; mark it with a SUPPRESSED/ON counter.

- **HELM (Half-Eliminated)**: a half-squad or section is eliminated; a squad is reduced to a half-squad and Suppressed; mark it with a SUPPRESSED/ON counter.

- **ELM (Eliminated)**: the unit is eliminated.

1. Terrain hexsides, i.e., Crests, Hedgerows, Slopes, and Walls, do not affect paratroop landing status.

2. If a Stream hex is impassable, it is treated as a Water hex.

3. If Barrage Smoke is located in the landing hex, the modifier is +10. Wreck Smoke has no effect.

4. After determining landing status, paratroop units are immediately attacked by anti-personnel mines in the landing hex.

5. After determining landing status, paratroop units are immediately attacked by any barrages in the landing hex.

7.44.1.3 Parachute Overwatch Fire
Once a parachute unit reaches in final landing hex, i.e., after all Hand-to-Hand Combats are resolved, if any, it is subject to normal Overwatch Fire as it is considered a moving unit.

7.44.1.4 Parachute Anti-Aircraft Fire
At the players' option, they may apply this method of resolving anti-aircraft fire against paratroops. Allocate the anti-aircrft fire against all or a portion of the paratroops based on any desired methodology, e.g., by mapboard or turn.

It consists of a single GP Fire Combat versus each paratroop "stick" dropped. Note that paratroops did not typically jump during Day or Dusk conditions in the vicinity of any significant anti-aircraft fire.

A paratroop "stick" is defined as all paratroop units plotted to land in the same hex during the same turn up to a maximum of 3 squads or the equivalent in transport capacity, e.g., a squad and 4 half-squads. Pathfinder units are not subject to anti-aircraft fire. Roll (100) for each "stick" and apply the indicated result to all of its units:

- On a net result of 101+, the "stick" suffers an ELM (see 7.44.1.2).
- On a net result of 94-100, the "stick" suffers an HELM (see 7.44.1.2).
- On a net result of 81-93, the "stick" suffers an SPR (see 7.44.1.2).
- During Dusk conditions, apply a +5 modifier.
- During Day conditions, apply a +10 modifier.

7.44.2 Gliders
Often overshadowed by the more glamorous paratroopers, glider troops nonetheless played a very important part in airborne operations. Both US and British airborne divisions included regiment and brigade sized formations of glider troops.

Their use requires plotting the turn of arrival and the side of the mapboard from which they will enter. They are then placed on the mapboard during either Air Phase of their turn of arrival. Since gliders are aircraft, they are subject to anti-aircraft Fire (see 6.7.4.2).

Any side of the mapboard may be designated as the Arrival Area. The same Arrival Area may be designated for any number of gliders.

The possible turns of arrival are outlined in each Scenario's Setup Section. This information must be plotted prior to the placement of opposing forces.

7.44.2.1 Gliders
There are two types of gliders included in Panzer Expansion #3, the CG-4A Waco and the AS.51 Horsa. Both were utilized by US and British glider forces. In British service, the Waco was known as the Hadrian. Since they do not have individual Data Cards, their specifications are listed below:

CG-4A Waco/Hadrian #336
- PTS: 45
- SP: 175 Km/h
- TR: 0-2
- WT: 3.4
- Unarmed
- GPD: 1S
- Landing Distance: 2 hexes

NOTES: May transport a single Jeep (U-17A), when doing so, the transport capacity is reduced to TR: 0-1*; may only transport section-sized leg units.

AS.51 Horsa #344
- PTS: 60
- SP: 160 Km/h
- TR: 1-4
- WT: 7.0
- Unarmed
- GPD: 2S
- Landing Distance: 3 hexes

NOTES: When transporting a towed unit, the transport capacity is reduced to TR: 1-1. May transport a single Jeep (U-17A), when doing so, the transport capacity is reduced to TR: 0-2.

7.44.2.2 Glider Landing
On the turn of arrival, during either the 1st or 2nd Air Phase, the gliders arriving that turn are individually placed in any edge hex in their Arrival Area in any order desired.

1. The player controlling the glider places it in the edge hex while the opposing player faces the glider to any one of two or three possible hexsides facing inward on the map or map panel.

EXAMPLE: If a glider is placed in hex 19A5, it may face either hexside 2 or 3. If placed in hex 19J10, it may face hexside 1, 2 or 6.

2. A glider enters at Slow Speed and Low Altitude. It flies just like other aircraft (see 6.7.2) to its landing hex. It must land during the current Air Phase.

3. A glider may make two turns as long as it moves at least 3 hexes between turns. If Suppressed by anti-aircraft Fire, it may not make any remaining turns.

4. If Damaged by anti-aircraft Fire, roll (10). The result is the number of hexes the glider moves forward from its front facing before it touches down. If it moves off the mapboard, it and all passenger units are eliminated.

5. If eliminated by anti-aircraft fire, follow the crash procedure (see 6.7.4.2.1); the crash GP Factor is 10. All passenger units are also eliminated.

6. Once a glider reaches its Landing Hex, the player announces that the glider is touching down.

7.44.2.3 Glider Landing Status
Glider landing status is checked on the Landing Status Table (OR) (located above and also on the back cover of Panzer Expansion #3).

Roll (100) and reference the terrain type in the landing hex; apply the result to all passenger units:

- **NE (No Effect)**: the passenger units are unaffected and may begin normal ground operations.

- **SPR (Suppressed)**: the passenger units are Suppressed; mark them with a SUPPRESSED/ON counter.

- **HELM (Half-Eliminated)**: passenger half-squads, sections, and towed units are eliminated; passenger squads are reduced to half-squads and Suppressed; mark them with a SUPPRESSED/ON counter.

- **ELM (Eliminated)**: all passenger units are eliminated.

1. Gliders automatically apply a +20 modifier.

2. If a Pathfinder is located in the touchdown hex, a -10 modifier applies only during Moonlight conditions.

3. If the glider is Suppressed and/or Damaged, apply a +20 modifier for each status.

4. If a Stream hex is impassable, it is treated as a Water hex.

5. If Barrage Smoke is located in a landing hex, a +10 modifier is applied if checking the hex. Wreck Smoke has no effect.

