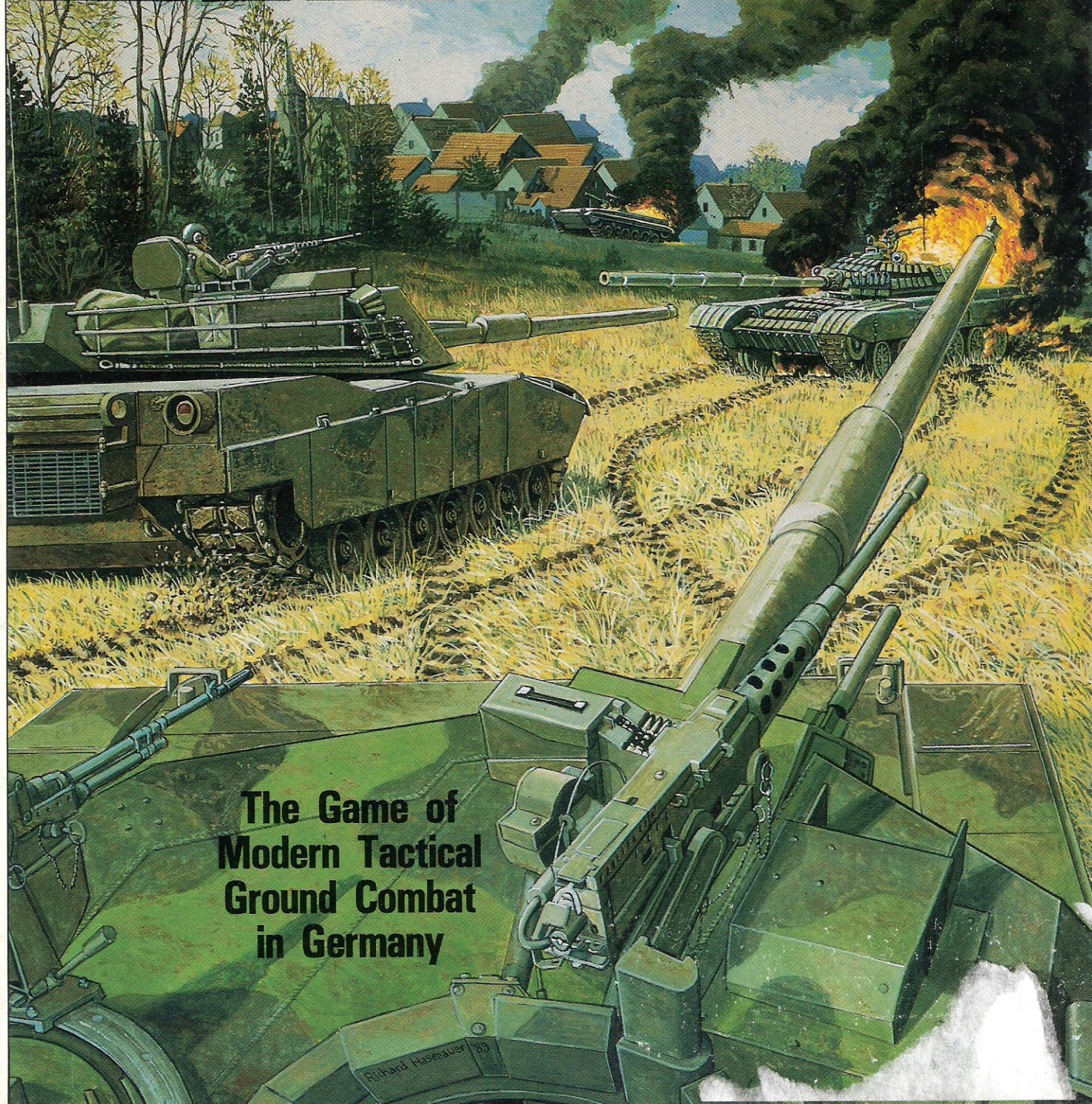


MBT[®]



**The Game of
Modern Tactical
Ground Combat
in Germany**

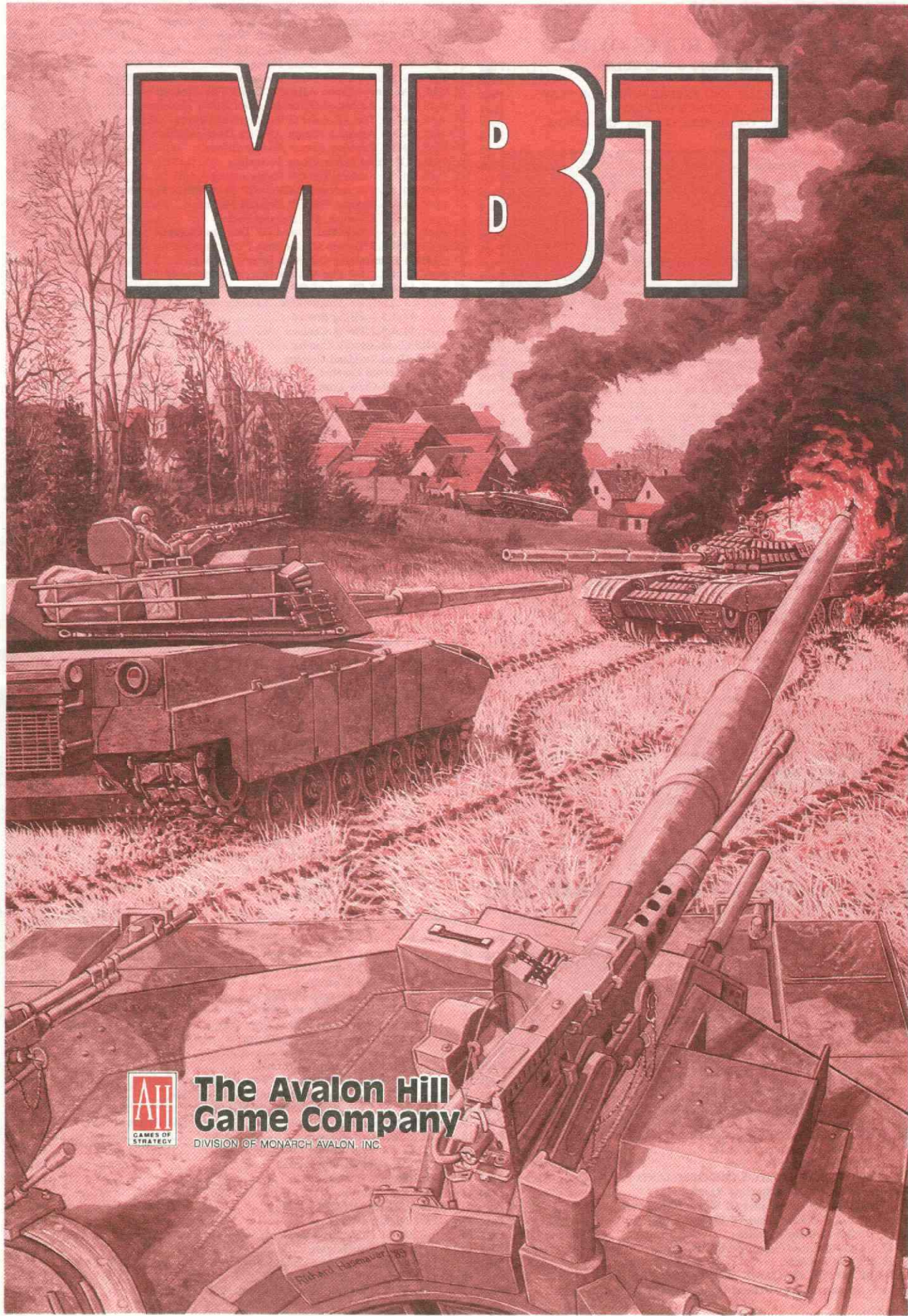


The Avalon Hill Game Company

DIVISION OF MONARCH AVALON, INC.

MBT IS AVALON HILL'S TRADEMARK FOR ITS MAIN BATTLE TANK GAME

MBT



**The Avalon Hill
Game Company**

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TABLE OF CONTENTS

MBT BASIC GAME RULES OF PLAY

INTRODUCTION TO THE BASIC GAME RULES	Page 4
[1.0] THE GAME COMPONENTS	Page 5
[2.0] BASIC GAME SETUP AND PREPARATION FOR PLAY	Page 5
[3.0] THE BASIC GAME SEQUENCE OF PLAY	Page 5
[4.0] GENERAL BASIC GAME PROCEDURES AND RULES	Page 5
4.1 Controlling Player Definition	Page 5
4.2 Reading The Dice	Page 5
4.3 Basic Game Stacking	Page 5
4.4 Unit Facing	Page 5
4.5 Marker Use And Facing	Page 6
4.6 Mapboard Sides—Partial Hexes	Page 6
4.7 Ranges	Page 6
4.8 Control/Objective Hexes	Page 6
[5.0] INITIATIVE	Page 6
[6.0] THE BASIC GAME COMMAND PHASE	Page 6
6.1 The Basic Game Sighting Step	Page 6
6.2 The Basic Game Mark Orders Step	Page 7
[7.0] BASIC GAME FIRING	Page 7
7.1 Basic Game Firing Sequence And General Rules	Page 7
7.2 Basic Game Ability To Fire	Page 7
7.2.1 Firing Arcs	Page 7
7.2.2 Basic Game Firing Missiles At Moving Targets	Page 7
7.3 Announcing Fire	Page 7
7.4 Basic Game Firing Procedure	Page 7
7.4.1 Finding The AP Factor	Page 7
7.4.2 The Basic Game AP Point Effect Modifiers	Page 8
7.4.3 Finding The AP Point Effect Hit Number	Page 8
7.4.4 Determining The Number Of Hits For AP Point Effect Weapons	Page 8
7.4.5 AP Point Effect Hit Locations	Page 8
7.4.5.1 Hit Angle Determination	Page 8
7.4.5.2 Hit Location Procedure	Page 8
7.4.5.3 Track And Main Gun Hits	Page 8
7.4.6 Determining Armor Penetration	Page 9
7.4.7 AP Point Effect Damage And Effects	Page 9
7.4.8 AP Point Effect Direct Fire Example	Page 9
7.5 Triggering Overwatch Fire	Page 9
[8.0] BASIC GAME MOVEMENT—VEHICLE MOVEMENT RULES	Page 9
8.1 General Movement Rules	Page 9
8.1.1 Movement Procedure	Page 9
8.1.2 Direction of Movement	Page 10
8.1.3 Reverse Moves	Page 10
8.2 Movement Factors	Page 10
8.3 Turning Within A Hex	Page 10
8.4 Entering New Hexes	Page 10
8.5 Road And Path Movement	Page 10
8.6 Movement Over Bridges	Page 10
8.7 Off-Board Movement	Page 10
8.8 Units From Both Sides In The Same Hex	Page 10
[9.0] THE BASIC GAME ADJUSTMENT PHASE	Page 10
9.1 The Basic Game Pivot Step	Page 10
9.2 The Basic Game Adjust Turrets Step	Page 10
9.3 The Basic Game Adjust Markers Step	Page 10
9.4 The Basic Game End Turn Step	Page 10
9.4.1 Record Turn's End	Page 10
9.4.2 Victory Points	Page 10
9.4.3 Determining A Winner	Page 11

MBT ADVANCED GAME RULES OF PLAY

INTRODUCTION TO THE ADVANCED GAME RULES	Page 11
[10.0] ADVANCED GAME SETUP AND PREPARATION FOR PLAY	Page 11
[11.0] THE ADVANCED GAME SEQUENCE OF PLAY	Page 11
[12.0] GENERAL ADVANCED GAME PROCEDURES AND RULES	Page 12
12.1 Terrain Heights	Page 12
12.2 Advanced Game Stacking	Page 12
12.3 Suppression	Page 12
12.4 Advanced Game Terrain Markers	Page 12
12.5 Squads And Half Squads	Page 13
12.6 Smoke Dischargers	Page 13
12.7 Grade	Page 13
12.8 Military Organizations	Page 13
12.8.1 Basic Organization Information	Page 13
12.8.2 Special Officers	Page 13
12.8.3 Echelons Of Organization	Page 13
12.8.4 Organization Variants	Page 13
12.9 Multiple Smoke In A Hex	Page 13
[13.0] THE ADVANCED GAME COMMAND PHASE	Page 13
13.1 Advanced Game Sighting Ranges	Page 13
13.2 Advanced Game Lines Of Sight—Hull Down	Page 13
13.2.1 Checking Lines Of Sight	Page 13
13.2.2 Hull Down Rules	Page 14
13.3 The Advanced Game Mark Orders Step	Page 14
13.4 Soviet Doctrine	Page 14
[14.0] ADVANCED GAME FIRING AND COMBAT	Page 15
14.1 Advanced Game General Firing Rules	Page 15

14.1.1 Advanced Game Weapons	Page 15
14.1.2 Independent Vehicle Machineguns	Page 15
14.1.3 Attached Leg Weapons	Page 15
14.1.4 Firing Gun Or Missile Weapons	Page 15
14.2 The Advanced Game Ability To Fire	Page 15
14.2.1 Advanced Game Firing Arcs	Page 15
14.2.2 Advanced Game Firing Missiles At Moving Targets	Page 15
14.3 Advanced Game AP Point Effect Fire Procedure	Page 16
14.3.1 Advanced Game AP Point Effect Modifiers	Page 16
14.3.2 The AP Point Effect Sight Modifiers	Page 16
14.3.3 Advanced Game AP Fire Damage Effects	Page 16
14.3.4 Reactive Armor And Its Effects	Page 16
14.4 GP Point Effect Firing Procedure	Page 17
14.4.1 Finding The GP Factor	Page 17
14.4.2 The Advanced Game GP Point Effect Fire Modifiers	Page 17
14.4.3 Finding The GP Defense Factor	Page 17
14.4.3.1 Vehicle GP Defense Factors	Page 17
14.4.3.2 Leg And Towed GP Defense Factors	Page 17
14.4.3.3 Terrain GP Defense Factors	Page 17
14.4.4 Determining GP Point Effects Damage	Page 18
14.4.4.1 GP Fire Results Determination	Page 18
14.4.4.2 Effects of GP Results	Page 18
14.4.5 Alternate Ammunition	Page 18
14.4.5.1 Firing Smoke	Page 18
14.4.5.2 Firing Canister	Page 18
14.5 Close Assault Combat	Page 18
14.6 Hand-To-Hand Combat	Page 19
14.7 Overrun Combat	Page 19
14.8 Total Crew Loss	Page 20
[15.0] ADVANCED GAME MOVEMENT RULES	Page 20
15.1 Leg Unit Movement Rules	Page 20
15.2 Towed Unit Movement Rules	Page 20
15.3 Vehicles Used For Transport	Page 20
15.3.1 Transport Values	Page 20
15.3.2 Loading And Unloading	Page 20
15.3.3 Special Rules For Transported Units	Page 20
15.3.4 Firing With Transported Units	Page 20
15.4 Movement In Building Hexes	Page 21
15.4.1 Locations Within Building Hexes	Page 21
15.4.2 Moving Leg Units Up And Down Inside Buildings	Page 21
15.4.3 Moving Vehicle Units Inside Buildings	Page 21
15.4.4 Moving Towed Units Inside Buildings	Page 21
15.4.5 Starting Inside Buildings	Page 21
15.5 Full Cover	Page 21
15.6 Path Restrictions On Main Guns	Page 21
15.7 Vehicles Laying Exhaust Smoke While Moving	Page 21
[16.0] THE ADVANCED GAME ADJUSTMENT PHASE	Page 21

MBT OPTIONAL RULES OF PLAY

INTRODUCTION TO THE OPTIONAL RULES	Page 22
[17.0] COMBAT OPTIONS	Page 22
17.1 Area Effect Fire	Page 22
17.2 Hit Variations	Page 23
17.2.1 Effects Of Turret Facing	Page 23
17.2.2 Special Leg Unit Losses	Page 23
17.2.3 Bailing Out	Page 23
17.2.4 Lower Front Hull Armor	Page 23
17.2.5 Optional Hull Down	Page 23
17.2.6 Radar/Missile Destruction	Page 24
17.2.7 Crew Loss=Officer Loss	Page 24
17.3 Weapon And Unit Limitations	Page 24
17.3.1 Weapon Depression/Elevation (DEP/EL)	Page 24
17.3.2 Limited Ammunition	Page 24
17.3.3 Fuel Limits	Page 24
17.3.4 Infantry Alternate Fire	Page 24
17.4 Leg Unit Variations	Page 24
17.4.1 "Elite" Infantry	Page 24
17.4.1.1 Squad Plus Infantry	Page 25
17.4.1.2 Assault Infantry—Flamethrowers	Page 25
17.4.1.3 Special Forces—Repelling	Page 25
17.4.2 Quickmarch	Page 25
17.4.3 Machinegun Pinning Fire	Page 25
17.4.4 Hasty Entrenchments	Page 25
17.5 Mines And Minefields	Page 25
17.5.1 Minefield Placement	Page 25
17.5.2 Minefield "Attacks"	Page 25
17.5.3 Eliminating Minefields	Page 26
17.5.3.1 Artillery Vs. Minefields	Page 26
17.5.3.2 Assault Infantry Vs. Minefields	Page 26
17.5.3.3 Mine Plows Vs. Minefields	Page 26
17.6 Reducing Unit Visibility	Page 26
17.6.1 Camouflage	Page 26
17.6.2 Less Visible Firing Weapons	Page 26
17.7 Amphibious Movement	Page 26
17.8 Weight Limitations	Page 26
17.9 Panic Moves	Page 26
[18.0] TERRAIN OPTIONS	Page 26
18.1 Nighttime	Page 26
18.1.1 Nighttime Movement	Page 26
18.1.2 Searchlights	Page 26
18.2 Ground Weather Conditions—Normal, Snow, And Mud	Page 27
18.3 Fires In Building Hexes	Page 27
18.4 Biological, Chemical, And Nuclear Environments	Page 27