6. Gliders have a Landing Distance equal to 2 or 3 hexes. This represents the number of hexes a glider will move, including its touchdown hex, from its front facing once it touches down until it reaches its final landing hex.

7. If a glider changes elevation down 1 or 2 levels by crossing a Slope hexside, 1 hex is added to its Landing Distance. If it changes elevation up 1 or 2 levels by crossing a Slope hexside, 1 hex is subtracted from its Landing Distance. In this case, a glider must still resolve the Slope hexside landing status even if it does not enter the next hex. If it changes elevation up or down by 3 or more levels or crosses a sheer edge or cliff, it is eliminated and all passengers are also eliminated.

8. A glider must check landing status for each hex it enters while landing only if the terrain type in a hex is different from the terrain type in the previous hex.

9. If crossed, a terrain hexside is checked for landing status regardless of the terrain type in the two connecting hexes.

10. No matter the outcome, the glider is replaced with a WRECK counter in the final landing hex and removed from play. If the passenger units are not eliminated in the landing they are also placed in the final landing hex. They may face in any direction.

11. If the final landing hex contains any opposing units, roll (d6) and reference the Directional Hex. Move all passenger units 1 hex in the indicated direction. If that hex is also occupied by any opposing units, roll (d6) again and move the units 1 hex in the indicated direction until it lands in hex free of opposing units. Do not again check for landing status. If the units would move off the mapboard, reroll (d6).

12. Prior to determining landing status, gliders are immediately attacked by any anti-vehicular mines in a landing hex. Track hits are ignored. If Damaged, the glider applies that status to any remaining landing status checks.

13. Prior to determining landing status, gliders are immediately attacked by any barrage in a landing hex. If Suppressed or Damaged, the glider applies that status to any remaining landing status checks. If Eliminated, replace the glider with a WRECK counter and eliminate all passenger units.

14. After determining landing status, passenger units are immediately attacked by any mines in the final landing hex.

7.44.2.4 Glider Overwatch Fire
Once a glider reaches its final landing hex, the passenger units are subject to normal Overwatch Fire as they are considered moving units.

7.45 Bocage Country
Bocage is a Norman word that refers to fields and country lanes located between narrow low ridges and banks enclosed by tall thick hedgerows. This is the infamous terrain in Normandy referred to as the "Hedgerows" by the US forces.

Hedgerow hexsides basically block the line-of-sight of units on opposite sides. With this option, leg units may "dig in" to Hedgerow hexsides enabling them to expand their ability to spot units on the opposite side of Hedgerow hexsides.

To dig a leg unit into a Hedgerow hexside, it must have a MOVE command. It remains in its current hex and is marked with a LOCATION counter with the INB side facing front. It may also be in Full Cover by marking it with a second LOCATION counter with the FC side facing front.

Once dug in to a Hedgerow hexside, a leg unit may spot and be spotted normally as if the Hedgerow hexside did not exist. In the same manner

as Brick Building hexes, it is considered to be in Heavy Cover for spotting and to be in Medium Cover for defensive purposes on either side of the Hedgerow hexside.

To exit from a dug in Hedgerow hexside, mark a MOVE or SHORT

HALT command. The INB LOCATION counter is removed during the Movement Phase. It now occupies the hex adjacent to the Hedgerow hexside it started from. It may Crawl out if eligible.

Thanks to Jeff Coyle for suggesting this optional rule.

7.46 Artillery Air Bursts
All Indirect Fire, mortar Direct Fire and aircraft delivered bombs or rockets directed at targets located in Light Woods, Woods, Heavy Woods, Light Grove or Grove hexes may cause additional damage due to shrapnel/splinters created from explosions in the trees.

Affects all 'S' and 'P' type targets and Open 'A' type targets (OR, see 7.8) by applying +10 modifier.

7.47 Dismounted FOs
Integrated vehicle crew based FOs may separate from the crew and dismount and move independently from their parent vehicle. The FO dismounts normally; add a leg unit section to represent the dismounted FO. If required due to combat results, it may not bail out from the parent vehicle crew and act as an independent leg unit.

When dismounted, it functions as a leg FO unit. However, it applies a –10 modifier for all GP Fire, Close Assault and Hand-to-Hand Combats it initiates. The parent vehicle is unaffected and may operate normally as an independent unit.

The FO section may remount its parent vehicle normally; remove the leg unit section. It may also mount a different vehicle as a normal passenger unit.

7.48 Delayed Reaction
Units may not be prepared for action or may be surprised by the appearance of opposing forces. Therefore, there is a delay in responding to sighting opposing units. This is represented by a delay before the unit may operate normally. Until that time, the unit must have an N/C command marked.

Scenarios 28, 31 (Panzer Expansion #3) and 49 (Panzer North Africa) have Delayed Reactions.

7.49 Vehicle Assault Cover
Vehicles normally provide Light Cover for leg units when located in the same hex. With this Optional Rule, when advancing, a limited number of leg units are also able to utilize the cover from vehicles.

All vehicle types may provide assault cover for leg units. Each vehicle provides Light Cover for a squad, or two half-squads, or a half-squad and a section, or 2 sections sized units. Covered leg units do not apply the –2 GP Defense Movement modifier.

The covered leg unit(s) must be dismounted, not in Full Cover and start its turn in the same hex as the vehicle. The vehicle and the covered leg unit(s) must share the same MOVE or SHORT HALT command. If the units are from different formations (exception to 6.2.1.1.3), the shared command may be from either formation. During their Movement Phase, the vehicle and covered leg unit(s) are moved at the same time to indicate Vehicle Assault Cover and must remain in the same hex.

Leg units may utilize Vehicle Assault Cover to execute Hand-to-Hand or Close Assault Combats against adjacent units or to advance into Hand-to-Hand or Close Assault Combats both with a MOVE command.

The vehicle and the covered leg unit(s) may be individually targeted for Direct and Overwatch Fire.

Thanks to Randall Garlington for suggesting this optional rule.

7.50 Defensive Fire
The Command Control rules limit the number of unique commands each company may utilize per turn potentially forcing some of the units to mark N/C commands (see 6.2.1). Typically, a unit may not perform any actions when marked with an N/C command.

When employing this option, units with N/C commands may defend themselves, but only when fired upon with Direct AP or GP Fire. If fired upon, the unit may return fire, as if Overwatching, against a single firing unit if it can spot the unit and it is within its Field-of-Fire. If also employing Optional Rule 7.8 Turrets, see section 7.8.4.

It must apply a –2 AP Hit Modifier or a –10 GP Fire Modifier in addition to any other applicable modifiers including the applicable Overwatch modifier.

If later attempting to recover from a Suppression or Morale Break after utilizing Defensive Fire, apply the Command other than N/C +20/–20 modifier.

7.51 Illumination [new counter Expansions 3 & 4]
See 7.27.

7.52 Command Span
Even in a tactical setting, command units perform critical roles beyond the function of morale support and recovery. By maintaining communications with their subordinate units, they effectively carry out a command role.

To maintain communications, subordinate units must be within a certain range of their command unit(s). In turn, the command units must be within a certain range of higher level command units. In game terms, these various ranges are called Command Span.

While many different command elements are affected, Command Span focuses on a subordinate unit's ability to engage in combat and maneuver across the battlefield.

Combat is a more basic element than maneuver. Units commanded to Fire or Overwatch are much more able to carry out those commands without interaction from their command unit(s) than those units ordered to Move or Short Halt. N/C commands are unaffected by Command Span.

Company (CHQ)
The CHQ is the smallest, or lowest command level. The Command Span from any CHQ is 10 hexes to any subordinate unit from its formation. A subordinate unit only needs to be within range of a single CHQ from its formation if more than one CHQ is available. CHQs do not provide any command authority for units outside of their formation.

Typically, the company-level Command Span is not modified for Formation Grade, although it may increase or decrease due to other factors, for example, nationality, a large number of subordinate units (decrease) or a defensive posture (increase).

- If *any* company-level subordinate units are out of the Command Span, excluding recon units, and any units will be moving, again excluding recon units, (Move and/or Short Halt commands), regardless if those specific units are out of the Command Span or not, the maximum number of Move and/or Short Halt commands available is equal to ½ (round down) of the total available commands (minimum 1). The total number of available commands is not affected.

- After the loss of *all* company CHQs (elimination, bail out, knock out or brew up), there is a permanent reduction of the total available Move and/or Short Halt commands by ½ (round down) of the total

available commands. The total number of available commands is not affected.

- Units without radio sets (see 7.4) have their Command Span reduced to 0.

Battalion (BHQ)

The BHQ is the intermediate, or middle command level. All CHQs are subordinate to one or more BHQs. The Command Span from *any* BHQ is 20 hexes to its subordinate CHQs.

Typically, the battalion-level Command Span is not modified for Formation Grade, although, like company-level command spans, it may be increased or decreased due to other factors.

In many cases, BHQs will be positioned somewhere off map, since they are not listed as part of a scenario's forces. In that case, it is assumed that any CHQs are within the 20 hex Command Span even if located more than 20 hexes from the mapboard edge. A scenario could include special conditions where this could be modified or adjusted.

- If a CHQ is out of the Command Span from its BHQ, its formation must move two rows down in the Available Commands table, minimum Green, when determining its available commands.

- After the loss of all BHQs (elimination, bail out, knock out or brew up), there is a permanent move of two rows down in Available Commands table, minimum Green, when determining its available commands.

- Units without radio sets (see 7.4) have their Command Span reduced to 0.

Regiment (RHQ)

The RHQ is the highest, or top command level. All BHQs are subordinate to one or more RHQs. The Command Span from any RHQ is 20 hexes to its subordinate BHQs.

Typically, the regiment-level Command Span is not modified for Formation Grade, although, like battalion-level command spans, it may be increased or decreased due to other factors.

In just about all cases, RHQs will be positioned off map, since they are not listed as part of a scenario's forces. In that case, it is assumed that any BHQs are within the 20 hex Command Span even if also located off map or located more than 20 hexes from the mapboard edge. A scenario could include special conditions where this could be modified or adjusted.

- If a BHQ is out of the Command Span from its RHQ, all of its company-level formations must move two rows down in the Available Commands table, minimum Green, when determining its available commands. Cumulative with Battalion-level above.

- After the loss of all RHQ (elimination, bail out, knock out or brew up), there is a permanent move of two rows down in Available Commands table, minimum Green, when determining its available commands. Results are cumulative.

- Units without radio sets (see 7.4) have their Command Span reduced to 0.

7.53 Voluntary Bail Out

Bailout is normally a non-player controlled event triggered by specific combat results. However, this may result in challenging situations when employing the Command Span optional rule (see 7.52).

Damaged Vehicles or vehicles with just Hull Damage (see 7.56) and Track hits invariably fall behind, causing gaps in the required command span when commanding moving units.

Players may prefer to place those vehicles out of action. When the situation arises, during the Adjust/Remove Counters Step (see 6.8.4) of the Adjustment Phase, place a Bail counter on or next to the vehicle.

7.54 Quickdraw

Quickdraw is a method by which a Second Player Unit (SPU) simultaneously executes Direct Fire against a First Player unit (FPU) that just announced Direct Fires against that SPU. To execute Quickdraw, the SPU:

- Is unsuppressed, unbroken and not hesitating.
- Must have an unrevealed Fire Command.
- Must have spotted the FPU during the current turn's Spotting Phase and has the FPU within its current field-of-fire.
- Must have Unit Grade superior to that of the FPU.
- Reduces its RoF to 'N' if not already 'N'.

7.55 Leaders

Leaders add a powerful new dynamic to Panzer. They represent individuals of various ranks and skills that can influence gameplay in a number of unique ways. In almost all cases, scenarios do not indicate the presence of any particular leader or leaders. Players may freely add any number of leaders or none at all. Just decide by mutual agreement. Follow the recommended command structure below, or just go with whatever works. There is no correct or incorrect approach as battlefield conditions make for very fluid situations. There may be occasions where junior officers or NCOs find themselves in overall command or senior officers are commanding only a small contingent.