[19.0] ARTILLERY	Page 27
19.1 General Artillery Information	Page 27
19.2 Artillery Order Plots	Page 27
19.3 Artillery Fire Resolution	Page 29
19.4 Artillery Counter Battery	Page 29
19.5 Soviet Artillery Doctrine	Page 29
[20.0] AIR UNITS AND ANTI-AIRCRAFT FIRE	Page 29
20.1 Aircraft Options	Page 29
20.1.1 Aircraft Load Restrictions	Page 29
20.1.2 Aircraft Movement	Page 29
20.1.3 Aircraft Combat	Page 30
20.1.3.1 Aircraft Sighting	Page 30
20.1.3.2 Aircraft Gun Combats	Page 30
20.1.3.3 Aircraft "Dropped" Weapon Combat	Page 31
20.1.3.4 Aircraft "Standoff" Weapon Combat	Page 31
20.2 Helicopter Options	Page 32
20.2.1 Helicopter Armaments	Page 32
20.2.2 Helicopter Movement	Page 32
20.2.3 Helicopter Combats	Page 32
20.2.3.1 Helicopter Sighting	Page 32
20.2.3.2 Helicopter Gun Combats	Page 33
20.2.3.3 Other Helicopter Armaments Combat	Page 33
20.2.3.3.1 Rockets	Page 33
20.2.3.3.2 Wire Guided ATGMs	Page 33
20.2.3.3.3 Laser Homing ATGMs	Page 33
20.2.4 Helicopter Observers	Page 33
20.3 Anti-Aircraft Options	Page 33
20.3.1 Reading Anti-Aircraft Information	Page 33
20.3.2 When Anti-Aircraft Fire Is Possible	Page 33
20.3.3 Sighting For Anti-Aircraft Fire	Page 33
20.3.4 Anti-Aircraft Combats	Page 33
20.4 Special Combats Against Helicopters	Page 34
20.4.1 Ground Attacks On Helicopters	Page 34
20.4.1.1 Artillery Vs. Flying Helicopters	Page 34
20.4.1.2 GP Fire Vs. Landed Helicopters	Page 34
20.4.2 Air-To-Air Combats	Page 34
[21.0] COMMAND CONTROL	Page 34
21.1 Command Points	Page 34
21.2 Radio Jamming	Page 35
21.2.1 Radio Jamming Procedure	Page 35
21.2.2 Communications Disruption Effects	Page 35
21.2.3 Landlines	Page 35
21.3 Multi-Player Rules	Page 35
[22.0] ARMORED VEHICLE LAUNCHED BRIDGE	Page 35
[23.0] PLAYING MBT IN MINIATURE	Page 35
[24.0] THE UMPIRED GAME	Page 36

TO&E LISTINGS

THE SCENARIOS

Scenario Format	Page 46
Scenario One: "Meeting Engagements"	Page 46
Scenario Two: "Delaying Actions"	Page 47
Scenario Three: "Defensive Engagements"	Page 48
Scenario Four: "Counterattack"	Page 49
Doing Your Own Scenarios	Page 49

THE RECORD SHEET

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MBT BASIC GAME RULES OF PLAY

INTRODUCTION TO THE BASIC GAME RULES

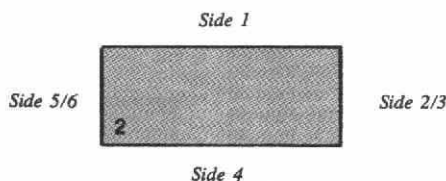
MBT is a tactical game of modern conventional ground combat in Western Europe designed to test the tactical skills of two or more players. The game's scale is approximately 100 meters per hex and one to five minutes per Turn. Units represent individual large weapons systems or groups of infantry, and show the most important and/or significant units utilized by the NATO (United States and West German) and Soviet forces. The game has information for setting up ground actions of various forms; these "scenarios" are flexible and give a great variety of games that can be played using the same rules.

The rules are lengthy, but need not be memorized, only carefully and thoroughly read and used as a reference for questions that arise during play. The rules are organized by a number code for quick reference, and the most commonly used and needed information is given on the Game and Data Cards for easy accessibility during play. The rules do not have to be learned at one sitting. Games can and should be played using only the Basic Game Rules (which is the game in its simplest form, using only a few of the vehicle combat units) until these are mastered. Additional, more complex rules can be added later as the players' tastes and interests dictate.

[1.0] THE GAME COMPONENTS

The following components are used for the play of **MBT**. Information *not* needed for play of the Basic Game is identified with an asterisk (*). Please inspect these components carefully, and familiarize yourself with them while reading through this section.

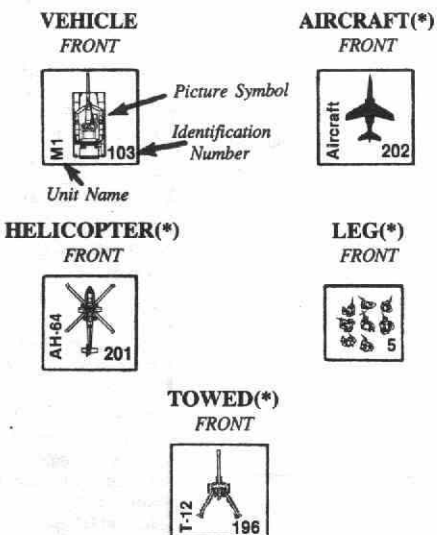
1.1 MAPBOARD: There are four mapboard "panels" included in the game. Each is numbered for identification (1-4) and shows an area of typical terrain. The panels can be joined together in a variety of ways to form multi-panel mapboards. A hexagon grid is used to regulate the movement, facing and positioning of the playing pieces, and individual hexagons are called "hexes". Each hex contains a letter-number identification which, in conjunction with the panel number, is its individual designation. For example, hex "2EE3" is the "EE3" hex on mapboard panel "2". A hex where mapboard panels join (so that there is a half-hex on each panel) can be identified by referring to either of the adjacent full hexes as if the joined hexes were a continuation of either panel's hex identification sequence. In the center of each hex is a circular (square or triangle in some building hexes) "sighting dot" used to determine lines of sight. The terrain found on the mapboard panels is identified in the STANDARD TERRAIN IDENTIFICATION CHART on the Information Card. Each side of a hex (ie., "mapboard direction 1", "mapboard direction 2", etc.) can be identified by a number assigned to the same hex-side of the "directional hex" on each panel. Always use the directional hex of the lowest-numbered panel as the reference for an entire multi-panel mapboard. A directional hex also identifies the sides of the mapboard, as shown below:



1.2 PLAYING PIECES: The die-cut counters are punched out to provide playing pieces called "units" or "markers". The units show the various weapons and men available, and the markers show information needed for the game's mechanics. Note that most units have two sides; the side to be used depends on what units or information the game requires. The up side determines a counter's name. For example, American combat unit number 101 is called a "M60" unit if one side is up and a "M1" unit if the other side is up. The counters contain information needed to play the game; carefully examine the examples:

1.2.1 COMBAT UNITS: These "combat units" each represent an individual vehicle, aircraft, helicopter, towed weapon, or a squad, half squad or team of infantry ("leg" units). NATO units are olive-drab (American) or gray (German), and the Soviet units are dark green.

1.2.1.1: The small combat units represent leg infantry, while the large ones represent the other units. Each unit contains a name, picture symbol and identification number.

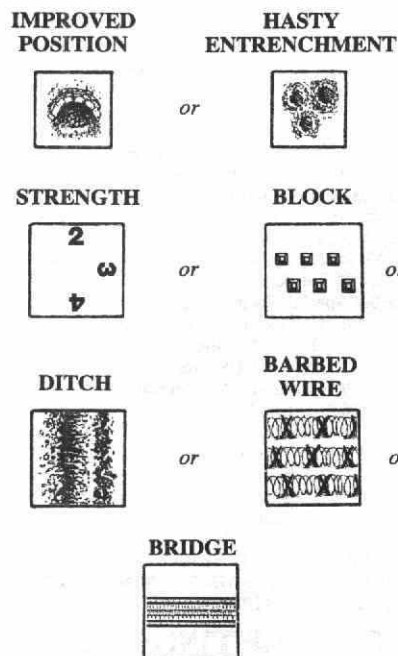


1.2.1.2: Vehicle, leg and towed units are collectively called "ground units", and aircraft and helicopter units are collectively called "air units".

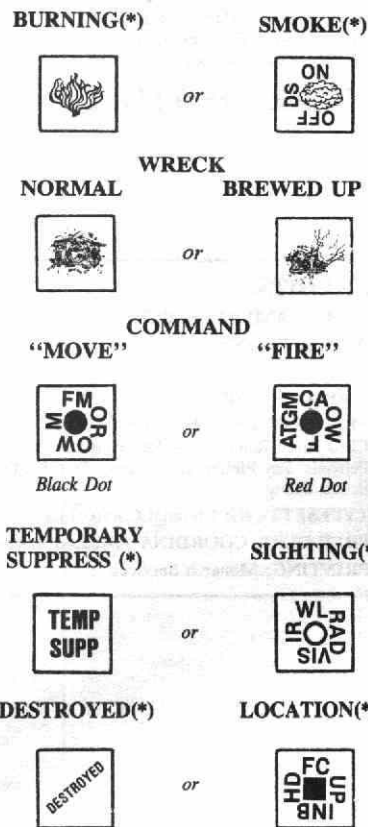
1.2.2 TURRET UNITS: These are stacked on top of vehicle units to show the direction in which the turret faces. The "B" side shows that the vehicle is "buttoned up" (all hatches closed) and the "O" side shows that the vehicle is "open" (all or some of the hatches open and crewmen exposed). Any turret unit can be used on any nationality vehicle.

1.2.3 ARTILLERY MARKERS (IDENTIFIED "A"-"E")(*): These are used to mark the fall of area fire weapons. NATO (American and German) markers are olive-drab and Soviet markers are green and are on opposite sides of the same markers.

1.2.4 TERRAIN AND STRENGTH MARKERS (ALL *): These provide movable terrain that can be placed in a hex to change that hex's terrain. The improved position/hasty entrenchment markers are on opposite sides of small counters, while the block, ditch, barbed wire, and bridge markers are printed on the opposite sides of the large strength markers. The strength markers are placed under some Soviet combat units to show that more than one unit is present.



1.2.5 INFORMATION MARKERS: These are placed on the mapboard to record game information.



SUPPRESSED(*)

or

SPOTTED**CONTROL/SUBSTITUTE ("A"—"D")(*)**

or

**INITIATIVE**

or



The abbreviations on the information markers are explained on the Information Card.

1.3 DATA CARDS: Each data card has information about different combat units on each side. Most of the information about the combat units is found on the data cards, and players should have available a data card to use as a reference for each type of unit commanded. The information found on the data cards is identified on the Information Card and explained in the rules.

1.4 GAME CARD: The two identical Game Cards contain the most used charts and tables needed for playing the game.

1.5 INFORMATION CARD: The Information Card identifies mapboard terrain, information marker abbreviations, and sections of the data cards. It also contains the TURN RECORD TRACK to record the current Turn and SUBSTITUTE HEXES (*).

1.6 RULEBOOK: This rulebook contains all the rules of play for MBT, scenario setup information, and additional reference material.

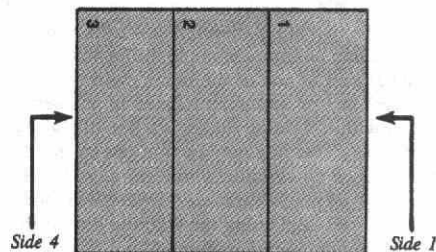
1.7 DICE: Two "decimal dice" are included in the game, one white and one colored. Each die can be used to roll ten different numbers ("1" to "0").

1.8 OTHER: Not included, but needed, is a pencil for each player. A straight edge to check lines of sight is also useful.

[2.0] BASIC GAME SET UP AND PREPARATION FOR PLAY

This "Basic Game Scenario" is recommended for new players as an introduction to the game.

2.1 STEP ONE: Lay out mapboard panels 1, 2, and 3 as shown below:



2.2 STEP TWO: Place the TURN RECORD TRACK on the Information Card near the mapboard and place the initiative marker in the "1" box.

2.3 STEP THREE: By any mutually agreeable method, the players decide who will command each force and select the combat units and data cards required to play any one of the matchups listed below. Also take one turret unit per combat unit. Matchups A—C are good for first or early games with one player per side. If three or more players are learning the game together, matchup D has more units to divide into separate commands for each player.

A. (NATO) 3 × M1A1 (data card USA-1B) vs. (Soviet) 4 × T-64B (data card USSR-1B).

B. (NATO) 3 × Leopard 2 (data card FRG-1B) vs. (Soviet) 4 × T-64B (data card USSR-1B).

C. (NATO) 4 × Leopard 1A4 (data card FRG-1A) vs. (Soviet) 4 × T-72M1 (data card USSR-2A).

D. (NATO) 8 × M1A2 (data card USA-8A) vs. (Soviet) 11 × T-80A (data card USSR-1A).

2.4 STEP FOUR: A player on each side competitively rolls a die, repeating to break ties. The side with the high roll then picks a side ("1" or "4") of the mapboard on which to setup, the opposition getting the opposite side.

2.5 STEP FIVE: Another competitive die roll is made. The side with the low roll then sets up its units in any desired manner within 4 hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of their mapboard side. Place only one combat unit (with a turret unit stacked on top of it) per hex. After this, the other side's units are setup with the same restrictions within 4 hexes of the opposite side of the mapboard.

[3.0] THE BASIC GAME SEQUENCE OF PLAY

The game starts after all setup and preparation is completed. During a game, each side will use its forces to attempt to defeat the opposing forces. A game is played in "Turns". Each Turn is divided into five "Phases", which may be further divided into "Steps", which are performed in the exact order listed below. For the Basic Game Scenario, this sequence is repeated for 10 Turns, after which the game is finished and victory determined.

3.1 THE INITIATIVE PHASE: A competitive die roll is used to determine the current Turn's initiative.

3.2 THE COMMAND PHASE: Consider both steps to be simultaneous.

3.2.1 THE SIGHTING STEP: The players determine which enemy units are "sighted".

3.2.2 THE MARK ORDERS STEP: The players give their combat units their orders by placing command markers.

3.3 THE FIRE PHASE:

3.3.1 THE DIRECT FIRE STEP: Consider to be simultaneous. Announce and resolve shots by all combat units with F (FIRE) and FM (FIRE/MOVE) orders. Mark units with spotted (FIRED) markers as they shoot.

3.3.2 THE ATGM ANNOUNCEMENT STEP: Announce shots by all combat units with ATGM (FIRE MISSILE) orders. Each shot must have a specific target unit, which should also be announced (make notes to aid memory, if necessary). Mark units with spotted (FIRED) markers as they shoot.

3.3.3 THE OVERWATCH FIRE STEP: Consider to be simultaneous. Units with OW (OVERWATCH) orders may be fired at enemy units that were fired during the Direct Fire and ATGM Announcement Steps. Mark units with spotted (FIRED) markers as they shoot.

3.4 THE MOVEMENT PHASE:

3.4.1 THE MOVEMENT STEP: All units with M (MOVE) and FM (FIRE/MOVE) orders are moved. While one side's units are being moved, the other side watches the path of each moving unit to determine if overwatch fire can be triggered, and, if so, it is resolved. Mark overwatching units with spotted (FIRED) markers as they shoot, and moving units with spotted (MOVED) markers as they are moved. NOTE: Replace spotted (FIRED) with spotted (MOVED) markers on units that are already marked with the former.

3.4.2 THE ATGM RESOLUTION STEP: Consider to be simultaneous. Resolve all shots by surviving combat units that announced fire during the ATGM Announcement Step. Adjust units in the same hex with an enemy unit after all movement and firing is complete.

3.5 THE ADJUSTMENT PHASE:

3.5.1 THE PIVOT STEP: Eligible combat units can be pivoted.

3.5.2 THE ADJUST TURRETS STEP: The players may now turn movable turret units, and flip over any turret units the players wish to change from their buttoned to open side or vice-versa.

3.5.3 THE ADJUST MARKERS STEP: Then, all appropriate markers are adjusted or removed from the mapboard.

3.5.4 THE END TURN STEP: Advance the initiative marker to the next box on the TURN RECORD TRACK. A winner is determined if the final Turn of the game is completed.

[4.0] GENERAL BASIC GAME PROCEDURES AND RULES

These rules all play a part in more than one phase or step during a Turn, so it is convenient to group them here.

4.1 CONTROLLING PLAYER DEFINITION: Players always perform all actions and dice rolls for the units they command. Thus, a player is always the "controlling player" for his own units.

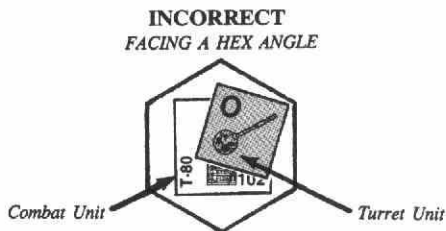
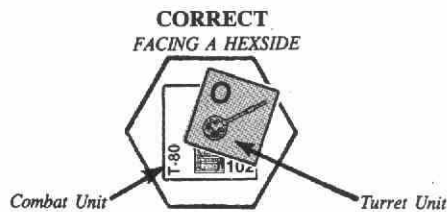
4.2 READING THE DICE: When only one die is rolled, read "0" as a "10". When both are rolled together, read in the order "white die—colored die" to produce a number from "01" to "00" ("00"="100"). For example, if a "5" is rolled on the white die and a "3" is rolled on the colored die, this is read as "53".

4.3 BASIC GAME STACKING: Combat units may pass through hexes containing other combat units, even opposing ones (a 100 meter hex is a large area), but, for the Basic Game, no more than one combat unit may finish movement in the same hex unless forced to do so by combat damage. Of course, the turret units may also be present, stacked on their combat units.

4.4 UNIT FACING: The "fronts" of all combat units are the tops of the units' pictures shown on their data cards. The front for turret units is shown in 1.2.2. Combat and turret units must at all times be facing towards definite hexsides, not towards the angle of a hex. Be very careful with the placement of the units with regard to their facing, so that no chances for confusion exist.

4.4.1: Except during reverse moves, a combat unit must always be moved with the front of the unit facing towards the direction of movement. During reverse moves, the unit is moved in exactly the reverse of the unit's facing.

4.4.2: Vehicle combat units with movable turret units (all those in the Basic Game), may face the turret units in a different direction from the front of their combat unit.

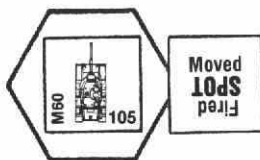


4.5 MARKER USE AND FACING: Markers are placed on or near a combat unit to display information about that combat unit. Some markers have different information on different faces of the counter, and must be further identified.

4.5.1: The information used is always that which is on the face that matches the "front" of the combat unit with which it is placed. For example, the facing of the spotted marker placed with the M60 combat unit in the following examples is used to show different information with the same marker. The side and facing determine what information a marker displays in any situation.

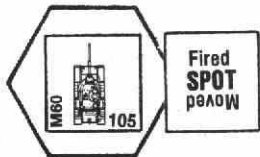
A spotted (MOVED) marker

This M60 unit is marked to show it can be spotted because it moved.



A spotted (FIRED) marker

This M60 unit is marked to show it can be spotted because it fired.



4.5.2: For smoke markers (not used in the Basic Game) which are not necessarily placed with a combat unit, read the face matching mapboard direction "1".