For the purposes of these rules, RHQ level (regiment/brigade) commanders are not addressed. Those commanders are considered to operate off-map or, when on-map, without a named leader.

7.55.1 Leader Employment

At the start of a scenario, leaders must attach to any vehicle, leg or towed unit; they may not attach to aircraft. They may also arrive later in a scenario as part of a relief or reinforcement formation, again attached to any vehicle, leg or towed unit.

Leaders never operate independently. They must attach to a combat unit at all times; place the leader counter under the attached unit. A unit may only have a single attached leader. The attached unit's Grade or its Formation Grade is unaffected by the presence of a leader.

Leaders are never individually targeted. If in play, they are visible at all times unless part of a hidden unit. If the attached unit is lost (elimination, bail out, knock out or brew up), the leader is permanently removed from play. Leaders do not have VPs and, therefore, do not factor in when determining victory in a scenario whether they are present, survive or are lost.

No VPs? What value can be placed on the impact a leader or leaders does or does not have on the outcome of a scenario? In many cases, it could be purely subjective or emotional. There may be a favorite leader or one that turns the tide of battle or has no measurable impact. It is really up to the players to make that determination.

If attached to a vehicle, leg or towed unit designated in a scenario as an FO or command unit (BHQ or CHQ), the leader automatically assumes the role as that FO or command unit. Leaders do not gain or lose FO or command statues when transferring to a new unit even if that new unit is also an FO or command unit. Integrated vehicle crew based FO leaders may dismount; exception to below (see 7.47).

Leaders attached to a vehicle may never transfer to another unit; they remain with that vehicle for the duration of the scenario. Leaders attached to leg or towed units, may transfer to another leg or towed unit from the same formation when located in the same hex; they may not transfer to vehicles. If an FO or command unit (BHQ or CHQ) that status transfers with the leader.

No specific command is required to transfer, just shift the leader counter to the new leg or towed unit at the conclusion of the Adjustment Phase after all of the adjustment steps are complete.

Leaders may not transfer from a leg or towed unit that is suppressed, hesitating and/or broken. However, they may transfer to a suppressed, hesitating and/or broken leg or towed unit.

7.55.2 Leader Effects
- (A) AP Combat: + AP Hit modifier
- (G) GP Combat: + GP dice roll modifier
  - Also used for Close Assault, Hand-to-Hand and Overrun combat resolutions
- (S) Suppression Recovery: – dice roll modifier
- (M) Morale: + dice roll modifier
- (P) Spotting: + Spotting Ranges modifier
- (R) IF Response: + Indirect Fire Response modifier

General
Command: In the same manner as Recon units, all leaders automatically command the attached unit; this command does not count towards its formation's command limit.

Leader modifiers are cumulative with all other combat, suppressed, morale, spotting or IF response modifiers. Leaders may apply any and all applicable modifiers during a turn. If more than one leader could be applicable, only the modifiers from a single leader come into play. Multiple leader modifiers are never applicable at the same time on the same unit.

It is not necessary to utilize the same leader for all actions; if there is a choice, utilize the leader that offers the greatest advantage.

AP and GP Combat
(A) AP and (G) GP Combat modifiers apply to all of the attached unit's weapons and any attached weapons. If the leader is also acting as a command unit (BHQ or CHQ), a single leader's (A) AP or (G) GP Combat modifiers are applicable to all other units' weapons and any attached weapons from the same formation within command range.

Close Assault and Hand-to-Hand Combat
Close Assault and Hand-to-hand Combat modifiers apply singly per combat, not per unit in the combat, and only to the combat including the leader regardless if the leader is also acting as a command unit (BHQ or CHQ). The attached unit does not need to be the primary attacker.

Overrun Combat
Overrun modifiers apply only to the attached vehicle. They do not apply to any other Overrun combats even against the same target unit regardless if the leader is also acting as a command unit (BHQ or CHQ).

Suppression
The (S) Suppress modifier applies only to the attached unit unless the leader is also acting as a command unit (BHQ or CHQ). In those cases, a single leader's (S) Suppress modifier is applicable to all other units from the same formation within command range.

Morale
The (M) Morale modifier applies only to the attached unit unless the leader is also acting as a command unit (BHQ or CHQ). In those cases, a single leader's (M) Morale modifier is applicable to all other units from the same formation within command range.

This modifier is an exception and is in addition to the +20 Command Unit with in Cmd Rng limit (see 7.1.4).

Spotting
The (P) Spotting modifier applies only to the attached unit regardless if the leader is also acting as a command unit (BHQ or CHQ).

If attached to a recon unit, this modifier is in addition to the +1 Recon Spotting modifier (see 7.43).

Spotting modifiers do not apply to optional rules 7.4 and 7.7; the application of those rules is unaffected by attached leaders.

IF Response
The (R) IF Response modifier applies only to leaders when acting as FOs, command units (BHQ or CHQ), or attached to recon units and applies only to the attached unit regardless if the leader is also acting as a command unit (BHQ or CHQ).

If the result is an unmodified 1, a Danger Close friendly fire incident may still occur (see 6.5.1.10).

7.55.3 Force Leaders
Ten double-sided leader counters are included for each force for a total of twenty individual leaders—two of each rank.

Rank titles are not included on the individual Leader counters. Some are just too long or the requisite abbreviations would not be clear. So, just the leader surnames along with their national rank insignia are included.

Across the forces, equivalent ranks do not exist across all of the nations. Some interpretations were made to keep the information consistent.

The following tables summarize each force's leaders to assist in associating the various rank insignia with the rank titles and leaders. Also included are recommended command structures.

German
- **CHQ**: Lieutenant or Captain; additional CHQ from same formation the same rank or one or two ranks lower
- **BHQ**: Major or Lt. Colonel; additional BHQ from same formation the same rank or one or two ranks lower
- **FO**: Typically a junior officer or senior NCO
- **Platoon**: Typically a junior officer or senior NCO

In the German Heer, there was a strictly defined system of corps colors on collar patches, uniform piping and the colored edging around the shoulder boards or shoulder straps. This system of colors, Waffenfarben, denoted combat service branches, administrative and ministerial areas, and the general staff.

Rose-Pink: all Panzer Troops, e.g., Bauer, Sauer

White: Infantry, e.g., Steiner, Winter

Golden-Yellow: Reconnaissance, e.g., Mayer, Pfeiffer

Copper-Brown: Motorcycle Infantry, e.g., Lehmann, Klein

Red: Artillery, Assault Guns, e.g., Schmidt, Otto

Meadow-Green: Panzergrenadiers, Motorized Infantry, e.g., Lange, Winkler

Light-Green: Jäger, Mountain Troops, e.g., Weber

Black: Pioniere, Armored Engineers, e.g., Koch, Haas

These are provided for illustrative purposes only, and do not limit the use of leader counters in any particular scenario or setting. Other colors, not included here, were also utilized, e.g., blue for supply troops.

Soviet
- **Tank CHQ**: Sr. Lieutenant or Captain

- **Motor Rifle CHQ**: Lieutenant or Sr. Lieutenant

- **Tank BHQ**: Major or Lt. Colonel

- **Motor Rifle BHQ**: Major or Captain, in some cases Lt. Colonel

- **FO**: Typically a junior officer

- **Tank and Motor Rifle Platoon**: Jr. Lieutenant or senior NCO

Note that in most cases, Soviet companies and battalions included a non-command level political officer (zampolit), often a Lieutenant or Jr. Lieutenant.

Unlike many forces, the Soviet Army did not foster a professional class of NCOs. In most cases, Soviet Army NCOs did not fill many of the specialized and leadership roles typically held by other NCOs; those were filled by Soviet officers. In contrast, Soviet Army NCOs filled many of the roles held by other ranks in other nations. As a result, their numbers were somewhat larger as a fraction of the total forces.

US

- **CHQ**: 1st Lieutenant or Captain; additional CHQ from same formation the same rank or one or two ranks lower

- **BHQ**: Major or Lt. Colonel; additional BHQ from same formation the same rank or one or two ranks lower

- **FO**: Typically a junior officer or senior NCO

- **Platoon**: 2nd Lieutenant or senior NCO

British

- **CHQ**: Lieutenant or Captain; additional CHQ from same formation the same rank or one or two ranks lower

- **BHQ**: Major or Lt. Colonel; additional BHQ from same formation the same rank or one or two ranks lower

- **FO**: Typically a junior officer or senior NCO

- **Platoon**: Typically a junior officer or senior NCO

French

- **CHQ**: Lieutenant or Captain; additional CHQ from same formation the same rank or one or two ranks lower

- **BHQ**: Major or Lt. Colonel; additional BHQ from same formation the same rank or one or two ranks lower

- **FO**: Typically a junior officer or senior NCO

- **Platoon**: 2nd Lieutenant or senior NCO

The color of French officer sleeve and cap rank insignia denoted service branch. The cavalry arms wore silver while the other arms wore gold. The Lt. Colonel rank was the exception where alternating silver and gold flashes were utilized.

Italian

- **CHQ**: Lieutenant or Captain; additional CHQ from same formation the same rank or one or two ranks lower

- **BHQ**: Major or Lt. Colonel; additional BHQ from same formation the same rank or one or two ranks lower

- **FO**: Typically a junior officer or senior NCO

- **Platoon**: 2nd Lieutenant or senior NCO

7.56 Hull and Turret Damage [new counter]

See 6.5.2.2.4, 6.5.2.5, and 6.5.4.4.2.

7.57 Tank Crew Size

Following their debut during the Great War, tank design went through a number of innovative stages. By the late 1930s, it was determined that crew effectiveness was not only governed by the physical positions within a tank, but also the by the distribution of duties, i.e., commander, gunner, loader, driver, and, possibly, other roles, e.g., hull machine gunner.

As such, a three-man crew was considered the minimum size for an effective distribution of duties. With one crew member acting as a driver, and the remaining two crew members assuming the roles of gunner, loader and commander.

It goes without saying that a tank commander's effectiveness was reduced by splitting time between roles like commander/loader or commander/gunner. That is why the most effective tanks had four or five man crews, where each crew member assumed only a single role.

A number of early war tanks had two-man crews where the commander also acted as the loader and gunner or in some rare cases, three-man crews where the commander still performed all three roles. This placed a huge demand on him and, understandably, had a negative impact on his situational awareness, thereby reducing his effectiveness in all three roles.

In those cases where one man had to perform all three roles, these tanks have a "CREW" notation listed on their Data Cards. This is found immediately below the vehicle's Points in the upper right corner of their data card, e.g., F-1A R-35.

Apply the following modifiers and effects:

- –1 Direct Fire AP modifier
- –5 GP Direct Fire modifier
- If also acting as a CHQ, –1 total available commands (minimum 1). If more than one "Crew-Type" CHQ is available to the formation, the modifier is still only –1.
- If also acting as a BHQ, reduce its Command Span to 10 hexes to its subordinate CHQs. If already less than 10 hexes, retain that Command Span.
- If also acting as a RHQ, reduce its Command Span to 15 hexes to its subordinate BHQs. If already less than 15 hexes, retain that Command Span.

Note that Morale, Called Artillery Response and Overrun Combats are not affected since the tank commander is considered to be fully focused on those actions at the time of execution.

In addition to the tanks included in Panzer Expansion #4, the following tank would also fall under this optional rule:

- Soviet S-1A T-70 M42

Note that the design of this optional rule excludes those vehicles armed only with machineguns (MMGs), e.g., German G-35A (Panzer)/G-1A (Panzer North Africa) PzKpfw IB, and those armed with guns and heavy machineguns (HMGs) fed by multi-round magazines, e.g., F-5B2 AMR-35(H) or B-13A (Panzer North Africa) Humber Mk. II/III.

7.58 Counters

Included in Expansion 4, two new referenced counters were introduced to aid in play: Spot Small Arms and VP Reference. See 1.7.5 and 1.7.6.