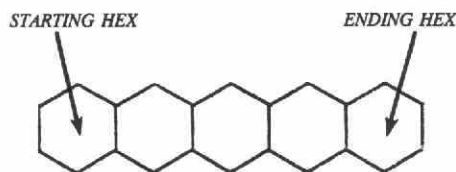
4.5.3: The faces of a marker are always identified in these rules by being written in all capital letters (i.e., "ON", "OFF", "ATGM", etc.). Marker abbreviation explanations are shown on the Information Card.

4.5.4: For command markers, of which there are two—"move" command markers and "fire" command markers—the faces are referred to as "orders". When turned over, command markers should be flipped over sideways so that the proper order faces in the same direction as the combat unit with which it is placed.

4.6 MAPBOARD SIDES—PARTIAL HEXES: The partial hexes along the mapboard sides may be used normally. Units facing off the side and moving that way exit the mapboard.

4.7 RANGES: "Range" is the distance from one hex to another, and is always expressed as a number of hexes.

4.7.1 RANGE IN HEXES: Range in hexes is determined by counting the number of hexes from one hex to another hex by the *shortest* possible route. The starting hex is not included when determining range. For example, below is shown a range of four hexes.



4.7.2 MAXIMUM AND MINIMUM RANGES: All weapons have a "maximum range" beyond which cannot be fired. The maximum range of a weapon is found on a unit's data card in the last sub-column of the "Range in Hexes" column in its FIRING INFORMATION section that contains a number. For example, on the T-80A (data card USSR-1A), the 125mm main gun has a maximum range of 40 hexes with APFSDS ammunition and 32 hexes with HEAT ammunition. Some weapons also have a "minimum range" (the projectile has to travel a certain distance before it is armed), and cannot be fired at targets at these short ranges. These minimum ranges also lack numbers. For example, the Songster ATGM on the T-80A has a minimum range of 2 hexes. Targets at a range of one hex cannot be hit with a Songster.

4.8 CONTROL/OBJECTIVE HEXES: Objective hexes are given in the various scenarios that are geographical points worth victory points towards determining the game's winner. In the Basic Game Scenario, the objective hexes are the stone building hexes. A side controls an objective hex if one (or more) of their ground combat units was the last to occupy or pass through the hex. Normally, keeping up with who controls what is fairly straightforward, but, as a aid to memory, control markers with the appropriate side up can be placed in objective hexes to show control and/or notes can be kept.

[5.0] INITIATIVE

5.1 DETERMINING INITIATIVE: During the Initiative Phase, a player on each side rolls one die to determine the initiative. Roll again to break ties. The winning side has the choice whether to go first or second during the current Turn.

5.2 RECORDING INITIATIVE: When the choice is made, flip the initiative marker in its box on the TURN RECORD TRACK to show which side goes first.

5.3 HOW INITIATIVE WORKS: The side going first during each Turn always performs its actions first during every phase and step. However, when the actions are "considered to be simultaneous" (i.e., in the Direct Fire and Overwatch Fire Steps), any combat results are ignored until the entire step is completed by both sides. For example, during the Direct Fire Step, the first side resolves all of its firing before the second side resolves any of its firing, but any second side units with FIRE or FIRE/MOVE orders that are hit may ignore their damages until they have had their chance to fire. Also, ignore the smoke from burning wrecks caused during the same "simultaneous" step.

[6.0] THE BASIC GAME COMMAND PHASE

The Command Phase is used to prepare for later phases.

6.1 THE BASIC GAME SIGHTING STEP:

Even though the players can see the counters on the mapboard, this does not necessarily mean that the combat units can "see" each other. Before a combat unit can be used to fire at a target, that target must be "seen" by the firing unit under the rules of the game. Obviously, it makes no sense to give FIRE orders to a combat unit that cannot "see" any enemy unit. Determining what can be "seen" during the Sighting Step makes possible marking FIRE, FIRE MISSILE and FIRE/MOVE orders during the Mark Orders Step. This same procedure is also followed when an OVERWATCH order is used to fire and when missile fire is resolved during the ATGM Resolution Step. To determine if one unit can "see" another, use the following rules:

6.1.1 SIGHTING DIRECTIONS: A single ground combat unit can "see" in all directions (360 degrees), not just the direction in which its front faces.

6.1.2 NUMBER OF SIGHTINGS: A single combat unit may be used to "sight" any, and all, enemy units that can be "seen" from its hex.

6.1.3 BASIC GAME SIGHTING RANGES: The maximum range at which "sighting" is normally possible is shown on the SIGHTING RANGES CHART on the Game Card.

6.1.3.1: For the Basic Game, it is always considered to be "Day", so find the "Day" section in the "Conditions" (left hand) column.

6.1.3.2: Move to the "Sighting Unit" column and select the line of the "Day" section that matches the side (buttoned or open) of the turret unit on the combat unit being used for "sighting".

6.1.3.3: Follow that line across the chart until the column describing the terrain in the target hex is found. If the terrain in a hex is mixed (i.e., a stream hex with scrub), use the terrain type found in the column farthest to the right on the chart.

6.1.3.4: Find the proper sub-column that describes the enemy unit in the target hex. In the Basic Game, all units are vehicles, so the "VH" (vehicle) sub-column is chosen. In more advanced versions of the game, the other sub-columns are also used, but not needed here. The number found is the maximum range at which the unit in the target hex can be seen. For example, a vehicle in a scrub hex can be seen from up to a 7 hex range by a combat unit with an open turret unit and up to a 10 hex range by one with a buttoned turret unit.

6.1.3.5: Moving and firing units are easier to see than those doing nothing. Therefore, the ranges found in the SIGHTING RANGES CHART are doubled for target units marked with a spotted (MOVED) marker, and can be any range for units marked with a spotted (FIRED) marker.

6.1.4 BASIC GAME LINES OF SIGHT: A "line of sight" is a straight line between two hexes. If a line of sight is "blocked" by some higher obstacle located between the hexes (not including the two hexes themselves—units may always fire into an adjacent hex in the Basic Game), a combat unit in one of the hexes cannot "see" the target hex or any units located in it, even if located within sighting range. If a line of sight to a potential target hex may be blocked by an obstacle, check by running a straight edge (ruler, taut string, edge of a card, etc.) from the sighting dot in the hex containing the sighting unit to the sighting dot in the target hex.

6.1.4.1: A hex containing blocking terrain can block a line of sight even if the line of sight passes through only a small fraction of the hex. In all cases, if a hex can block a line of sight, a line of sight that runs exactly along one of its hexsides also blocks the line of sight.

6.1.4.2: To assign a numerical value, consider hexes that are not hill or depression hexes to be "0" in height.

6.1.4.3: For the Basic Game, ignore the number of contour lines in a hill hex and treat all hill hexes as being of equal ("1") height. Unless both hexes being checked are hill hexes, an intervening hill hex blocks a line of sight.

6.1.4.4: Depressions are the lowest ground on the mapboard ("-1" height). Intervening hexes of any kind except other depression hexes block a line of sight unless one of the hexes being checked is a hill hex. In that case, the line of sight can be blocked only by an intervening hill, woods or building hex.

6.1.4.5: For the Basic Game, all woods and building hexes are higher ("2" heights) than any other (including hill) hexes. An intervening woods or building hex always blocks a line of sight.

6.1.4.6: Ground combat units are considered to be at the same height as the hexes they occupy, except in woods and building hexes, where the units are considered to be at the "ground level" of the hex, not in the tree or building tops.

6.1.4.7: Combat units (friendly or enemy) never block lines of sight.

6.2 THE BASIC GAME MARK ORDERS STEP: During this step, a command marker is placed near each combat unit, using the marker's facings to show the current Turn's orders for each combat unit.

6.2.1: Place these markers with their blank side showing, so that an opponent will not know what orders have been given.

6.2.2: Each order allows a combat unit to be used to perform only certain actions during certain phases or steps. When the time comes to carry out the orders, a player may, if desired, decline to do so. *For example, if desired, a player may decline to shoot a unit with FIRE orders marked.* In other cases the damage or destruction of a unit may make following the marked orders impossible. Until a player reveals an order to perform some action (ie., movement or firing), the command marker can remain with its blank side up. If fired at (where the order can modify the hit number), before the order is revealed, the target unit's controlling player tells only what modifier applies or does not, (see 7.4.2.2) without revealing the exact order.

6.2.3: Units may not be given orders that cannot be performed. *For example, a unit that is damaged and unable to move may not be given orders to move (MOVE or FIRE/MOVE orders in the Basic Game).*

6.2.4: Orders that can be used in the Basic Game are as follows:

ATGM: FIRE (ANTI-TANK GUIDED) MISSILE. Found only on the "fire" (red dot) command marker. Only missiles can be fired with this order. Since these missiles travel rather slowly compared to shells from guns, this order is used to allow the combat unit to announce a shot at a "seen" enemy unit during the ATGM Announcement Step, and then (if the firing unit survives) to resolve that shot during the ATGM Resolution Step.

F: FIRE. Found only on the "fire" (red dot) command marker. Only guns can be fired with this order. Use to allow a combat unit to shoot at a "seen" enemy unit during the Direct Fire Step.

FM: FIRE/MOVE. Found only on the "move" (black dot) command marker. Only guns can be fired with this order. Use to allow a combat unit to shoot at a "seen" enemy unit during the Direct Fire Step, and then to move

(at half speed) during the Movement Phase. **M: MOVE.** Found only on the "move" (black dot) command marker. Use to allow a combat unit to move (at full speed) during the Movement Phase.

OW: OVERWATCH. Found on both command markers. In the Basic Game, only main guns can be fired with this order. Use during the Overwatch Fire Step to allow the combat unit to shoot at enemy units that were fired during the Direct Fire Step or to shoot at an enemy unit as it is moved during the Movement Phase.

[7.0] BASIC GAME FIRING

These rules apply during any phases and steps during which units can be used to shoot and/or resolve fire.

7.1 BASIC GAME FIRING SEQUENCE AND GENERAL RULES: Only main guns ("MnGn") and anti-tank guided missile (ATGM) weapons are used with the Basic Game Rules. All of these weapons are defined to be "AP point effect weapons"; that is, they fire armor-piercing projectiles at specific target units.

7.1.1: Fire in the order described in the Sequence of Play (see 3.0). All combat units with FIRE (F) and FIRE/MOVE (FM) orders may "shoot" and have their fire resolved during the Direct Fire Step, followed by missile firing by units with FIRE MISSILE (ATGM) orders during the ATGM Announcement Step (note firing and target units). Then, any combat units with OVERWATCH (OW) orders may shoot at enemy combat units that were fired during the Direct Fire or ATGM Announcement Steps and have their fire resolved during the Overwatch Fire Step (this, in turn, may trigger more overwatch fire). During the Movement Step, units with OVERWATCH (OW) orders that did not fire during the Overwatch Fire Step may be fired at moving enemy units (this, in turn, may trigger more overwatch fire). Finally, the missile shots announced during the ATGM Announcement Step are resolved during the ATGM Resolution Step.

7.1.2: Shooting in each step is resolved from the positions and facings the combat units occupy at the time the firing is resolved. "Sighting" is also determined at the time firing is resolved—the terrain currently occupied by the target unit and the type (if any) of spotted marker currently placed with it determine the maximum sighting range. Within these restrictions, the controlling player may fire his units in any desired order.

7.1.3: Each shot is resolved separately.

7.1.4: Immediately mark all units that fire with a spotted (FIRE) marker. For anti-tank guided missiles, this is done during the ATGM Announcement Step when missiles are fired.

7.1.5: Each ground combat unit may be fired only once per Turn.

7.2 BASIC GAME ABILITY TO FIRE: To fire at a target, the target unit must be "seen", be in range (see 4.7) of the weapon fired, and fall within the firing unit's firing arc.

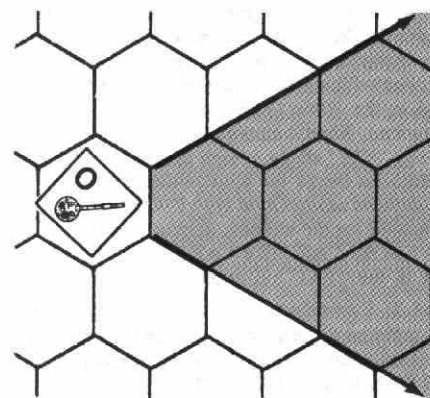
7.2.1 FIRING ARCS: Only "turret firing arcs" are used in the Basic Game.

7.2.1.1: If necessary, check sighting (see 6.1) to make sure a target is "seen". Then, check to make sure that the target falls within the firing unit's "firing arc". No fire may be directed at any hex falling outside this arc. A unit must be "seen" and also fall within a firing unit's firing arc in order to be a legal target for fire.

7.2.1.2: A firing arc depends on the facing of the firing unit's turret unit (since all of the Basic Game weapons are mounted in turrets—other weapons used in advanced versions of the rules often

depend on the facing of the combat unit itself). A turret firing arc includes all hexes and partial hexes in a 60 degree arc out to the limits of the weapon's range. Any hex or partial hex within a firing arc is a possible target hex.

SHADED HEXES FALL WITHIN THIS 60 DEGREE TURRET FIRING ARC



7.2.2 BASIC GAME FIRING MISSILES AT MOVING TARGETS: A missile fired during the ATGM Announcement Step (at a "seen" target within the firing arc), may, because the target moved during the Movement Step or because the unit that fired the missile has been destroyed, no longer be able to hit the target during the ATGM Resolution Step.

7.2.2.1: If the firing unit is destroyed (knocked out or brewed up) prior to the ATGM Resolution Step, the fire for the missile is not resolved (ie., the shot is an automatic "miss").

7.2.2.2: The shot is resolved after the target unit has moved, and resolution is based on the target's location then. If the target unit has been moved so that the line of sight to it is blocked or it is no longer in sighting or missile range during the ATGM Resolution Step, the fire for the missile is not resolved (ie., the shot is an automatic "miss"). However, the missile is "guided", so if the target unit has been moved so that it no longer falls within the firing unit's firing arc, the shot can still hit the target and be resolved.

7.3 ANNOUNCING FIRE: After determining that fire is possible, the shot is announced and/or resolved. Note that missiles are fired during one step and resolved during a later step.

7.3.1: The firing player flips the firing combat unit's command marker over to demonstrate that the order is correct, and announces the target.

7.3.2: The firing player may announce and resolve his shots one at a time in any desired order, but all units that are to fire at the same enemy unit in the same hex during the same step must be declared before any of the shots are resolved. No additional units may then fire at that same enemy unit in that same hex (that unit can be fired at when it enters another hex, or another unit could be fired at in the same hex) during that step. If the enemy unit is knocked out before all the announced units have resolved their fire, the other units are still considered to have fired at the knocked out unit (ie., their fire is wasted). They may not switch their fire to a different target unit.

7.4 BASIC GAME FIRING PROCEDURE: Follow this procedure for each combat unit that fires an AP point effect weapon:

7.4.1 FINDING THE AP FACTOR: Look on the firing unit's data card to find the following information:

7.4.1.1: Find the portion of the FIRING INFORMATION section with the name of the weapon being fired in the ("Weapon") column. For

example, on the T-80A data card (USSR-1A), find the "125mm" portion if firing the gun (using FIRE, FIRE/MOVE or OVERWATCH orders), or find the "Songster" portion if firing the missile (using a FIRE MISSILE order).

7.4.1.2: Many weapons have multiple types of ammunition available, listed in the "Type Ammo Fired" column. For example, the T-80A data card shows "APFSDS", "HEAT", and "GP" (not used in the Basic Game) ammunition for its 125mm gun. Ammunition types that are useful against armored vehicle targets (and which are all that are used in the Basic Game) are divided into two categories, Kinetic Energy "KE" and Chemical Energy "CE" shells, which initials are given in parenthesis below the ammunition name. Select any desired ammunition type ("CE" or "KE") to be used for the weapon, announce this choice, and find the "AP" (for "AP Factor") line next to it in the "FAC" column.

7.4.1.3: Count the range in hexes from the firing unit to the target hex. Find the range in the "Range in Hexes" sub-columns that corresponds. Cross-grid the range column with the "AP" line for the ammunition type being used to find the AP factor. For example, on the T-80A data card, if the 125mm gun is fired and the range is "14" (use the "13-16" range column), the AP factor for APFSDS ammunition is "14". If HEAT ammunition is fired instead, the AP factor is "11".

7.4.2 THE BASIC GAME AP POINT EFFECT MODIFIERS: The AP Point Effect Modifiers are now checked to determine their effect, if any. There are four types of AP Point Effect Modifiers used with the Basic Game Rules (see 7.4.2.1—7.4.2.4, below). These modifiers are listed in the AP POINT EFFECT MODIFIERS section of the Game Card and used where applicable. All of these modifiers are cumulative, and together constitute the "net modifier". For example, if the target is in a scrub hex ("—2"), and there is also a movement modifier of "—4", the net modifier is "—6".

7.4.2.1 THE AP POINT EFFECT TERRAIN MODIFIERS: Each of the terrain types that causes a modifier is listed with its modifier. Only the terrain in the hex containing the target unit affects the firing; the terrain in the hex containing the firing unit has no effect on the shot. For example, a target unit is located in a rough terrain hex. The AP Point Effect Terrain Modifier for a rough hex is "—4".

7.4.2.2 THE AP POINT EFFECT MOVEMENT MODIFIERS: Use the small chart headed "Movement Modifiers" on the Game Card. If the target unit has MOVE, MOVE/FIRE, or OVER-RUN (see Advanced Game) orders, it is considered to be "moving" ("MV"). If the firing unit has MOVE/FIRE orders, it is considered to be moving. For all other orders, the units are considered to be "non-moving" ("NM"). The left hand column shows the line that applies to the firing unit. The "Stab." ("gun stabilization") for guns or "Class" ("missile guidance class") for missiles is found on the firing unit's data card, in the "Weapons" column of the FIRING INFORMATION, with their gun or missile identifiers. Crossgrid the situation of the firing unit with the situation of the target unit to find the modifier. For example, if a T-80A (which has "Stab. 2") unit with MOVE/FIRE orders fires its 125mm main gun at a target unit with MOVE orders, the AP Point Effect Movement Modifier is "—5".

7.4.2.3 THE AP POINT EFFECT GENERAL MODIFIERS: These modifiers require some individual explanations. Only the modifiers used in the Basic Game are discussed here.

7.4.2.3.1 Acquisition/Turn Bonus: A "+2"

modifier is received for each consecutive Turn that the same firing unit hits the same target unit. For example, Soviet combat unit "101" hit American unit "105" on Turn Two. Unit "101" gets a "+2" modifier if it fires at unit "105" again on Turn Three. If, hits were scored on Turns Two and Three, and "101" again fires at "105" on Turn Four, the modifier is "+4". If necessary, keep notes to remember who hit what during each Turn.