7.59 Terrain

7.59.1 Brush

Brush terrain, e.g., 24J2, is treated as Light Cover for Spotting purposes but is considered None when determining the GP Defense Factor. Height is 0. Hull Down 01-10.

The movement cost is 1 for all Modes of Traction, i.e., L, T, H or W.

7.59.2 Crops
Crops terrain, e.g., 24D2, is treated as Medium Cover for Spotting purposes but is considered None when determining the GP Defense Factor. Height is 0. Hull Down 01-10.

The movement cost is 1 for all Modes of Traction, i.e., L, T, H or W.

7.59.3 Tracks
Track terrain represents the third tier of movement benefit after Roads and Paths. Hexes 21P5, 21CC2, 21FF2, 22V3, 22Y2 and 22BB2 (Panzer Expansion #4) are examples of Track terrain.

Vehicles do not possess a specific Track movement rate. Vehicles moving on a Track ignore the actual terrain costs in a hex expending only 1 of their Movement Speed Allowance for each hex entered (2 for reverse moves). Unlike Roads and Paths, vehicles are not required to start their move on a Track hex or to follow the route described by the Track for their entire move, or ending their move on a Track, but must enter a track hex and exit a track hex from a Track hexside to benefit.

Vehicle moves along a route that combines Track with Path and/or Road movement, use the Track rate for the entire move.

Tracks may be designated as narrow (see 7.30 Narrow Roads & Paths).

7.59.4 Airfield
Anvil-37 is the code name for the airfield located on mapboard 37 (Panzer North Africa).

It has two crossing runways, e.g., hex 37O5. Its main building is the control tower located in hex 37N6 with other support buildings, e.g., hangers, storage and maintenance, positioned around the airfield. The control tower hex is three stories high; the support building hexes are two stories high.

The wood buildings located along the road near the airfield, while not technically part of the airfield, are used for temporary housing and coordination when the airfield is in use for military operations. These building hexes are one story high.

Vehicle Movement
The runways and taxiways are considered Path hexes for vehicle movement. A Wreck (KO or BU) counter or an opposing vehicle does not prevent a vehicle from using its Path movement factor.

Arming & Refueling
Note that the following rules are not intended as a primer on aircraft operations and are therefore presented in a somewhat abstract form.

Scenarios may designate Anvil-37 for use as an arming and refueling point for aircraft. Typically, damaged aircraft may not be repaired.

Land aircraft (exception to 6.7.2 Aircraft Movement – Flying) along either of the two runways.

To land, aircraft must be at Slow Speed at Low Altitude.

It takes three Air Phases to arm and refuel aircraft. For example, if one lands in the 2nd Air Phase of turn 10, it could again take off in the 2nd Air Phase of turn 11. There are adequate resources to manage any number of aircraft at the same time. Scenarios may allow for alternate weapon loads.

Once refueled, aircraft reset their Loiter period (see 6.7.2.1 Aircraft Appearance & Loitering). They must take off at Slow Speed at Low Altitude along either of the two runways.

If a runway has a destroyed hex or hexes, aircraft must use the alternate runway. If both runways are destroyed, aircraft may not land or take off.

Direct Fire and Landed Aircraft
Landed aircraft may be spotted and attacked as S-Type vehicles for AP or GP Direct Fire. They are +2 Size for AP Direct Fire. If Knocked Out or Brewed Up, place the appropriate Wreck counter in the hex.

Note that landed aircraft could take off during the 1st Air Phase, negating them as a target. If that is the case, the ground units do not violate rule 4.6.1, although the Fire or Short Halt command is still considered executed.

Aircraft use their GP Defese Factor if 4 or less. If the GP Defense Factor is 5 or more, the maximum GP Defense is 4.

Controlling Anvil-37
Typically, to control the airfield, the control tower hex (37N6) must be occupied while at the same time a surrounding area designated in the Victory Conditions is completely free of opposing combat ground units (opposing aircraft do not exert control). Once these requirements are met, place the appropriate Control counter in the control tower hex.

Scenarios 66 and 67 (Panzer North Africa) have Anvil-37 as its objective.

7.60 Random Recon
This simulates units searching for an opposing force that may or may not exist within a search grid. The searching units move in a quasi-random manner varying their direction and amount of movement.

7.60.1 Movement
All units designated as Random Recon must have MOVE commands. Units individually determine movement, in any order, as determined by the controlling Force.

Before moving:

- Roll (d6); the result represents the direction of movement. Reference the directional hex on the mapboard to determine the direction of movement.
- Roll (10); and reference the Random Recon table listed in the scenario to determine how many hexes the unit may move.
- A unit must move at least 1 hex in the indicated direction unless prevented by prohibited terrain, e.g., vehicle into Heavy Woods or moving off-map. Amphibious units may treat an amphibious move as prohibited terrain; they are not required to enter traversable water hexes.
- The unit may move 2 or more hexes, as determined by the controlling Force, in the indicated direction up to and including the value determined from the Random Recon table as long as it follows the Movement rules.
- A unit may never exceed its Movement Factor or enter prohibited terrain. As such, a unit may be limited to less than the maximum number of hexes or no movement or pivoting if facing prohibited terrain.

7.60.1.1 Roads, Paths & Tracks
Random Recon vehicles starting their movement on Road, Path or Track hexes may employ the following special conditions. Leg and towed units are not eligible.

- Vehicles are eligible for the Road, Path and Track movement bonus. They may combine Road, Path and Track movement.
- They may continue to follow the route described by the Road, Path or Track deviating from the direction of movement. They are not required to exit the Road, Path or Track. For the first hex of movement, the vehicle must first move in the direction that matches or is closest to the direction of movement determined above. For example, if the direction of movement is '4' and a Road faces hexsides '5' and '2', the unit must move in direction '5'. If more than one hexside is closest to the direction of movement, the controlling force chooses the direction of movement. The vehicle may then follow the route described by the Road, Path or Track up to and including the value determined from the Random Recon table as long as it does not exit the Road, Path, or Track and follows the Movement rules and does not exceed its Movement Factor.