7.4.2.3.2 Target Vehicle Size: The "size" of a target vehicle unit is given on the target vehicle's data card (see the TARGET INFORMATION section) and provides this modifier. For example, the size modifier for shooting at a T-80A is "—1".

7.4.2.3.3 Through Brew Up Smoke: A "—5" modifier applies if a shot's line of sight leaves, enters or passes through a hex or the hexside of a hex(es) containing a brewed up wreck marker. The modifier applies for each such hex that is encountered. NOTE: If a line of sight passes exactly down a hexside between two brewed up wreck hexes, this counts as only one hex passed through.

7.4.2.4 THE AP POINT EFFECT OVERWATCH MODIFIERS: When a unit with OVERWATCH orders is fired, a "—2" modifier applies if the target unit is not moving (ie., the target unit has CLOSE ASSAULT, FIRE, FIRE MISSILE, or OVERWATCH orders), and a "—5" modifier applies if the target unit is moving (ie., the target unit has FIRE/MOVE, MOVE or OVERRUN orders).

7.4.3 FINDING THE AP POINT EFFECT HIT NUMBER: Now, look on the AP POINT EFFECT HIT CHART on the Game Card. Cross-grid the column containing the AP factor (found in 7.4.1) with the line showing the appropriate "Net Mod" ("net modifier") found in 7.4.2. The number found is the "hit number". For example, if the AP factor is "14" and the net modifier is "—3", the hit number is "56".

7.4.4 DETERMINING THE NUMBER OF HITS FOR AP POINT EFFECT WEAPONS: The following steps determine if one or more hits have been made on the target unit. The rate-of-fire ("MAX ROF") for all weapons is listed on the data cards in a column of the weapon's section of the FIRING INFORMATION. Regardless of the number of shots fired, all shots from the same weapon must be fired at the same target unit and must use the same ammunition. In the Basic Game, the maximum rate-of-fire number is always used.

7.4.4.1 ONE SHOT FIRED: If only one shot was fired, roll both dice. If the number rolled equals or is less than the hit number, one hit has been made. If the number rolled exceeds the hit number, the shot missed.

7.4.4.2 TWO TO FIVE SHOTS FIRED: If more than one shot has been fired, the AP POINT EFFECT NUMBER OF HITS TABLE on the Game Card is used to determine the number of hits.

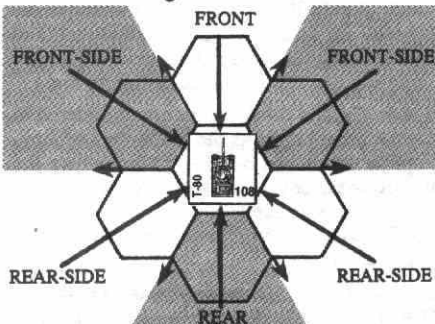
7.4.4.2.1: Find the line containing the hit number in the left hand column of the table. Cross-reference the hit number line with the column that describes the number of shots fired (ie., the "ROF" or rate-of-fire).

7.4.4.2.2: Roll both dice. If the hit number is exceeded by the dice roll, all shots missed. If the number rolled equals or is less than the hit number, one or more hits have been made. The number of hits scored is found at the top of the sub-column in whose range of numbers the dice roll falls. For example, the hit number is "65", and the rate-of-fire is "4". The numbers listed in the table are "10" in the "4" sub-column, "20" in the "3" sub-column, "29" in the "2" sub-column and

"H" in the "1" sub-column. This means that if the number rolled is from "01-10"—four hits have been made, from "11-20"—three hits have been made, from "21-29"—two hits have been made, and from "30-H"—("H"=hit number) one hit has been made.

7.4.5 AP POINT EFFECT HIT LOCATIONS: If one or more hits have been made, the HIT LOCATION CHARTS on the target unit's data card must be checked to see where each hit has impacted on the target vehicle unit.

7.4.5.1 HIT ANGLE DETERMINATION: The orientation of the target unit to the firing unit is used to determine the "hit angle". The following diagram shows the hit angles, using the target unit's front facing for orientation:



7.4.5.2 HIT LOCATION PROCEDURE: A hit will impact at some specific location on the target unit.

7.4.5.2.1: The hit angle (Front, Front-Side, Rear-Side or Rear) determines the proper line to be used on the chart. If the line-of-fire runs exactly down a line dividing two angles, the player controlling the target unit determines which of the two angles to utilize. These angles are listed on the left side of the table, in the "Angle of Hit" column.

7.4.5.2.2: Once the proper line has been found, both dice are rolled for each hit. Compare the number rolled to the ranges of numbers listed on that line. Once the range of numbers including the number rolled is found, go up to the top of that column to find the individual hit location. For example, if the angle is "Front" and a "16" is rolled, the hit is on the "TF" ("Turret Front"). For the Basic Game, ignore the fact that a turret unit may be facing in a different direction from its combat unit.

7.4.5.2.3: If the hit was from "falling shot", (i.e. the firing unit is in a higher hex than the target unit's hex), the "TTG" and "HDG" columns must be checked to determine if either of these two locations have been hit. If the dice roll falls within the range of numbers listed for the "TTG" or "HDG" locations, that location has been hit, and it supersedes the original hit location. For example, if, for a falling shot from the "Front" angle, a "41" is rolled, this would be an "HD" ("Hull Deck") hit instead of an "HF" ("Hull Front") hit. When such a hit is scored, consider it to be from an "Above" angle when consulting the target unit's ARMOR CHARTS (see 7.4.6).

7.4.5.3 TRACK AND MAIN GUN HITS: If the hit location is the "TK" ("track") or "GN" ("Main Gun"), these hits cause automatic damage. For these hits, skip rules 7.4.6 and 7.4.7, the damage has already been determined.

7.4.5.3.1: A vehicle unit with a track hit may not be moved or pivoted for the rest of the game.

7.4.5.3.2: A vehicle unit with a main gun hit may no longer use its main gun to fire for the rest of the game. For units without a main gun or which already have a main gun hit, treat a main gun hit as a "miss".

7.4.5.3.3: Make a note of units with track and main gun hits as a memory aid, if necessary.

7.4.6 DETERMINING ARMOR PENETRATION: The ARMOR CHARTS on the target unit's data card are now checked to determine if the shot "penetrated".

7.4.6.1: Select the section of the ARMOR CHARTS that shows the type of ammunition that was fired ("KE" or "CE" in the "Ammo Used" column—in many vehicles both use the same section).

7.4.6.2: The chart is divided into three lines (identified in the "Elevation" column). "Level" (the firing and target units are at the same height), "Rising" (the target unit is higher than the firing unit), and "Falling" (the firing unit is higher than the target unit). Listed across the top of the chart are the firing angles, with sub-columns for various hit locations.

7.4.6.3: The proper angle/hit location sub-column is cross-referenced with the proper elevation line to find a number that shows the "armor basis" (armor thickness adjusted for armor composition and shot angle) at that location/elevation. *For example, "KE" ammunition from a firing unit at the same elevation level has hit a T-80A on the "TF" from a "Front" angle. On the T-80A data card, "KE" section of the ARMOR CHART, cross-gridding the "Level" line with the "Front—Rear/TF" sub-column shows an armor basis of "85".*

7.4.6.4: On the firing unit's data card FIRING INFORMATION, just under the AP factor used for the shot is its "penetration factor" (on the line headed "PY" in the "FAC" column). The penetration factor in the column of the range of the shot shows how much armor basis that type of ammunition can penetrate at that range. *For example, when firing APFSDS ammunition from a T-80A's 125mm gun at a target at 14 hexes range, the penetration factor is "80".*

7.4.6.5: If the penetration factor that was found on the firing unit's data card equals or exceeds the armor basis found on the target unit's data card, a penetration has been made. If not, no penetration has been made, the shot does no damage and no further steps are taken for that hit.

7.4.7 AP POINT EFFECT DAMAGE AND EFFECTS: If a shot *does* penetrate, the "Vehicle Damage From Hit" column of the FIRING INFORMATION on the firing unit's data card is checked to find the amount of damage caused by the penetrating hit. Roll both dice, and, looking on the line containing the ammunition that was fired, find the range of numbers into which the number rolled falls. Go to the top of that sub-column to find what damage was caused. *For example, if the 125mm gun firing APFSDS ammunition was used for the penetrating hit, and a "54" (falls in the range of numbers "14–74") is rolled on the dice, the damage done is "KNK OUT".* The effects of the damage are as follows:

7.4.7.1 NO DAMAGE ("NO DAM"): The shell was a dud or for some other reason failed to do any appreciable damage. No effects are applied.

7.4.7.2 COMPARTMENT HIT ("CMP HIT"): The vehicle unit is badly damaged, but not totally destroyed. Any vehicle unit with compartment damage that receives a second compartment hit, of either type, is considered to be knocked out instead (see 7.4.7.3 for effects). Certain vehicle units (none in the Basic Game) are knocked out by a single compartment hit—this is printed in the NOTES section of those unit's data cards. Make a note of units with compartment hits as a memory aid. Compartment hits are of two types:

7.4.7.2.1 Turret Compartment Hit: If the hit location (see 7.4.5.2) was on the turret ("TF", "TS", "TR", "TIG" or "TTA" hit locations),

the compartment hit is a "turret compartment hit". The vehicle unit may still move, but may not fire any weapons located in the turret—any weapons located there and/or their mechanisms have been destroyed. All weapons used in the Basic Game are in or on the turret.

7.4.7.2.2 Hull Compartment Hit: If the hit location was on the hull ("HF", "HS", "HR", "HDG" or "HDA" hit locations), the compartment hit is an "hull compartment hit". The vehicle unit may still fire its turret weapons, but may no longer move or pivot—the engine or transmission has been destroyed. Any weapons located in the hull can no longer be fired (does not apply in the Basic Game). The vehicle's turret unit, if any, may still be adjusted, but the turret turn rate is automatically reduced to "1".

7.4.7.3 KNOCKED OUT ("KNK OUT"): The vehicle unit is totally destroyed. Remove the vehicle unit from the mapboard and replace it with a non-burning wreck marker. Never place more than one wreck marker in a single hex, no matter how many vehicle units are knocked out in that hex.

7.4.7.4 BREWED-UP ("BRW UP"): The vehicle unit has suffered a catastrophic hit, blown up, and caught fire. Remove the vehicle unit from the mapboard and replace it with a burning wreck marker. Never place more than one wreck marker (of either type) in a single hex, no matter how many vehicle units are knocked out and/or brewed up in that hex. If *any* vehicle unit has been brewed up in a hex, the one wreck marker there should be a burning wreck marker.

7.4.8 AP POINT EFFECT DIRECT FIRE EXAMPLE:

Situation: An open T-72M1 (data card USSR-2A) #105 is firing at Leopard 1A4 (data card FRG-1A) #110, located in a woods hex at an unblocked range of "5" hexes. Both units are at the same height, and both have FIRE orders. T-72M1 #105's fire is resolved as follows:

Ability To Fire: There is no blocking terrain. The Leopard 1A4 is within sighting range, as "5" is the maximum range into woods terrain sighted from an "open" unit (see the SIGHTING RANGES CHART on the Game Card), and is within the T-72 turret's firing arc.

Determining A Hit: The Soviet player elects to fire APFSDS ("KE") ammunition from his 125mm main gun, and the AP factor for this at a range of "5" is "18". The AP Point Effect Modifiers are now checked for any effect. The terrain modifier is "–6" for a woods hex, the movement modifier is "0" (neither the firing nor the target unit has orders to move), and the general modifier is "0" (the Leopard's size is "0", and no others apply). The cumulative modifier is therefore "–6". Under the "18" column of the AP POINT EFFECT HIT CHART on the Game Card the "–6" line is crossgridded. The hit number is "59". The Soviet player rolls "06", so at least one hit has been made on Leopard 1A4 #110. Since the T-72M1's rate-of-fire is "1", only one hit is possible, and was made.

Hit Location and Damage: The Soviet player now rolls for hit location, using the HIT LOCATION CHARTS on the target's data card FRG-1A. The target angle is "Front" and a roll of "25" gives a hit location of "TF" ("Turret Front"). Checking the ARMOR CHARTS on the target's data card ("Level" cross-gridded with the "Front—Rear/TF" sub-column), the armor basis is "58". Since the Soviet's gun has a penetration value of "88" at range "5", the shot easily penetrates. The Soviet player then rolls for damage, and a "60" yields a knock out. Replace the Leopard unit with a non-burning wreck marker.

7.5 TRIGGERING OVERWATCH FIRE: Overwatch fire can be "triggered" by enemy fire or by enemy movement.

7.5.1: A unit with OVERWATCH orders may be fired only once during a Turn, at any eligible unit. The choice of exactly when and if (assuming that opportunities to fire do occur) to fire an overwatch unit is up to the controlling player. An overwatch unit may be fired during the Overwatch Fire Step at any enemy units that were fired during the Direct Fire or ATGM Announcement Steps, or at any enemy unit that "triggers" its overwatch fire.

7.5.2: During the Movement Step, overwatch fire can be triggered by movement. Any shots made must conform to the usual rules concerning "sighting"—treat moving units as though marked by spotted (MOVED) markers (even if they are not)—and the target unit must fall within the overwatch unit's firing arc. While watching an enemy unit being moved, the watching player may at any time declare the movement must stop in the current hex, and may resolve an overwatch shot at the moving unit in that hex. The watching player may declare such a shot either before or after a unit is turned within that hex. If the overwatch fire fails to stop a moving unit, the target unit continues its movement *after* the overwatch fire is resolved. Of course, a unit may be fired at by more than one overwatch unit during its movement, or even in the same hex (all overwatch fire directed against the same unit in the same hex *must* be announced before any of the shots are resolved). If the overwatch fire *does* stop the target unit, the target unit ends its movement in the hex in which it was hit.

7.5.3: As each unit resolves its overwatch fire (during the Overwatch Fire Step or Movement Phase, it is immediately marked with a spotted (FIRE) marker. Then, any overwatching enemy unit(s) that can do so may be announced to fire at a unit that just used overwatch fire, etc. It is possible to set off a whole sequence of shots as one or more overwatching units fires at an enemy unit that just used overwatch fire, followed by being taken under fire itself, etc. A whole sequence of events set off by an original shot or shots at one moving unit must be resolved *before* the moving unit may resume its movement.

[8.0] BASIC GAME MOVEMENT—VEHICLE MOVEMENT RULES

All Basic Game movement of combat units is done during the Movement Step. During this step, units that have MOVE or FIRE/MOVE order, and are not damaged in such a way that would prevent movement, may be moved. Units with other orders may not be moved. As a result of these movements, Overwatch Fire may be "triggered", and, as one side moves, the other side can check for Overwatch Fire. All units that move during this step, are marked with spotted (Moved) markers.

8.1 GENERAL MOVEMENT RULES: A player may move as many or as few of his units (those that can be moved) during a Turn as desired, and may move the units any number of hexes up to the limits of their available movement factors. Every possible unit does not have to be moved, nor does any unit have to be moved. Movement is always from hex-to-hex and must be consecutive; a unit may not skip any hexes. Units are *not* required to enter a new hex during movement; they may just be turned in place.

8.1.1 MOVEMENT PROCEDURE: A player performing movement should move one unit at a time. Call out the movement factors expended as each new hex is entered or turn made within a hex. If there is a possibility of such movement triggering overwatch fire, the movement should be slow enough to permit the opponent to see each hex

entered and decide on overwatch shots.

8.1.2 DIRECTION OF MOVEMENT: When a unit is moved, it must always be moved into the hex it faces, except for reverse moves, and keep the combat unit's facing towards the direction of movement.

8.1.3 REVERSE MOVES: Vehicle units may make reverse moves. For reverse moves, the unit is moved in the direction *directly opposite* from its front facing, but will maintain its original facing direction. Reverse moves cost vehicle units *twice* their normal movement costs to enter a new hex.

8.1.4 TURRET UNIT MOVEMENT: A turret unit always remains with its vehicle unit and may be turned only during an Adjust Turrets Step.

8.2 MOVEMENT FACTORS: Each combat unit has "movement factors" that determine the number of hexes it can be moved during a Turn. A vehicle unit's movement factors appear on its data card in the SPEEDS section, "Normal" line (only the "Normal" line is used in the Basic Game). For example, on the T-80A data card (USSR-1A), the "MF" on the "Normal" line is "6".

8.2.1: A unit with FIRE orders may expend up to the full number of movement factors. A unit with FIRE/MOVE orders may expend up to one-half of its movement factors (retain fractions, as they may be useful for road or path movement).

8.2.2: A unit may use only part of its movement factors, although unused movement factors may not be accumulated or saved from one Turn to another. Movement factors may not be transferred from one unit to another unit.

8.2.3: Movement factors are expended for performing various movements, which have various "costs", with a combat unit.

8.3 TURNING WITHIN A HEX: The cost for a vehicle unit to turn within a hex, while moving, is listed on its data card as its TURN COSTS. These costs are for one, two or three turns made in the same hex. A vehicle unit turns within a hex, expending any turn costs, then moves to the next hex and starts over when expending turn costs for the new hex just entered. For example, a vehicle unit with turn costs of "0-1-2" can be turned one hexside (60 degrees) at a cost of "0" movement factors, two hexsides (120 degrees) at a cost of "1" movement factor, or three hexsides (180 degrees) at a cost of "2" movement factors.

8.4 ENTERING NEW HEXES: The cost in movement factors for a vehicle unit to enter a new hex is listed in the MOVEMENT COSTS section on the vehicle data card.

8.4.1: The cost varies with the terrain in the hex entered, or in the hexside being crossed. For example, entering a clear hex costs "1" movement factor, while entering a rough hex costs "4" movement factors.

8.4.2: No movement is allowed into a prohibited ("P") hex or across a prohibited hexside.

8.4.3: Height changes (hexsides between hexes of different heights) and smoke (including hexes containing a burning wreck marker) and wire hexes cost a value added ("+") to the cost of any other terrain in the hex. Height change costs vary, depending on the number of heights changed when the hexside is crossed. For example, a M1A1 (data card USA-1B) is moved from a ground level hex into a hill hex that contains clear terrain. "1" movement factor is expended to enter the clear terrain hex, and "+1" more movement factor is expended for crossing a hexside between two hexes of different heights (one height difference—height "0" to height "+1") elevation level difference for a total of "2" movement factors expended.

8.4.4: A unit may always enter at least one new

hex during its movement, if it has MOVE or OVERRUN orders and does not expend any movement factors for turns, even if the cost of entering the new hex exceeds the unit's movement factors. This *does* apply even using reverse movement.

8.5 ROAD AND PATH MOVEMENT: A vehicle unit that follows the track of a road or path while entering a new hex may use its road or path movement cost to enter that hex.