7.60.1.2 Sounds

Combat and vehicles, especially tracked vehicles, create sound when moving that may be detected by Random Recon units. Note that detection just provides a point of reference as to where a unit may be located. It must still be spotted.

• Any opposing tracked 'T' or half-tracked 'H' vehicle that moves (MOVE or SHORT HALT command) within 10 hexes at any point during its movement, regardless of intervening terrain, of a Random Recon unit, is detected.

• Any opposing wheeled 'W' vehicle that moves (MOVE or SHORT HALT command) within 5 hexes during its movement, regardless of intervening terrain, of a Random Recon unit, is detected.

• Moving leg and towed (manhandling) units are never detected.

• Any non-small arms fire, impacting artillery, mortar, or an explosion, e.g., aircraft bombs or bridge destruction by engineers, anywhere on the map, regardless of intervening terrain, of a Random Recon unit, is detected.

• Any small arms fire (including Close Assault and Hand-to-Hand combats) within 10 hexes, regardless of intervening terrain, of a Random Recon unit, is detected.

• Random Recon units may move to the hexside facing the direction of the detected sound following a straight path ignoring both the direction of movement and the value determined from the Random Recon table as long as it follows the Movement rules and does not exceed its Movement Factor. If more than one hexside faces a detected sound, the controlling force chooses the direction of movement.

• Random Recon units may continue movement to a detected sound by marking the hex with a VP counter.

7.60.2 Spotting

Random Recon units spot normally. Once an opposing unit is spotted, Random Recon is immediately cancelled and normal game play commences. Any Random Recon units that have not yet resolved their movement may move normally.

Glossary

(-): Under-Strength Formation

(+): Over-Strength Formation

A/ATG: Anti-Aircraft/Anti-Tank Gun

A: Ammo limits

A: Amphibious

AA: Anti-Aircraft

AAA: Anti-Aircraft Artillery

AAG: Anti-Aircraft Gun

AAMG: Anti-Aircraft Machinegun

Abteilung: Detachment

Active Unit: Combat units still in action counted for Command Control.

AG: Advanced Game component or rule

AMC: Automitrailleuse de Combat – Arm Car

AMD: Automitrailleuse de Découverte – Arm Car

AP: Armor Piercing

APC: Armored Personnel Carrier

APC: Armored Piercing Capped

APCR: Armor Piercing Composite Rigid

APDS: Armor Piercing Discarding Sabot

APFSDS: Armor Piercing Fin Stabilized Discarding Sabot

Arm Car: Armored Car

Armata Corazzata Africa: Armored Army Africa

ATG: Anti-Tank Gun

ATR: Anti-Tank Rifle. Hand-held anti-tank weapon.

A-Type: Armored Type Vehicle

Aufklärung: Reconnaissance Forces

B/C: Bicycle

BA: Broneavtomobil – Armored Car

Bat: Battalion

Battle Group: A combined arms force

Bgd: Brigade

BHQ: Battalion headquarters

Bis: Second version

Block: Prevent line-of-sight

BM: Batalyonny Minomyot – battalion mortar

Broken: A Morale categorization for units

BT: Bystrochodny Tankovy – Fast Tank

Bty: Battery

BU: Subject to brew-up modifier

BU: Brew-up

cc: Controcarro

CC: Combat Command – CCA, CCB, CCR

CE: Chemical energy ammo type or defense

CGMC: Combination Gun Motor Carriage

Char: Char d'Assaut – "Chariot" ~ tank

CHQ: Company headquarters

cm: Centimeter

Coax MG: Coaxial machinegun.

Combat Unit: Any armed unit. Unarmed units are not combat units.