8.5.1: All road and path movement costs are expressed as fractions. This means that moving in this manner costs a fraction of a movement factor. For example, a unit with a " $\frac{2}{3}$ " road movement cost would expend $\frac{2}{3}$ of a movement factor per hex entered (or 2 movement factors for every 3 hexes entered) following the track of a road.

8.5.2: A vehicle unit using road or path movement costs may ignore other terrain in the hex entered for movement purposes. For example, a unit entering a rough hex by following the track of a road expends its road movement fraction movement factor cost to enter the hex instead of the usual rough hex cost of 4 movement factors. However, Road or path movement costs may not be used to enter a hex if the track of the road or path is not followed (i.e., the track of the road or path must cross the hexside between two hexes to connect them), or if the hex to be entered contains a block, wire, or ditch marker (none used in Basic Game), a wreck marker, or an enemy combat unit.

8.5.3: Vehicle units using road or path movement treat height changes (and their movement costs) as if they were one less than normal. For example, if a vehicle unit moving down a road crosses a hexside with a change of one height, there would be no extra movement cost for crossing the hexside. Vehicle units using road or path movement still expend the extra (" +1 ") movement factor to enter bridge or building hexes.

8.6 MOVEMENT OVER BRIDGES: Units that enter a bridge hex from other than the connecting road or path hexes, are considered to have entered the stream (for movement costs only), not the bridge (which is considered to be a continuation of the track of the road or path).

8.6.1: A wreck marker on a bridge is not considered to block movement onto or across the bridge, but does prevent use of the road or path movement costs when the hex is entered. Instead, vehicles entering the bridge hex to use the bridge must pay the movement costs for entering a clear or smoke hex (depending on if the wreck is non-burning or burning).

8.6.2: Players can always elect to have a unit enter the stream hex, instead of using the bridge, if desired (announce this fact if done).

8.7 OFF-BOARD MOVEMENT: Any vehicle unit that moves off the mapboard edge is considered out of the game, and may not return to play.

8.8 UNITS FROM BOTH SIDES IN THE SAME HEX: Combat units may pass through hexes containing enemy combat units, but NATO and Soviet units may never end their movements in the same hex. If, at the end of a Movement Phase, after both sides have completed all of their moves and firing, it is found that combat units from both sides are in the same hex, the units of one side must be "adjusted" out of each of the disputed hexes. Which side's units may remain in the disputed hex, and which side's units must exit the disputed hex is decided by the following procedure:

8.8.1: If one side has a unit(s) in the disputed hex

that *did not* move into the disputed hex during the current Turn, then *all* of that side's unit(s) remain in the disputed hex. If all of the units entered the disputed hex during the current Turn, the side that moved into the disputed hex *first* keeps its unit(s) in the disputed hex.

8.8.2: In both cases, the units that must exit the disputed hex are moved back to the hex they occupied prior to entering the disputed hex. They are moved back even if they have received damage that would normally prevent movement. There can be cases where units are moved from one disputed hex into another disputed hex. In these cases, the newly disputed hex is adjusted in the same manner as any other disputed hex, etc., until all disputed hexes are resolved.

[9.0] THE BASIC GAME ADJUSTMENT PHASE

During this Phase, the players adjust units and markers, clear off excess markers, and record the end of a Turn.

9.1 THE BASIC GAME PIVOT STEP: Reveal all command markers that have not yet been turned up. Place spotted (FIRED) markers with all units that had unused FIRE or FIRE MISSILE orders. Place spotted (MOVED) markers with all units that had unused CLOSE ASSAULT, FIRE/MOVE, MOVE or OVERRUN orders. No spotted markers are placed with units that had unused OVERWATCH orders. All vehicle units that have unused MOVE, FIRE/MOVE or OVERRUN orders may now, if desired, have their facing changed by one, two, or three hexsides (up to 180 degrees) in any direction. This turning expends no movement factors. This "pivot" is cancelled if damage received during the Turn makes turning impossible.

9.2 THE BASIC GAME ADJUST TURRETS STEP: Turret units may be both turned and/or flipped during this step.

9.2.1 TURRET TURN: Turret units may, if desired, be turned in either direction on vehicle units with rotating turrets (all units in the Basic Game). The number of hexsides a turret unit can be turned depends on the number listed in the "TRN" column of the FIRING INFORMATION section of the units' data cards. For example, on the M1A1 data card (USA-1B), the "TRN" is "2T" (the "T" indicates that there is a turret); the turret unit on all M1A1 units can be adjusted by up to "2" hexsides (120 degrees) in any direction. Only turret units may be adjusted during this step. Vehicle units with hull compartment damage have their turret turn reduced to "1", if it is not already rated at "1".

9.2.2 OPEN/BUTTONED TURRETS: During this step and *only* during this step, players may flip their turret units as desired to show if vehicles are "open" or "buttoned".

9.3 THE BASIC GAME ADJUST MARKERS STEP: All combat units marked with spotted markers have their sightings verified. If there are no enemy units that can currently "see" a combat unit, any spotted marker with it is removed.

9.4 THE BASIC GAME END TURN STEP: This ends the Turn.

9.4.1 RECORD TURN'S END: Advance the initiative marker into the next box on the TURN RECORD TRACK.

9.4.2 VICTORY POINTS: If one side has all of its combat units destroyed (knocked out or brewed up), the other side wins automatically. Otherwise, victory points must be counted. If the last Turn of the game has been completed (the Basic Game Scenario ends after the completion of 10 Turns), victory points should be counted to determine a winner.

9.4.2.1: The data cards show the point values of the vehicle units used in the game as a series of three numbers. For example, T-80A (data card UUSR-1A) vehicle unit has point values of "80-40-20". The first number is the victory point value for each unit that has been knocked out or brewed up, the second is the value for each unit

that has (at worst) a compartment hit, and the third is the value for each unit that has only (at worst) a track and/or main gun hit.

9.4.2.2: Each side counts victory points for each enemy vehicle that has been destroyed or damaged. Then each side counts 10 victory points

for each stone building ("objective") hex it controls at the end of the game.

9.4.3 DETERMINING A WINNER: To win, one side must have 30 or more total victory points than the other side. Any other result is considered a "tie".

STOP HERE! At this point you have read enough of the rules to play a Basic Game Scenario. It is suggested that this be done before moving on to the more complicated versions of the game.

MBT ADVANCED GAME RULES OF PLAY

INTRODUCTION TO THE ADVANCED GAME RULES

The Basic Game provides a convenient method of "getting into" the game and learning the most important mechanics. Players should master the rules and mechanics of the Basic Game, and play several games using the Basic Game Rules before trying the Advanced Game. After the Basic Game is mastered, the Advanced Game is much easier to learn and understand. The Advanced Game Rules introduce new concepts and procedures that are absent in the Basic Game, although, in most cases, these simply add to the Basic Game Rules, or supplant certain sections. All Basic Game Rules still apply, unless otherwise indicated. Helicopter and aircraft units, off-board artillery, and fire and hasty entrenchment markers are not used in the Advanced Game, being explained in the Optional Rules.

[10.0] ADVANCED GAME SETUP AND PREPARATION FOR PLAY

This section replaces 2.0 of the Basic Game Rules.

10.1 SCENARIO SELECTION: Select a scenario from the Scenario section of these rules. Many scenarios can be played using only the Advanced Game Rules (those matchups requiring optional rules are identified). Any specific information needed to setup and play a scenario that is not given here can be found in the Scenario Format or individual scenario sections. Select the combat units and data cards needed to play the chosen scenario. Turret units should be placed on all vehicle units, even those that do not actually have turrets, to show if they are open or buttoned. Place the initiative marker in the "1" box of the TURN RECORD TRACK.

10.2 ADVANCED MAPBOARD SETUP—TERRAIN DEFINITION: In the Advanced Game, terrain may vary from game to game, and information detailing the terrain is given in the individual scenarios.

10.2.1 MAPBOARD LAYOUT: The mapboard panels may be placed together in various ways and should be arranged according to the accompanying diagram and instructions in the scenario.

10.2.2 TERRAIN HEIGHTS AND DEPTHS: A terrain feature may represent various heights or depths, as defined in the scenario information.

10.3 RECORD SHEET PREPARATION: Players may write information on sheets of scrap paper, but it is suggested (and the rules assume) that photocopies of the RECORD SHEET found on the back page of this rulebook be used. Record the information for each side on separate sheets (multiple sheets for each side for large scenarios). The "Artillery Plots" and "Minefields" sections are not needed for games using only the Advanced Rules. Record the identification number and name of each combat unit, any weapon variations it may

carry (especially important for leg unit attached weapons), grades, organization into larger formations, etc. Some suggested abbreviations and conventions are printed on the RECORD SHEET, and many of these are shown in use in the sample below:

ORGANIZATION	A-1 st	A-1 st	A-1 st	A-2 nd	A-2 nd	A-2 nd	A-2 nd	—
UNIT IDENT	101	102	103	141	142	1	2	211
TYPE	MIAI	MIAI	MIAI	M2AI	M2AI	S2LIM	S2LIM	A-10
OFFICER	CO					CO		
AMMUNITION, ARMAMENTS, ATTACHED, LOADS	7AP 2HT 1SM	6AP 3HT 1CN	6AP 2HT 1CN 1SM	686mm 5170W	686mm 5170W	DN LW	DN LW	21B 2RT 1FL 1EM
FUEL	16	21	19	25	20	—	—	—
DAMAGE								
SMOKE								
CREW LOSSES								
TRANSPORT				1	2			
NOTES								

LIMITED AMMUNITION (OPTION 17.3.2)

LIMITED FUEL (OPTION 17.3.3)

ATTACHED LEG WEAPONS

AIRCRAFT LOADS (OPTION 20.1.1)

[11.0] THE ADVANCED GAME SEQUENCE OF PLAY

The Advanced Game Sequence of Play is similar to the Basic Game Sequence of Play, but has some deletions, changes and additional phases and steps, which must be followed in their exact order for the number of Turns specified in the scenario being played. A listing of the ADVANCED GAME SEQUENCE OF PLAY WITH ALL OPTIONS is on the Game Card for reference during play. Simply ignore all phases and steps listed there that apply to optional rules that are not being used. This section replaces 3.0 of the Basic Game Rules.

11.1 THE INITIATIVE PHASE: Exactly as in the Basic Game, a competitive die roll is used to determine the current Turn's initiative.

11.2 THE COMMAND PHASE: Consider both steps to be simultaneous.

11.2.1 THE SIGHTING STEP: The players determine which enemy units can be "sighted". The Advanced Game line of sight rules are used.

11.2.2 THE MARK ORDERS STEP: The players give their combat units orders by placing command markers.

11.3 THE FIRE PHASE:

11.3.1 THE CLOSE ASSAULT PHASE: Announce and resolve all attacks for close assault and hand-to-hand combats by all dismounted leg units with CA (CLOSE ASSAULT) orders. Mark attackers with spotted (MOVED) markers as combats are resolved. Smoke (DS) markers may be placed during a side's portion of this step.

11.3.2 THE DIRECT FIRE STEP: Consider to

be simultaneous. Announce and resolve all shots by all combat units with F (FIRE) and FM (FIRE/MOVE) orders. Mark units with spotted (FIRED) markers as they shoot.

11.3.3 THE ATGM ANNOUNCEMENT STEP: Consider to be simultaneous. Announce shots by all combat units with ATGM (FIRE MISSILE) orders. Each shot and its target unit must be announced. The shots are resolved immediately for target units that are not moving, and during the Movement Phase for target units that move then. Mark units with spotted (FIRED) markers as they shoot.

11.3.4 THE OVERWATCH FIRE STEP: Consider to be simultaneous. Units with OW (OVERWATCH) orders may be fired at enemy units that attacked or were fired during the Close Assault, Direct Fire or ATGM Announcement Steps, or which were fired earlier during this step. Mark units with spotted (FIRED) markers as they shoot.

11.4 THE MOVEMENT PHASE:

11.4.1 THE MOVEMENT STEP: All units with M (MOVE) and FM (FIRE/MOVE) orders are moved. When units that are announced targets for missile fire are moved, the missile fire should be resolved. While one side's units are being moved, the other side watches the path of each moving unit to determine if overwatch fire can be triggered, and if so it is resolved. Remove smoke (DS) markers from the mapboard if their vehicle units are moved to another hex. Place smoke (ON) markers for units creating exhaust smoke as they are moved. Mark overwatching units with spotted (FIRED) markers as they shoot and moving units with spotted (MOVED) markers as they are

moved. NOTE: For moving units already having spotted (FIRED) markers, replace these with spotted (MOVED) markers.

11.4.2 THE OVERRUN STEP: All units with OR (OVERRUN) orders are moved and perform their overrun attacks. When units that are announced targets for missile fire are moved, the missile fire should be resolved. While one side's units are being moved, the other side watches the path of each moving unit to determine if overwatch fire can be triggered, and if so it is resolved. Remove smoke (DS) markers from the mapboard if their vehicle units are moved to another hex. Place smoke (ON) markers for units creating exhaust smoke as they are moved. Mark overwatching units with spotted (FIRED) markers as they shoot and moving units with spotted (MOVED) markers as they are moved. NOTE: For moving units already having spotted (FIRED) markers, replace these with spotted (MOVED) markers. Adjust units in the same hex with enemy units after all moves and firing is completed.

11.5 THE ADJUSTMENT PHASE:

11.5.1 THE PIVOT STEP: Unused command markers are revealed and spotted markers placed. Eligible combat units can be pivoted.

11.5.2 THE ADJUST TURRETS STEP: The players may now turn movable turret units, and flip over any turret units the players wish to change from their buttoned to open side or vice-versa.

11.5.3 THE ADJUST MARKERS STEP: Then, all appropriate markers are adjusted or removed from the mapboard.

11.5.4 THE END TURN STEP: Advance the initiative marker to the next box on the TURN RECORD TRACK. A winner is determined if the final Turn of the game is completed.

[12.0] GENERAL ADVANCED GAME PROCEDURES AND RULES

These augment or replace the rules in section 4.0.

12.1 TERRAIN HEIGHTS: All terrain has "heights", identified by numbers (ie., "-1", "0", "+1", "+2", etc.). A height equals about 25 real feet. These heights are defined in the various scenarios and, for reference, a STANDARD TERRAIN VALUES CHART is found on the Game Card.

12.1.1: Negatively identified heights (ie., depression and ditch hexes) are lower than the normal ground level, the normal ground level is "0", and positively identified heights (ie., hill and building hexes) are higher than normal ground level.

12.1.2: Some hexes will have a combination of heights, showing various features of their terrain. For example, a woods hex has one height for the ground in which the trees are growing, defined by the height of the ground in the hex (trees could be growing in a depression hex, in a ground level hex or in a hill hex). The second height defines how tall the trees grow. If a woods hex with trees of "+3" heights (75 feet higher than the ground in their hex) is located in a hill hex that is "+2" heights (50 feet higher than normal ground level), the "total height" of the trees is actually "+5". A combat unit in the hex would be at a "+2" height (as it rests on the ground in the hill hex), but a line of sight traced through the hex would have to consider the total height of the hex to be "+5". Building hexes work the same way, although leg units may be moved into building upper floors (they do not climb trees).

12.1.3: Compared to the terrain heights, the heights of the combat units are insignificant. Friendly and/or enemy combat units will never block a line of sight. Only terrain and some

markers featuring fire and smoke can block lines of sight.

12.1.4: Smoke also has standard heights—see the STANDARD TERRAIN VALUES CHART on the Game Card.

12.2 ADVANCED GAME STACKING: This rules section replaces Basic Game section 4.3. In the Advanced Game, any number of combat units of one side may be located in the same hex.

12.2.1 STACKING POINTS: All ground units (vehicle, leg, and towed) have STACKING POINTS listed on their data cards. For example, a T-80A has 2 "stacking points". A wreck marker (burning or non-burning, and regardless of the number of wrecks it represents) in a hex counts as having 2 stacking points.

12.2.2 STACKING POINTS PER HEX: When the total number of stacking points in a hex exceeds "10", the terrain in that hex is considered to be clear when firing at combat units in that hex (not for purposes of that hex being blocking terrain) regardless of the actual terrain and/or the presence of smoke in that hex. Mounted leg and towed units are treated as if their stacking points were "0" for this purpose while being transported (but not before loading or after unloading).

12.2.3 SUBSTITUTE MARKERS: When helpful to avoid confusion, if the number of units in a hex gets unmanageable, replace them in their mapboard hex with a control/substitute marker (appropriate side up). Then, take the combat units in the hex and place them in the matching letter SUBSTITUTE HEX on the Information Card, taking care to show their correct facings (refer to mapboard direction numbers).

12.3 SUPPRESSION: In the Advanced game, units can be "suppressed" as a result of fire. Suppressed units have suppressed (ON) or suppressed (OFF) markers to show their status (both show that the unit is suppressed). Being suppressed effects a combat unit as follows:

12.3.1 SUPPRESSED EFFECTS ON SIGHTING: All suppressed units may only "sight" to hexes that are within a 60 degree firing arc. Vehicle units with working turrets "sight" to an arc based on the front of the turret unit, while all other combat units "sight" to an arc based on the front of the combat unit itself. All weapons are now also limited to firing within this 60 degree arc while the unit remains suppressed.

12.3.2 SUPPRESSED EFFECTS ON FIRING: Suppressed units must use the firer suppressed modifiers when firing (see 14.3.1.1.2 and 14.4.2.1.3). Suppressed vehicle units may fire only their main guns or missile weapons (never both) during a Turn. Independent machineguns may not be fired by a suppressed vehicle.

12.3.3 SUPPRESSED EFFECTS ON MOVING: If suppressed, leg and towed units may not load, unload, or move, even if they were suppressed during the current Turn and had orders to do so. Leg and towed units that are suppressed during a Mark Orders Step may not be given CLOSE ASSAULT, FIRE/MOVE or MOVE orders.

12.3.3.1: Vehicle units get only half their normal number of movement factors when moved while suppressed. NOTE: A suppressed vehicle unit with FIRE/MOVE orders gets only $\frac{1}{2}$ times $\frac{1}{2}$ = $\frac{1}{4}$ of its normal movement factors.

12.3.3.2: Suppressed leg and towed units may not be pivoted during a Pivot Step.

12.3.4 MULTIPLE SUPPRESSIONS: Multiple Suppression results do not cause any additional effects on a unit. However, a new suppressed result on a unit, recorded by placing a suppressed

(ON) marker, will replace a currently placed suppressed (OFF) marker.

12.3.5 TEMPORARY SUPPRESSION: There can also be a result called "temporary suppression" that modifies (see 14.3.1.1.5 and 14.4.2.1.4) only anti-tank guided missile fire if the firing unit was fired at by a GP weapon(s) with no effect (in which case a temporary suppression marker is placed), but those firing modifiers are the only effect of temporary suppression. If actually suppressed by later fire, replace a temporary suppress marker with a suppressed (ON) marker.

12.4 ADVANCED GAME TERRAIN MARKERS: The block, ditch, barbed wire (called "wire") and improved position markers are all "terrain markers" that are used in the Advanced Game (see option 17.4.4 for hasty entrenchment markers and option 22.0 for temporary bridge markers). These represent man-made obstacles and cover designed to enhance a defender's position. They are all placed by their controlling player during the setup of a game, and cannot be moved thereafter.

12.4.1 HEX EFFECTS: All terrain markers change the terrain in the hex in which they are placed.

12.4.1.1: Block, ditch, hasty entrenchment, and wire markers simply add their characteristics to those of the hex. For example, a rough hex in which a block marker is placed can be called a "block hex", but it is still also a rough hex (with some additional characteristics).

12.4.1.2: Improved position and bridge markers replace the terrain the hex. When placed, other terrain printed in the hex is ignored.

12.4.1.3: No terrain markers change the heights of the hexes in which they are placed.

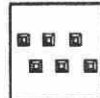
12.4.2 TERRAIN MARKER GP DEFENSE FACTORS: Block, temporary bridge, and wire markers all have GP defense factor assigned (as do building hexes, printed bridges, and minefields), and can be fired at and possibly destroyed by GP point effect fire (see 14.4.4.2.3.5). Ditch, hasty entrenchment, and improved position markers cannot be destroyed.

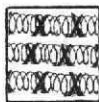
12.4.3 BLOCK HEXES: Block markers represent barriers of obstacles and may be placed in any hex containing a road or path, including bridge hexes. Block hexes cannot be entered by any vehicle or by some towed units (see the "P" in their MOVEMENT COSTS sections of the vehicle units', and in their TARGET INFORMATION "Block" columns of the towed units' data cards for those that cannot do so). Leg and some towed units (those with a "+1" in their TARGET INFORMATION "Block" columns of their data cards) may be moved into block hexes without penalty.

12.4.4 DITCH HEXES: Ditch markers represent deep anti-vehicle ditches, and they may be placed in any hexes, except building or water (including bridge) hexes. Ditch hexes cannot be entered by any vehicle or towed units (see the "P" on their data cards). Leg units may be moved into ditch hexes without penalty, but see 15.1.4 for a movement delay.

12.4.5 IMPROVED POSITION HEXES: Improved position hexes represent prepared entrenchments, foxholes, etc., and may be placed in any hexes except water (including bridge) hexes. Vehicle units in improved position hexes are always considered to be hull down (see 13.2.2) when a target for AP point effect weapons.

12.4.6 WIRE HEXES: Wire hexes represent





barbed wire entanglements, and may be placed in any hexes, except water hexes (they may be placed on bridges). Wire hexes cannot be entered by wheeled vehicle, towed or leg units (see the "P" in their MOVEMENT COSTS sections of the vehicle units', and in their TARGET INFORMATION "Wire" columns of the towed and leg units' data cards). Tracked vehicle units (including towed and/or leg units they are transporting) may enter wire hexes for the cost of an extra movement factor (see the "+1" in their MOVEMENT COSTS sections of their data cards). When they enter the hex, they also automatically destroy the wire marker (remove it from play).

12.5 SQUADS AND HALF SQUADS: A squad unit is completely eliminated by many types of combat, but is reduced to a 1/2 squad and suppressed by GP point effect fire, hand-to-hand combat, and mine attacks (see option 17.5). A leg squad may not be voluntarily broken down into two 1/2 squads; it can only be reduced as a result of combat. Similarly, two 1/2 squads can not be combined into one full squad.

12.6 SMOKE DISCHARGERS: Vehicles equipped with unused (one use only is permitted) "smoke dischargers" (those where the abbreviation "DS" appears under "Smoke Makers" in the FIRING INFORMATION section on their data cards) and which do not have turret compartment hits may be used to make "discharger smoke" in their hex.

12.6.1: A controlling player may decide to use a smoke discharger during his side's portion of any Fire Phase step that is not considered to be simultaneous.

12.6.2: An individual vehicle unit's smoke dischargers may be used only once per game. When used, make a note of this in the unit's "Smoke" line on the RECORD SHEET.

12.6.3: Place a smoke (DS) marker with the vehicle unit. This discharger smoke represents a small, but dense smoke cloud that covers only the vehicle unit that produced it (plus any units it is transporting) while the vehicle unit remains in that hex. Any "other smoke" firing or sighting modifiers apply only to shots fired from or at the covered vehicle, not to shots at or from other units in the hex or to shots whose line of sight passes through the hex.

12.7 GRADE: "Grade" denotes troop quality and training. Game units can be "poor" (not too good), "average" (normal), or "crack" (pretty good). Scenarios determine units' grades. Grade has additional functions explained in the Optional Rules, but for the Advanced Game, only provide firing modifiers (see 14.3.1.3 and 14.4.2.4).

12.8 MILITARY ORGANIZATIONS: Individual vehicles and infantry squads and teams do not operate alone. Instead, they form the building blocks for larger military formations. The groupings of combat units into "basic organizations" for use in this game are shown in the TO&E section of this rulebook. Further groupings of these basic organizations into "larger organizations" are also detailed there. These organizations are used to provide the forces for the given scenarios, and should also be used as guidelines for selecting forces when constructing scenarios.

12.8.1 BASIC ORGANIZATION INFORMATION: Each basic organization shows which and how many combat units are used to form it. Most basic formations show a variety of unit and weapon combinations that can be used in forming that basic organization, along with identifications of the data cards needed, and the point values (for crack, average, and poor grades) of the entire

basic organization. Basic organizations containing the word "headquarters" are "basic headquarters organizations", and all others are "basic combat organizations".

12.8.2 SPECIAL OFFICERS: Some basic organizations have one or more "special officers" (also just "officers") with some of their combat units. These officers are the "CO" (commanding officer), "XO" (executive officer), and "SP" (a trained observer). These basic organizations must be used to obtain these officers. They play no part in the Advanced Game, but can be used for special observation and command purposes explained in the Optional Rules.

12.8.2.1: Consider a basic combat organization "CO" to be the "officer" in "command" of all combat units in that basic organization.

12.8.2.2: Consider a "CO" in a basic headquarters organization to be the "officer" in "command" of all combat units in that headquarters organization, plus all combat units in organizations that are grouped under that headquarters.

12.8.3 ECHELONS OF ORGANIZATIONS: "Sections" and "detachments" are the lowest echelon basic units in the game. Next highest are "platoons". Normally, a number of sections, detachments, and/or platoons are grouped together with an appropriate headquarters basic organization in the next organizational echelon to form "companies", "troops", or "batteries" (for anti-tank and anti-aircraft). Then, a number of companies, troops, and batteries are grouped together with an appropriate headquarters basic organization to form "battalions" or "squadrons".

12.8.4 ORGANIZATION VARIANTS: The guidelines in 12.8.3 and the organization information in the TO&E section of this rulebook should be followed in organizing forces for a game (this is already done in the given scenarios, which should be examined for examples). There should be no company, troop, or battery headquarters basic organizations in a game unless there are at least two or three appropriate lower echelon basic organizations available for the headquarters to "command". There should be no battalion or squadron headquarters basic organizations in a game unless there are at least two or three appropriate companies, troops and/or batteries available for the headquarters to "command". Since exact TO&E organizations do not always perfectly meet the point requirements for a game, combat units may be added or subtracted to standard organizations, by using these guidelines:

12.8.4.1 CROSS-ATTACHING—TASK FORCES: "Cross-attaching" usually consists of tank and infantry organizations swapping subordinate organizations. For example, tank and infantry companies swap one platoon each. Examples of cross-attached organizations are included in the TO&E section. A "task force" can consist of almost any mix of organizations subordinated to one headquarters for some specific task. Task forces are useful for putting a great variety of equipment into one scenario. For example, a company-size task force might include a tank platoon, an infantry platoon, and an engineer platoon.

12.8.4.2 UNDERSTRENGTH ORGANIZATIONS: Understrength (missing one or more combat units or subordinate organizations) organizations are indicated with a "(-)" after the name. Basic organizations should never start a game too understrength—weak organizations would normally be combined and reorganized to form organizations of a more normal size before a battle starts.

12.8.4.3 OVERSTRENGTH ORGANIZATIONS: Overstrength (one or more units or organizations added) organizations are indicated

with a "(+)" after the name. Basic organizations are made overstrength by "attaching" an extra combat unit or units or, for larger organizations, by attaching extra lower echelon organizations and/or supporting artillery batteries. Normally, individual units should be attached to basic combat organizations, while attached organizations should be attached as complete organizations under the command of an appropriate headquarters.

12.9 MULTIPLE SMOKE IN A HEX: Smoke can be created in a variety of ways, and the presence of multiple smoke indicators in the same hex should be handled as follows:

12.9.1: If a hex contains a fire marker (see option 18.3), remove any and all brewed up wreck or smoke markers in the same hex.

12.9.2: A brewed up wreck, a smoke (ON or OFF), and one or more smoke (DISCHARGER) markers may all be present in the same hex (the wreck marker will still be there after the smoke markers are gone). Use the smoke (DISCHARGER) marker only when it concerns the vehicle units that made this smoke. Use only the smoke (ON or OFF) marker for determining all other sightings and modifiers from, to, or through the hex.

12.9.3: If more than one smoke (ON) marker is in a hex, remove all but one. If there is a smoke (OFF) marker in the same hex with a smoke (ON) marker, remove the smoke (OFF) marker.

[13.0] THE ADVANCED GAME COMMAND PHASE

As in the Basic Game, this phase is used to prepare for later phases. "Sighting" procedures are the same as in the Basic Game, except that section 6.1.3 is augmented (see 13.1) and section 6.1.4 (Basic Game Lines of Sight) is replaced. Order marking is also modified and expanded, and the effects of Soviet doctrine must be considered.

13.1 ADVANCED GAME SIGHTING RANGES: Sighting ranges work the same as in the Basic Game (see 6.1.3), except that the "conditions" may vary.

13.1.1: In the Basic Game, the conditions are always "Day", but in the Advanced Game they may also be "Dusk", "Moonlight", or "Night/Fog/Blowing Snow". Simply use the appropriate lines on the SIGHTING RANGES CHART depending on the conditions.

13.1.2: There are now small (all leg and small towed units—so designated in their data card NOTES) and large (most towed units—also designated in their data card NOTES) units present, so those sub-columns are also used, depending on the unit being "sighted".

13.1.3: When just attempting to "sight" a hex (not the units in it), handle the same as vehicle units in clear hexes.

13.1.4: Unless being transported in a buttoned "FC" vehicle or helicopter, always consider leg and towed units to be open for sighting purposes.

13.2 ADVANCED GAME LINES OF SIGHT—HULL DOWN: This section replaces section 6.1.4 of the Basic Game Rules. In addition to checking lines of sight, there is also an Advanced Game requirement to determine if target vehicle units are hull down. The LINE OF SIGHT CHART on the Game Card and some other new rules are used to determine Advanced Game line of sight and hull down characteristics as follows:

13.2.1 CHECKING LINES OF SIGHT: Lines of sight are all still checked by running a straight edge from the sighting dot in the sighting or firing unit's hex to the sighting dot in the target hex. Lines of sight for all point effect weapons are checked to the height of the target unit. Lines of

sight for area effect weapons are checked to the maximum height of the target hex (i.e., including its trees or buildings, etc.). Consider the heights of hexsides to be the height of the *higher* of the two hexes they connect (this includes the heights of two adjoining smoke hexes). Terrain obstacles may completely block a line of sight, but, a smoke hex will only block the line of sight enough to require a firing modifier. If a line of sight goes down the hexside between two different types of smoke hexes, treat as passing through only one hex of the smoke type whose modifier is most favorable to the target. Obstacles (highest point in an intervening hex or hexside) affect lines of sight as follows:

13.2.1.1 OBSTACLE HIGHER THAN BOTH: If the obstacle is higher than the heights of *both* the sighting unit and the target unit or hex, the line-of-sight is "blocked".

13.2.1.2 OBSTACLE HIGHER AND EQUAL: If the obstacle is equal in height to either the sighting unit or to the target, and higher than the other, the line of sight is blocked. For example, in the following diagram, a unit in hex "A" (height "+2") wishes to "sight" a unit in hex "C" (height "+1"). The intervening woods hex "B" is height "+2", so the line of sight is blocked.

LINE OF SIGHT



13.2.1.3 OBSTACLE EQUAL OR LOWER: If the obstacle is equal to or lower than the height of *both* hexes, the line of sight is not blocked.

13.2.1.4 OBSTACLE HIGHER AND LOWER: If the obstacle is higher than one, but is lower than the other, a line of sight check must be made using the LINE OF SIGHT CHART on the Game Card. Procedure is as follows:

13.2.1.4.1: Determine the height difference between the sighting unit and the target unit or hex. For example, if the sighting unit is at height "+6" and the target is at height "+1", the height difference is "5". Find the column on the chart headed with the number representing this height difference. Then, go down that column until the line is found that contains a group of numbers that includes the range between the hexes. For example, if the "5" column is used and the range is 14 hexes, the line (line "4") containing the numbers "12-15-15" includes the range.

13.2.1.4.2: On that line, move to the left until the column with the height difference between the higher (sighting or target) unit and the obstacle is found. For example, if the sighting unit is higher and is at height "+6" and the obstacle is height "+2", the "4" column is used. The highest number found on the line in that column is the maximum range from the higher unit or hex to the obstacle that will not block the line of sight. For example, following through with the above examples, the highest number found is "12" (of "10-12-12" listed). If the range from the higher unit to the blocking hex is 12 or less hexes, the sighting is not blocked.

13.2.2 HULL DOWN RULES: If a target vehicle unit is "hull down", the hit location (representing the lower hull and tracks) that was found (see 7.4.5.2) may be covered by the nature of the terrain—i.e., the firing unit would be unable to "see" or hit these parts of a hull down vehicle.

13.2.2.1 AUTOMATIC HULL DOWN: In certain situations, vehicle units are *always* considered to be hull down.

13.2.2.1.1: A vehicle unit is always hull down when it is receiving fire from a unit in an *adjacent* hex that is of a greater height than the target unit.

13.2.2.1.2: A vehicle unit is also always hull down when it is in an improved position hex or *inside* (see 15.4.3) a brick or stone building.

13.2.2.2 HEIGHT DIFFERENCE HULL DOWN: When the LINE OF SIGHT CHART on the Game Card is used to determine if an obstacle blocks a line of sight, if the line of sight is not blocked and there are three numbers listed when the maximum unblocked range is found (see 13.1.1.4.2), a target vehicle unit may be hull down. If the obstacle is located at a range from the middle number to the largest number, *inclusive*, the target unit is hull down. For example, the numbers found are "22-29-31". This shows that if the obstacle is located at 29, 30, or 31 hexes range, a target vehicle unit is hull down. If less than three numbers are listed, the target is never hull down.

13.2.2.3 EFFECTS OF HULL DOWN: When a target vehicle unit is hull down and AP point effect fire is used, all hit locations identified as a "miss" on the HIT LOCATION CHARTS of its data card are treated as misses instead of the listed hit locations. The projectile would have hit the target's lower hull or track if it had continued on its path, but instead it hit some nearby terrain. For example, a shot from the front hit angle hits a M1 (data card USA-1A). A roll of "63" is made using the M1's HIT LOCATION CHARTS, giving a result of "HF*". The asterisk is explained at the bottom of the chart as, "Treat as a miss if hull down." A hit on the lower portion of the hull was blocked. Against GP point effect fire, there is a "-20" modifier if a target vehicle is hull down.

13.3 THE ADVANCED GAME MARK ORDERS STEP: Leg and towed units mark their orders in the same manner as vehicle units in the Basic Game. This step is performed exactly the same as in the Basic Game (see 6.2), but there are some new orders that can be given and some of the Basic Game orders have their meanings expanded, as explained below:

CA: CLOSE ASSAULT. Found only on the "fire" (red dot) command marker. This order can be given only to leg (only to squad and half squad for hand-to-hand combat) units. Use to allow a leg unit to close assault an adjacent enemy vehicle unit or to engage in hand-to-hand combat with an adjacent enemy leg or towed unit during the Close Assault Step. A leg unit may use *all* of its weapons together (EXCEPTION: missiles) for a close assault or hand-to-hand combat.

F: Expanded use. Necessary order to fire many types of ammunition with guns.

FM: Expanded use. Necessary order to fire many types of ammunition with guns. Loading or unloading is permitted during the Movement Phase.

M: Expanded use. Loading or unloading is permitted during the Movement Phase.

OR: OVERRUN. Found only on the "move" (black dot) command marker. This order can be given only to vehicle units. Use to allow a vehicle unit to make an overrun attack on enemy leg and/or towed units during the Overrun Step. A vehicle's missile weapons may not be used during an overrun attack.

OW: Expanded use. This order may now be given to units armed with missiles, as well as to those with guns. Units that have both guns and missiles may fire one or the other when using an OVERWATCH order, but all fire

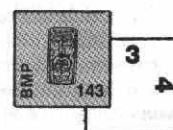
must be resolved at one time during either the Overwatch Fire Step or, when triggered by a moving enemy unit, during the Movement Phase.

13.4 SOVIET DOCTRINE: "One of the serious problems in planning against American doctrine is that the Americans do not read their manuals nor do they feel any obligation to follow their doctrine."—from a Soviet document. Be that as it may, the fact is the United States (and West German) forces put more responsibility on and allow far more flexibility by their junior officers than is allowed by the Soviet army. The Soviets use a rigid doctrine that moves much decision-making further up the chain of command. The game's doctrine rules apply only to the Soviets as follows:

13.4.1 TYPES OF DOCTRINE: The type of doctrine to use with a unit in a game is included in the individual scenarios and in the TO&E Listings. If a Soviet basic organization is defined to have "no doctrine", these doctrine rules do not apply to it. In a Soviet basic organization "with doctrine", all combat units in the basic organization must use doctrine rules. If a Soviet basic organization has some units that must use doctrine (i.e., "with vehicle doctrine"), that type of unit must use the doctrine rules, but the other, unnamed, combat units in the basic organization do not use doctrine rules.

13.4.2 THE USE OF STRENGTH MARKERS: When Soviet combat units use doctrine rules, a number of combat units are represented on the mapboard by one combat unit and a strength marker, which is placed *under* the combat unit. A combat unit with a strength marker is still called a combat unit, but is referred to as a "doctrine combat unit" where necessary to differentiate from a single, doctrineless combat unit.

13.4.2.1 STRENGTH MARKER FACING: The facing of the strength marker that matches the front of the combat unit under which it is stacked displays the number of combat units represented by that unit. For example, the BMP doctrine combat unit below represents three BMP combat units.