Command: Special unit classification

Controcarro: Anti-tank

Cover: Terrain benefit

Coy: Company

CP: Cohesion Point

Danger Close: Indirect fire affecting friendly units

DF: Direct Fire

Div: Division

DMGD: Damage Hit

DS: Discharger Smoke

E: Extreme range

Elements: Only a portion of a unit is present

Engineer: Special unit classification

F: GP Factor

F: Fast rate-of-fire

FlaK: Fliegerabwehrkanone – anti-aircraft gun

Flakpanzer: Armored anti-aircraft vehicle

FO: Forward Observer, special unit classification

Full Cover: Increased defense for Leg and Towed units

Fucile: Rifle

Fusilier: Infantry or reconnaissance

Gebirgsjäger: Mountain Light Infantry

Gepanzert: Armored

GP Defense: Alphanumeric defensive classification

GP Factor: Numerical weight of GP Firepower

GP: General Purpose

GOC: General Officer Commanding

GPD: General Purpose Defense

Grenadier: Infantry

GrW: Granatenwerfer – mortar

Gun Tube: Individual artillery unit

H: Half-tracked mode of traction

Half-Track: Partially-tracked combat vehicle

HD: Hull-Down

HE: High Explosive

HEAT: High Explosive Anti-Tank

HEAT-MP: High Explosive Anti-Tank Multi-Purpose

Heer: German Army

Hesitation: A Morale categorization for units

HHATW: Hand-held anti-tank weapon

Hinder: Modifies combat effects

HMC: Howitzer Motor Carriage

HMG: Heavy Machinegun

HOW: Howitzer

HQ: Headquarters

HT: Half-Track

I: Illumination ammo limit

IF: Indirect Fire

IG: Infantry Gun

IL: Illumination

IMP POS: Improved Position

IR: Infrared searchlight night fighting

Jagdpanzer: Tank Destroyer

Jäger: Hunter – Light Infantry

Kampfgruppe: Battlegroup

KE: Kinetic energy ammo type or defense

KG: Kampfgruppe – Battlegroup

KO: Knock Out Hit

KwK: Kampfwagenkanone – tank gun

L: Leg mode of traction

L: Long range

le: Leichte – light

Leg: Collective term for units on foot

Luftwaffe: German Air Force

M/C: Motorcycle

M: Movement Factor

M: Medium range

M: Ranging Machinegun sight

Mech: Mechanized

Mechanized: Collective term for transported forces

Mecz: Mechanized

mm: Millimeter

MMC: Mortar Motor Carriage

MMG: Medium Machinegun

Mot: Motor

Mot: Motorized

Motorized: Transported by wheeled units

N: Normal rate-of-fire

N/A: Not Applicable

O: Optical sight

OB: Order of Battle

Observer: A unit able to call indirect fire

OML: Ordnance Muzzle-Loading

OQF: Ordnance Quick-Firing

OR: Optional component or rule

P: Point Blank range

P: Penetration Factor

PaK: Panzerabwehrkanone – anti-tank gun

Panzer: Armor

Pz. Grenadier: Armored Infantry

Panzerarmee Afrika: Panzer Army Africa

Panzerfaust: Armored Fist. Hand-held anti-tank weapon

Panzerjäger: Tank Hunter

PIAT: Projector Infantry Anti-Tank. Hand-held anti-tank weapon

Pionier: Combat Engineer

Plt: Platoon

PSW: Panzerspähwagen – armored car

PTRD: ProtivoTankovoye Ruzhyo Degtyaryova – antitank rifle. Hand-held anti-tank weapon

PTS: Points

P-Type: Protected Type Vehicle

PzB: Panzerbüchse – anti-tank rifle. Hand-held anti-tank weapon.

PzKpfw: Panzerkampfwagen – tank

Q: Quick rate-of-fire

R: Dual Driving Controls

R: w/o a radio

R: Range

R: Rapid rate-of-fire

Raggruppamento: Italian Battle Group

Range Factor: For AP or GP fire. P, S, M, L, or E

RCT: Regimental Combat Team – Task Force

RECAM: Raggruppamento Esplorante

Recce: Reconnaissance

Recon: Reconnaissance, special unit classification

Reg: Regiment

Regia Aeronautica: Royal Italian Air Force

Regio Esercito: Royal Italian Army

RHQ: Regiment or brigade headquarters

RM: Rotny Minomyot – company mortar

ROF: Rate-of-fire

Roll (10): Rolling a single 10-sided die

Roll (100): Rolling two 10-sided dice

RPzB 43/54: Panzershreck – Armored Terror. Hand-held antitank Weapon

RPzB: Rakete Panzerbüchse – Anti-Tank Rocket

RTR: Royal Tank Regiment

s: Schwere – heavy

S: Short range

Sapper: Combat Engineer

SB: Stabilization rating

Schwere: Heavy

SdKfz: Sonderkraftfahrzeug – special purpose

Sec: Section

Semoventte: Self-propelled

SHEAF: Indirect fire pattern

SMG: Submachinegun

Smk: Smoke

SP: Self-propelled

Spähpanzer: Scout Tank

SPW: Schützenpanzerwagen – APC

Sqd: Squad

Sqn: Squadron

ST: Sight type

StuG: Sturmgeschütz – assault gun

StuH: Sturmhaubitze – assault howitzer

S-Type: Soft Type Vehicle

SU: Samokhodnaya Ustanovka – Assault Gun

T: Tracked mode of traction

Task Force: Battlegroup

TF: Task Force

TK: Track Hit

TO&E: Table of Organization and Equipment

TR: Transport

Trp: Troop

Tᴛ: Turret Turn rating

Under Armor: Best defense for transported units

Under Cover: Increased defense for transported units

UNL: Unlimited

Vierling: Four-barreled

VP: Victory Point

W: Wheeled mode of traction

WL: White Light searchlight night fighting

Wᴛ: Weight in metric tons

Zgkw: Zugkraftwagen – prime mover

Index

Note: Topics with multiple entries may have one or more primary sections highlighted in **bold** text.

Main section references, e.g., 4.6, 5.9.1, 6.10, or 6.7.3.1, and some highlighted primary sections typically have additional references for the topic in the subsections immediately following the entry.

Terrain Key

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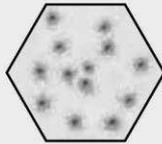
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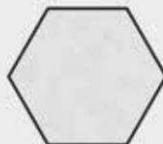
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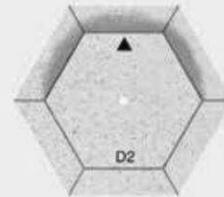
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Brick Buildings

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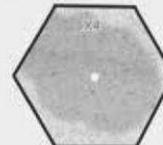
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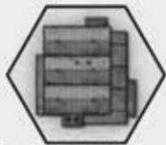
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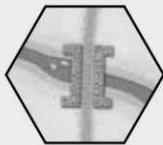
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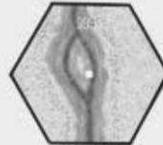
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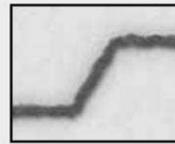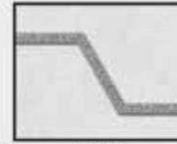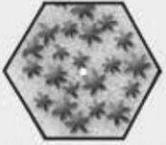
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Rough

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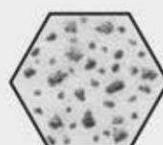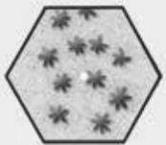
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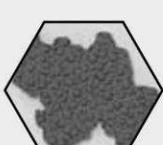
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Crest

Brush

Woods

Road

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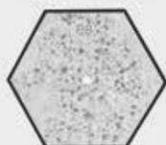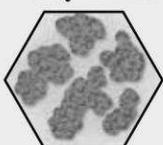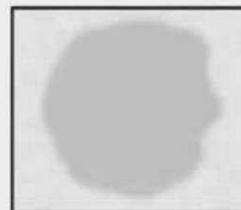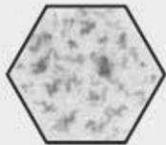
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Light Woods

Path

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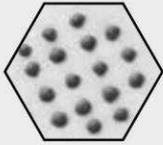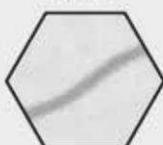
GMT Games, LLC
P.O. Box 1308, Hanford, CA 93232-1308
www.GMTGames.com

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