13.4.2.2 DOCTRINE REPRESENTATION: When doctrine is used, all combat units of the same type in a basic organization are represented by one combat unit of that type and an appropriate strength marker. For example, a Soviet Airborne Anti-Tank Platoon (SD-44) basic organization is "with doctrine", and consists of 2 medium trucks and 2 SD-44 towed anti-tank guns. In a game, this organization would be represented by one truck and one SD-44 units, each with a strength marker showing "2" stacked underneath. These strengths are not secret—the NATO side is allowed to know the strengths at all times.

13.4.2.3 INDIVIDUAL UNIT DESIGNATION: It is often necessary (i.e., when some units are damaged or when different units are targets for different shots) to differentiate the individual combat units being represented by a doctrine combat unit. Simply identify them by the doctrine combat unit number and letters (i.e., doctrine combat unit 101 represents three vehicles—101a, 101b and 101c). These are still separate combat units, except that the doctrine rules force them to do everything together.

13.4.2.4 RECORDING LOSSES: As losses are taken by a doctrine combat unit, its strength

marker is adjusted to show the lesser numbers. When strength is reduced to "1", the strength marker is removed and the combat unit represents only itself.

13.4.2.5 ABANDONED UNITS: There are cases (ie., when a track or hull compartment hit is taken), where a vehicle or vehicle units are unable to move with the rest. When such vehicles are left behind, consider them to be "abandoned" and leave a spare combat unit(s) of the appropriate type behind in the hex (adjusting the strength marker as the rest of the organization moves on), making a note of its damage. Abandoned vehicles play no further part in the game (ie., their crews have left) except that they can still be shot at until knocked out or brewed up and still contribute their stacking factors to any other units (including enemy ones) that may enter the hex. NOTE: If no appropriate spare unit is available, make a note of the hex where an abandoned vehicle is located.

13.4.3 RULES FOR USING DOCTRINE: Basically, a number of combat units represented by one doctrine combat unit are treated the same as if they were just one unit, but are treated as a number of different targets, and their individual shots are resolved separately.

13.4.3.1: When moved, the organization must be moved together, and all of the units it represents move together, face in the same direction (the one turret unit represents the direction *all* of their turret units face), etc. EXCEPTION: When crossing bridges or frozen water, the individual combat units can be considered to do so one at a time, so their *combined* weight is not on a bridge at the same time.

13.4.3.2: When fired, all must be fired at the same time, using the same type of ammunition, and at the same target, although all shots are resolved individually. For example, T-80A doctrine combat unit 101 represents a T-80A platoon of three tanks (its strength marker shows "3") using doctrine and has FIRE orders. When it is decided to fire the 125mm gun at NATO unit 105, all three tanks represented by Soviet unit 101 must be fired using their 125mm guns, all must fire the same type of ammunition, and all must be fired at NATO unit 105. All three shots are resolved separately. If their machineguns are also fired, they must also all be used to fire at one enemy target. When attacking for an overrun combat, all must attack the same enemy unit. Vehicles that cannot move with the organization are abandoned (see 13.4.2.5) when the rest move on, and units that cannot fire with the group (ie., a gun or turret compartment hit) are just not fired when the rest do so. For doctrine combat units, it is allowable to partially violate Basic Game rule 6.2.3 in that orders may be given that some of the individual combat units represented may be unable to perform.

13.4.3.3: When firing at an organization that represents more than one unit, the firing player must designate which shots are directed at which individual combat units (ie., announce 1 shot at 101a and 1 shot at 101b, etc.).

[14.0] ADVANCED GAME FIRING AND COMBAT

The AP point effect weapons firing rules from the Basic Game are still applicable, and can be utilized by all units carrying weapons of that type.

14.1 ADVANCED GAME GENERAL FIRING RULES: The Advanced Game introduces new units that can fire AP Point Effect Weapons, and also explains the firing of GP point effect weapons.

14.1.1 ADVANCED GAME WEAPONS: The Advanced Game introduces machineguns, rocket launchers and (for the Soviets) grenade launchers, all

of which are point effect weapons (treat as "guns" for game purposes). Firing procedures are normal, with some changes and additional rules.

14.1.1.1: Many combat units may now be used for both AP or GP point effect fire from their main gun and/or missile weapons. Many vehicle units also have independently directed machineguns in addition to their main gun and/or missile and leg units usually have attached weapons that can be fired independently.

14.1.1.2: No special marker is required to indicate if AP or GP point effect fire is to be used, or what specific type of ammunition is to be fired. If there is a choice, this is declared by the firing player when the firing is resolved. AP point effect fire may only be directed against vehicle targets. GP point effect fire may be directed against *all* types of targets, although it is usually not too effective against heavily armored vehicles.

14.1.1.3: Players should check the NOTES sections of the data cards used in a game, as these specify any special rules that apply to a combat unit and/or its weapons. For example, some firing may only be done if a vehicle is open, etc.

14.1.2 INDEPENDENT VEHICLE MACHINE-GUNS: Coaxial machineguns (those mounted next to a main gun) have their values added in to the value of the main gun and are otherwise ignored (ie., when the main gun is fired or lost, the coaxial machinegun is fired or lost with it) in the game. Many vehicles have other machineguns (either heavy="HMG", or light="MG") that can be fired independently from the main gun, and, on some vehicles, machineguns are the only weapons carried.

14.1.2.1: A machinegun may execute separate fire on the same or a different target as the main gun, but must be fired at the same time as the main gun. If there is no main gun, the machineguns may be fired when it would be possible to fire a main gun, had one been present. Targets for machineguns may be located in different firing arcs from that of the main gun or missile, if within the machinegun's firing arc. If desired, the machinegun(s) may be fired without firing the main gun. When the time to fire comes, any weapons not fired may not be "saved" to fire during a later step or phase.

14.1.2.2: In the "Weapons" columns of the vehicle data cards, these machineguns are identified as to size ("HMG" or "MG") and location (ie., "TT"="Turret Top"). If the location identifier ends in the letter "O", the vehicle's turret unit must be "open" for the weapon to be fired, and if it ends in "C", the weapon can be fired if the turret unit is "open" or "buttoned".

14.1.2.3: Machineguns may *not* be fired by a vehicle that has taken a crew loss or losses if the main gun is fired.

14.1.3 ATTACHED LEG WEAPONS: Leg units carry small arms (rifles, grenades, and machineguns) that can be fired as their GP point effect weapons, *plus* usually also have one or more of a wide assortment of "attached" weapons (ie., rocket launchers, anti-tank guided missiles, etc.).

14.1.3.1: The attached weapons may be fired at the same or different targets (targets may be in different firing arcs) as the small arms. When or if weapons can be fired depends on the orders (to fire guns or missiles) given.

14.1.3.2: Due to the amount of back-blast that is produced when rocket launchers or missiles (ATGM or AA) are fired, most attached weapons may not be fired from within a building. When on the ground in a building hex, it can be assumed that the operators step outside to fire these weapons, so there are no restrictions. However,

when leg units are located up in upper floors of a building hex, only some weapons can be fired (see NOTES on the leg data cards).

14.1.4 FIRING GUN OR MISSILE WEAPONS: Many vehicles carry both gun (main gun and/or machinegun) and missile weapons, and many leg units have attached missile weapons.

14.1.4.1: Combat units may fire *only* their guns (all kinds, even launchers) with CLOSE ASSAULT, FIRE, FIRE/MOVE and OVERRUN orders.

14.1.4.2: Combat units may fire *only* their missiles with ATGM orders.

14.1.4.3: Combat units may fire *either* their gun(s) or anti-tank guided missile weapons with OVERWATCH orders.

14.2 THE ADVANCED GAME ABILITY TO FIRE:

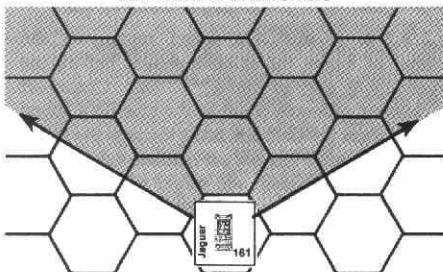
14.2.1 ADVANCED GAME FIRING ARCS: The Basic Game rules for firing arcs (7.2.1) still apply, and turret firing arcs remain the same. Other weapons, not fixed in turrets, have various firing arcs, based on the information on the firing unit's data card in the weapon's "TRN" column of its FIRING INFORMATION. These other firing arcs are as follows:

60: The weapon has a 60 degree firing arc (same as the size of the turret firing arc), but it is from the *front* facing of the combat unit.

60R: The weapon is mounted facing to the rear. It has a 60 degree firing arc from the *rear* facing of the combat unit.

120: The weapon has an 120 degree firing arc that includes all hexes and partial hexes from the front of the combat unit, as shown below:

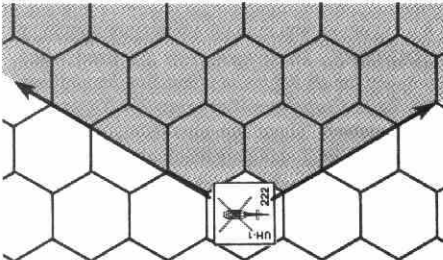
SHADED HEXES FALL WITHIN THIS 120 DEGREE FIRING ARC



360: The weapon has a 360 degree firing arc—all hexes in range are within its firing arc.

SID: The weapon (found only on helicopters) has a 120 degree firing arc that includes all hexes and partial hexes from the *side* of the combat unit, as shown below:

SHADED HEXES FALL WITHIN THIS SIDE FIRING ARC



14.2.2 ADVANCED GAME MISSILES AT MOVING TARGETS: This section replaces section 7.2.2 of the Basic Game Rules. There is no ATGM Resolution Step in the Advanced Game, so missile fire is resolved differently. Missiles "fly" to their targets at a speed well below the extremely high muzzle velocities of conventional gun ammunition and can often be spotted in flight. It is possible for the target of an missile to move behind covering terrain or otherwise cause a missile to lose sight of or miss the target, although

a missile's speed may allow it to impact before the target completes its movement. A missile shot is still an automatic "miss" if the firing unit is knocked out, brewed up or eliminated before the missile impacts.

14.2.2.1 NON-MOVING MISSILE TARGETS: Regardless of when a missile is fired, if the target unit is not moving or going to move, resolve the missile fire *immediately*.

14.2.2.2 MOVING MISSILE TARGETS: If the target unit is moving or is going to move (has FIRE/MOVE, MOVE or OVERRUN orders) the fire is not resolved until the target unit is moved during the Movement Phase.

14.2.2.2.1: The target unit is moved normally (obviously, the controlling player may be maneuvering for cover), noting the exact hexes it enters, and the total number of hexes it enters during its movement (not the total movement factors expended).

14.2.2.2.2: Then, replace the target unit in its "initial hex". An initial hex is the hex in which the target unit started the Turn if the missile shot was announced during the ATGM Announcement or Overwatch Fire Steps. If the missile shot was announced because overwatch fire was triggered during the Movement Phase, the initial hex is the one in which the target unit was in when the overwatch fire was triggered (announced).

14.2.2.2.3: On the firing unit's data card, check the "ATGM Speeds" column opposite the missile weapon in the FIRING INFORMATION section. If the total target unit's movement is three or less hexes, the ATGM's speed is found in the "1-3" subcolumn, and, if the target unit's movement is four or more hexes, the ATGM's speed is found in the "4+" subcolumn. *For example, on the T-80A data card (USSR-1A), the speeds of the Songster ATGM are "24" for a target move of "1-3" and "12" for a target move of "4+".*

14.2.2.2.4: A missile's speed represents the number of hexes the missile moves before the target unit is able to move "1" hex. Count off the number of hexes equal to the missile's speed in the shortest possible hex route towards the target unit. If the missile has not yet reached the hex containing the target unit, the target unit is moved 1 hex. The process is repeated until the missile reaches the target unit (and the shot is resolved), or the target unit moves into a hex that is not in "sighting" or the missile's range, or to which there is a blocked line of sight. As in BG7.2.2.2, an anti-tank guided missile will still hit a target unit that moves out of its firing arc.

14.3 ADVANCED GAME AP POINT EFFECT FIRE PROCEDURE: This is handled the same as in the Basic Game with some additional AP point effect modifiers and some new damage effects.

14.3.1 ADVANCED GAME AP POINT EFFECT MODIFIERS: These modifiers are used when they apply for all AP point effect fire, in addition to the Basic Game modifiers (see 7.4.2), and all are cumulative. These are also listed in the AP POINT EFFECT MODIFIERS section on the Game Card.

14.3.1.1 ADVANCED GAME AP POINT EFFECT GENERAL MODIFIERS:

14.3.1.1.1 Through Other Smoke: Smoke produced by smoke shells, smoke dischargers, etc. (any smoke not caused by a burning wreck) is denser than the smoke caused by a burning wreck. A "-10" modifier applies if a shot's line of sight leaves, enters or passes through a hex or hexside containing a smoke (ON or OFF) marker, or which is from or at a vehicle unit covered by discharger smoke—has a smoke (DS) marker—or through a fire hex (see option 18.3). This modifier applies for *each* such hex that is encountered.

14.3.1.1.2 Firer Suppressed: A "-10" modifier applies if the firing unit is suppressed.

14.3.1.1.3 Transported Firer: If the firing unit is a leg unit being transported on a vehicle unit, a "-5" modifier applies.

14.3.1.1.4 Per Firing Crew Loss: *Each* crew loss hit suffered by a firing vehicle unit causes a "-4" modifier.

14.3.1.1.5 Firer Tem Sup (Temporarily Suppressed): Since anti-tank guided missiles must be guided by an operator, shots at the operator can throw off the aim. These modifiers apply if a unit firing an ATGM has been fired at by GP fire one or more times without being destroyed or actually suppressed prior to resolving the ATGM fire. The modifier to be used varies from "-2" to "-7", depending on the guidance class of the ATGM that was fired.

14.3.1.2 ADVANCED GAME TERRAIN MODIFIERS: In the Advanced Game, combat units may be located in improved position hexes (a "-10" modifier, in addition to making a vehicle unit hull down), and inside buildings (a "-8" modifier—see 15.4.3—this also makes a vehicle unit hull down in brick or stone building hexes).

14.3.1.3 FIRER GRADE MODIFIERS: Average grade units have no modifiers.

14.3.1.3.1 Poor Unit Firing: A "-1" modifier applies if the range to the target is 6 to 10 hexes, "-2" at 11 to 15 hexes, "-3" at 16 to 20 hexes, "-4" at 21 to 25 hexes, and "-5" at 26 or more hexes.

14.3.1.3.2 Crack Unit Firing: A "+1" modifier applies if the range to the target is 6 to 10 hexes, "+2" at 11 to 15 hexes, "+3" at 16 to 20 hexes, "+4" at 21 to 25 hexes, and "+5" at 26 or more hexes.

14.3.2 THE AP POINT EFFECT SIGHT MODIFIERS: The sights (not all are actually sights, but this term is used generically for simplicity) available for weapons are given on the data cards as one-letter abbreviations in the "Sights" column of the weapon's section of the FIRING INFORMATION. Many weapons have more than one of these available. The firing player may use whichever seems most advantageous when firing (some may not be used in some situations). Although the modifiers from these sights do not apply when using GP fire, the special abilities for ignoring smoke of the CO2 laser sight and thermal imager *do* apply when using GP fire. These have the following effects for firing units that have them (for quick reference, also see the SIGHT MODIFIERS in the AP POINT EFFECT MODIFIERS section of the Game Card):

(C) **CO2 LASER SIGHT:** This works the same as a laser sight (see "L", below), but *can* be used in "Fog" or "Blowing Snow" conditions, or through smoke (except discharger smoke).

(D) **LASER DESIGNATOR:** Can be used to "paint" targets for some air and artillery weapons that "home-in" on reflected laser energy (see options 19.2.4.7 and 20.2.3.3.3). Cannot be used in "Fog" or "Blowing Snow" conditions, or out of, through, or into *any* smoke hexes/hexsides.

(I) **IMAGE INTENSIFIER:** Can be used to "see" out to "Day" sighting ranges out to a maximum range of 20 hexes during "Dusk" or "Moonlight" and out to a maximum range of 15 hexes during "Night". All types of smoke plus "Fog", or "Blowing Snow" conditions all negate this ability.

(L) **LASER SIGHT:** Adds modifiers depending on the range—"1" at 6-10 hexes, "+2" at 11-15 hexes, "+3" at 16-20 hexes, "+4"

at 21-25 hexes, and "+5" at 26-40 hexes range. Cannot be used in "Fog or Blowing Snow" conditions, or out of, through, or into *any* smoke hexes/hexsides.

(O) **OPTICAL SIGHTS:** Old-fashioned sights (ie., eyeballs, binoculars, etc.)—no modifiers.

(R) **RADAR:** Used only to control firing by anti-aircraft units against air units (see option 20.3.1).

(S) **STEREO/COD:** Adds modifiers depending on the range—"1" at 6-15 hexes, "+2" at 16-25 hexes, and "+3" at 26-40 hexes range.

(T) **THERMAL IMAGER:** A weapon with these sights can ignore all firing modifiers for all smoke *except* for discharger smoke out to a maximum range of 20 hexes. Can also be used to "see" out to "Day" sighting ranges out to a maximum range of 20 hexes during nighttime (see option 18.1), *except* to or from a unit covered by its own discharger smoke. Camouflage (see option 17.6.1) has no effects against a thermal imager out to the 20 hex range.

14.3.3 ADVANCED GAME AP FIRE DAMAGE EFFECTS: These are in addition to the effects of damage caused by AP point effect weapons covered in the Basic Game Rules (see 7.4.7).

14.3.3.1 ADVANCED GAME COMPARTMENT HITS: Any vehicle unit that takes a compartment hit (hull or turret) is also, along with any units it may be transporting, suppressed. Place suppressed (ON) markers on all of these units. Compartment hits also automatically cause one crew loss. Compartment hits destroy any sights used by destroyed weapons, and any searchlights or smoke makers mounted on the compartment. A hull compartment hit will also destroy all hull mounted weapons. A turret compartment hit will also destroy any turret mounted weapons. Also, check the target unit's data card NOTES section—some vehicle units are knocked out as a result of *any* compartment hit. Note crew losses and damages on the RECORD SHEET.

14.3.3.2 ADVANCED GAME KNOCK OUTS/BREW UPS: On a vehicle unit that is knocked out or brewed up, *all* units that it is transporting are also eliminated (including full infantry squads) and removed from play.

14.3.3.3 BREW UPS CAUSE SUPPRESSION: If a vehicle unit is brewed up, not only is it replaced with a burning wreck marker, but *all* other combat units currently in its hex are immediately and automatically suppressed. Place suppressed (ON) markers on all of these units.

14.3.3.4 NON-PENETRATING AP POINT EFFECT HITS: AP point effect hits that fail to penetrate (the penetration value is less than the armor basis) may still do some damage if the hit was made in certain locations:

14.3.3.4.1: A hit on the "TT" or "HD" of an *open* vehicle unit that fails to penetrate will cause one crew loss. Note crew losses on the RECORD SHEET.

14.3.3.4.2: A hit on the "TT", "HF" or "HR" that fails to penetrate will still destroy machine-guns (MG or HMG) located in those positions, if any. Note these damages on the RECORD SHEET.

14.3.4 REACTIVE ARMOR AND ITS EFFECTS: "Reactive armor" is a bolt-on armor that deflects the effects of "CE" ammunition by exploding outward to disrupt the penetrating stream of gas. Reactive armors have *no* effects on "KE" ammunition. The presence of reactive armor is given in scenarios, or can be added (at listed points per

vehicle unit) to vehicles whose data card NOTES sections indicate its availability (other effects of the use of reactive armor are also given). Reactive armor is of two types:

14.3.4.1 HEAVY REACTIVE ARMOR: If a vehicle unit has heavy reactive armor and is hit at the "TF", "TS", or "HS" locations by AP point effect fire using "CE" ammunition, the hit automatically does not penetrate.

14.3.4.2 LIGHT REACTIVE ARMOR: If a vehicle unit has light reactive armor and is hit at the "TF", "TS", or "HS" locations by AP point effect fire using "CE" ammunition, treat the armor basis as "80" more than the printed number.

14.4 GP POINT EFFECT FIRING PROCEDURE: "GP" (for "general purpose") weapons represent all types of fire depending on volume, explosive force and/or burning for its effects. The procedures used when firing GP point effect weapons are considerably different from that used to fire AP point effect weapons.

14.4.1 FINDING THE GP FACTOR: As when finding an AP factor, a GP factor is found by crossgridding the range in hexes to the target with a "GP" line. The "NM" ("non-moving") line is used if the firing unit is not moving (has FIRE, ATGM or OVERWATCH orders), and the "MV" ("moving") line is used if the firing unit is moving (has FIRE/MOVE or OVERRUN orders). Weapons that do not have a "MV" line may not be fired if the firing unit is moving. *For example, a T-80A fires its 125mm main gun using "GP" ammunition at a target unit that is at 18 hexes range. The GP factor is "17" if the T-80A is not moving and "9" if it is moving.* The rate of fire when GP weapons are fired is always considered to be "1", regardless of the listed rate of fire (which is needed only for AP point effect fire)—higher real rates of fire are "built-in" to weapon's GP factors.

14.4.2 THE ADVANCED GAME GP POINT EFFECT FIRE MODIFIERS: All modifiers are listed for reference on the GP POINT EFFECT MODIFIERS section on the Game Card. These modifiers are cumulative and together constitute a net modifier. The net modifier for GP point effect fire modifies the dice roll for combat resolution. *For example, if the net modifier is "+10" and a "65" is rolled on the dice, this is treated as a roll of "75" because of the modifier.* Also note the effects of weapon's sights on smoke (see 14.3.2) that do apply for GP fire. Only the modifiers used in the Advanced Game are discussed here.

14.4.2.1 GENERAL GP POINT EFFECT MODIFIERS: These can apply to all GP point effect fire, regardless of target.

14.4.2.1.1 GP Acquisition Bonus: A "+5" modifier is received for each consecutive turn that the same firing unit engages in GP point effect fire against the same target unit. Record target units as necessary in the "Notes" line of the RECORD SHEET.

14.4.2.1.2 Per Firing Crew Loss: A "-10" modifier applies for each crew loss damage taken by the firing unit.

14.4.2.1.3 Firer Suppressed: A "-20" modifier applies if the firing unit is suppressed; i.e., it is marked with a suppressed (ON or OFF) marker.

14.4.2.1.4 Firer Temp Sup (Temporarily Suppressed): This modifier applies only to units firing missiles that have been fired at, but not suppressed or destroyed, prior to the resolution of the shot. The modifier used varies from "-5" to "-15", depending on the guidance class of the ATGM fired.

14.4.2.1.5 Transported Firer: A "-10" modifier applies if the firing unit is a leg unit firing from a transporting vehicle unit (towed units may not be fired while being transported).

14.4.2.1.6 Through Brew Up Smoke: A "-10" modifier applies if the line of sight leaves, enters or passes through a hex or hexside of a hex containing a burning wreck marker. The modifier applies for each hex that is encountered.

14.4.2.1.7 Through Other Smoke: A "-20" modifier applies if the line of sight leaves, enters or passes through a hex or hexside of a hex containing a smoke (ON or OFF) marker or which is from or at a vehicle unit covered by discharger smoke (see 16.3.3.2)—has a smoke (DS) marker—or through a fire marker (see option 18.3). The modifier applies for each hex encountered.

14.4.2.1.8 Firing Overwatch: When a unit with OVERWATCH orders is fired, a "-5" modifier applies if the target is "NM" (not moving—the target unit has CLOSE ASSAULT, FIRE, FIRE MISSILE, or OVERWATCH orders), and a "-15" modifier applies if the target is "MV" (moving—the target unit has FIRE/MOVE, MOVE, or OVERRUN orders).

14.4.2.1.9 Building Target: A "-10" modifier applies when firing at a building hex (not when firing at units in a building hex) for each height of the buildings in that building hex. *For example, when firing at a building hex with buildings two heights high, a "-20" modifier applies.*

14.4.2.2 GP POINT EFFECT FIRE VS. VEHICLES: These modifiers apply only if the target unit is a vehicle unit.

14.4.2.2.1 In Building Hex: A "-10" modifier applies if the target vehicle unit is in a building hex.

14.4.2.2.2 In Woods Hex: A "-10" modifier applies if the target vehicle unit is in a woods hex.

14.4.2.2.3 Hull Down: A "-20" modifier applies if the target vehicle unit is hull down.

14.4.2.2.4 Moving: This "-10" modifier applies if the target vehicle unit is moving (has FIRE/MOVE, MOVE or OVERRUN orders).

14.4.2.3 GP POINT EFFECT FIRING CANISTER MODIFIERS: When canister (see 14.4.5.2) is fired, a "+20" modifier applies if the target unit is a leg or towed unit, and a "-20" modifier applies if the target unit is a vehicle unit.

14.4.2.4 GP POINT EFFECT GRADE MODIFIERS: Average grade units have no modifiers.

14.4.2.4.1 Poor Unit Firing: A "-5" modifier applies if the range to the target is 11 to 20 hexes, and "-10" at 21 or more hexes.

14.4.2.4.2 Crack Unit Firing: A "+5" modifier applies if the range to the target is 11 to 20 hexes, and "+10" at 21 or more hexes.

14.4.3 FINDING THE GP DEFENSE FACTOR: A target unit requires a "GP defense factor" for comparison to the GP factor to resolve GP point effect fire.

14.4.3.1 VEHICLE GP DEFENSE FACTORS: The GP defense factors for target vehicles are listed on their data cards on the "GP Defense" line in the TARGET INFORMATION section. *For example, a T-80A (data card USSR-1A) has a GP defense factor of "8".*

14.4.3.2 LEG AND TOWED GP DEFENSE FACTORS: The GP defense factors for leg and towed units are listed on their data cards in the TARGET INFORMATION sections.

14.4.3.2.1 General Procedure: The GP defense factors of these units depend on the terrain in the hex they are in and the status of the unit ("FC"=unit is in full cover; "NM"=unit is not

moving—has ATGM, CLOSE ASSAULT, FIRE, or OVERWATCH orders; and "MV"=unit is moving—has FIRE/MOVE, MOVE, or OVERRUN orders). Crossgrid the terrain with the situation to find the GP defense factor. *For example (look on data cards USA-7B, FRG-4B, and USSR-11B) a target leg unit with FIRE orders ("NM") is in a rough terrain hex. Its GP defense factor is "4".*

14.4.3.2.2 Modifiers: If there is a block or wreck marker located in the hex with a leg and/or towed target unit, add one (" +1") to the GP defense factor that the unit would normally have for the hex's terrain.

14.4.3.2.3 In Ditch Hexes: There are two GP defense factors listed for a ditch hex. The first number is the unit's GP defense factor if the fire is coming from a greater height than that of the target unit. The second number is the unit's GP defense factor if the fire is coming from an equal or lower height than that of the target unit.

14.4.3.2.4 Mixed Terrain: If there is more than one type of terrain in the target unit's hex (i.e. an improved position marker in a rough hex), use the terrain with the highest GP defense factor.

14.4.3.2.5 Transported Units: When GP point effect fire is used against a vehicle unit that is transporting a leg and/or towed unit, both the vehicle unit and the leg and/or towed unit(s) being transported may all be fired at with the one GP shot.

14.4.3.2.5.1: The firing unit's GP factor is used against the transporting vehicle unit's GP defense factor, then used again against each leg and/or towed unit being transported. This is done only if the vehicle unit is "open", or, if "buttoned", against a vehicle that does not list "FC" ("full cover")—these vehicles have complete side and overhead protection for infantrymen or towed unit's crews) on the TRANSPORT VALUE line of its data card. The GP factor is not used against units being transported by a "buttoned" vehicle that does list "FC" on its TRANSPORT VALUE line.

14.4.3.2.5.2: Leg and towed units being transported by non-FC transport vehicles have a GP defense factor of "1" regardless of the terrain in the hex. Leg and towed units being transported by FC transport vehicles that are "open" have a GP defense factor of "3".

14.4.3.2.5.3: Transported leg and/or towed units do not receive the "+1" bonus in wreck or block hexes.

14.4.3.3 TERRAIN GP DEFENSE FACTORS: Terrain and terrain markers other than those discussed here have no GP factors and can never be destroyed.

14.4.3.3.1: Weapons capable of GP point effect fire, with the exception of those listed in their data card NOTES as "small arms", may direct their GP factors against block, temporary bridge (see option 22.0), building, and wire hexes, instead of firing at enemy combat units. These terrain features have GP defense factors (specified by the scenario or chosen by the players, also see the STANDARD TERRAIN VALUES CHART on the Game Card), and GP point effect fire can be used against them. Their GP defense factors do not vary according to terrain.

14.4.3.3.2: Permanent bridges (those printed on the mapboard), building hexes, and minefields (see option 17.5) may also be destroyed by firing at them, but only by artillery fire (HE, ICM, or ICMDF fire missions—see option 19.0), aircraft iron or cluster bombs (see option 20.1), or adjacent assault infantry (see option 17.4.1.2). Therefore, these hexes may not be destroyed using only the Advanced Game Rules.

14.4.3.3.3: A combat result of effective is required to eliminate or destroy the terrain in a terrain hex. If eliminated, the block, temporary bridge, and wire markers are removed from the mapboard, a permanent bridge hex is marked with a destroyed marker, a building hex is marked with a block marker (*this* block marker may never be eliminated), and a minefield hex notation is erased on the **RECORD SHEET**. When a block, bridge (permanent or temporary), minefield, or wire hex is destroyed, all ground combat units in the same hex are suppressed—place a suppressed (ON) marker. Combat ground units on destroyed bridges end up in the water/ditch hex that the bridge covered, and are knocked out or eliminated if that type hex is prohibited for them. When a building hex is eliminated, *all* ground combat units in the hex are also *completely* eliminated—vehicle units leave no wreck markers when knocked out in this way.

14.4.4 DETERMINING GP POINT EFFECTS DAMAGE:

14.4.4.1 GP FIRE RESULTS DETERMINATION: Consult the GP COMBAT RESULTS TABLE on the Game Card. Crossgrid the firing unit's GP factor (along the top of the table) with the target unit's GP defense factor (along the sides of the table). Roll both dice and modify the result by the net GP modifier, if any. If the final modified result is any number up to and including the number on the "N" line, the shot has "no effect". If final modified result falls in the number range from above the "N" number to and including the number on the "S" line, the target unit has been "suppressed". If the final modified result is any number higher than the number on the "S" line, the target unit has suffered an "effective" result. *For example, if "23" GP factors were fired at a target unit with a "5" GP defense factor, and the modified dice roll was "72", the target unit would be suppressed. If the target unit is a vehicle unit transporting leg and/or towed units that are eligible targets (see 14.4.3.2.5), the same dice roll would be used to determine the effects of the GP point effect fire against all of these units, although different GP defense factor lines would be used to determine the (possibly different) effects against each combat unit.*

14.4.4.2 EFFECTS OF GP RESULTS: GP point effect fire results have different effects on different types of units.

14.4.4.2.1 (N) No Effect Results: If the result is no effect, the fire caused no appreciable damage and can usually be ignored. **EXCEPTION:** If directed at a target unit with an unresolved anti-tank guided missile firing, that target unit gets a temporary suppression marker.

14.4.4.2.2 (S) Suppressed Results: If the result is suppressed, the fire was close enough to, in most cases, degrade the target's combat effectiveness.

14.4.4.2.2.1 Suppressed Vs. A Buttoned Vehicle Unit: If the target is a buttoned vehicle unit and the GP fire that caused the suppressed result is from a weapon that is "small arms" (see NOTES on firing unit's data card) at a range of greater than two hexes, the suppressed result is treated as a no effect result. However, if the GP fire is from a "small arms" weapon at a range of two hexes or less, or from any other weapon at any useable range, the vehicle unit is suppressed. Mark the target vehicle unit with a suppressed (ON) marker.

14.4.4.2.2.2 Suppressed Vs. An Open Vehicle, Leg, Or Towed Unit: If the target is an open vehicle, leg or towed unit, a suppressed result causes the target unit to be suppressed. Mark the target unit with a suppressed (ON) marker.

14.4.4.2.2.3 Suppressed Vs. A Block, Bridge, Building, Or Wire Hex: Treat as a no effect result.

14.4.4.2.3 (EF) Effective Results: If there is an effective result, the fire was close enough to, in most cases, do serious damage to the target.

14.4.4.2.3.1 Effective Vs. A Buttoned Vehicle Unit: If the target is a buttoned vehicle unit and the GP fire that caused the effective result is from a "small arms" weapon (see NOTES on firing unit's data card) at a range of greater than two hexes, the effective result is treated as a no effect result. However, if the GP fire is from a "small arms" weapon at a range of two hexes or less, or from any other weapon in its useable range, the vehicle unit is suppressed (**EXCEPTION:** see 14.4.4.2.3.3). Mark with a suppressed (ON) marker.

14.4.4.2.3.2 Effective Vs. An Open Vehicle Unit: If the target is an open vehicle unit, an effective result causes the target vehicle unit to suffer one "crew loss" and be suppressed. (**EXCEPTION:** see 14.4.4.2.3.3). Mark with a suppressed (ON) marker and make a note of the crew loss on the **RECORD SHEET**.

14.4.4.2.3.3 Vehicle Knocked Out or Brewed Up Through Explosive Power: Many modern weapons are of sufficient size that the explosive force of their explosive shells or bombs can still destroy many armored vehicles. *This does not apply* if canister is fired. In the "Vehicle Damage From Hit" column of the **FIRING INFORMATION** section on a firing unit's data card, check the entry (if there is no entry, this rule does not apply) opposite the GP ammunition for the weapon fired. If the target vehicle unit's GP defense factor number is listed there, an effective result either knocks out or brews up (as stated) the vehicle unit (open or buttoned—replace with an appropriate wreck marker). Any units being transported are also knocked out and removed from play (including complete full squads). *For example, for a M1 (data card USA-1A) firing GP ammunition with its 105mm main gun, this reads, "EF=KNK OUT if GP DEF=1-5." If a target vehicle unit's GP defense is "5" or less, an effective ("EF") result will knock out the target.*

14.4.4.2.3.4 Effective Vs. Leg Or Towed Units: If the target is a leg or towed unit, an effective result causes the following: a leg team or leg half squad or a towed unit is eliminated and removed from play (no wreck marker is placed). **EXCEPTION:** From GP point effect fire, a leg squad is reduced to a half squad and suppressed—mark the target unit with a suppressed (ON) marker and make a note on the **RECORD SHEET** that the unit is now a half squad.

14.4.4.2.3.5 Effective Vs. Terrain: Terrain markers or hexes attacked by appropriate weapons are destroyed and eliminated or marked accordingly.

14.4.5 ALTERNATE AMMUNITION: The NOTES section of data cards indicates which weapons may fire canister and smoke ammunition. These alternate ammunition types may be fired by these weapons instead of other types of ammunition. Firing canister or smoke ammunition requires **FIRE** or **FIRE/MOVE** orders.

14.4.5.1 FIRING SMOKE: Smoke ammunition has the same maximum range as a weapon's GP ammunition, and a minimum range of 2 hexes. To fire, announce a target hex that is within the weapon's firing arc and range, that does not contain friendly units, and to which there is an unblocked line of sight and place a smoke (ON)

marker in the target hex (this is "other" smoke). There is no damage.

14.4.5.2 FIRING CANISTER: Canister ammunition has a minimum range of 2 hexes and a maximum range of 10 hexes. Firing is handled the same as for GP point effect fire—use the weapon's normal GP factor within the range limitations, but use the canister firing modifiers (see 14.4.2.3). Rule 14.4.4.2.3.3 (vehicle destroyed by explosive power) does *not* apply to a target vehicle unit if canister is fired.

14.5 CLOSE ASSAULT COMBAT: "Close assaults" simulate the effects of infantry attacking vehicles from very close range. Close assault combats are resolved during the Close Assault Step. The **CLOSE ASSAULT** order is required for a dismounted leg unit to engage in a close assault combat. This order may not be given to a mounted or suppressed leg unit, and may not be carried out by a unit that is suppressed before the close assault can be resolved. Close assault combats are *not* considered to be simultaneous.

14.5.1 ABILITY TO CLOSE ASSAULT: Close assault may only be employed only against enemy vehicle units (or against terrain hexes by assault infantry *only*—see option 17.4.1.2) that are located in a hex adjacent to the leg unit and within its firing arc. Close assault combats may not be employed against a unit or hex that is located more than *two* heights above or below the close assaulting leg unit. A leg unit may use close assault combat against only one enemy vehicle unit or terrain hex per Turn. If several leg units are close assaulting the same target, each makes a separate attack (resolve in any desired order), but all attacks on one unit must be announced before any are resolved. If there are other units in the hex with the unit being close assaulted, they are ignored. Although close assaulting units *are* firing, they are also considered to be moving around within their hex and are marked with a spotted (MOVED) marker.

14.5.2 CLOSE ASSAULT COMBAT RESOLUTION: Close assault combats are resolved similarly to GP point effect fire.

14.5.2.1: The "MV" GP factor of the leg unit at a range of one hex *plus* the "MV" GP factor(s) of any attached rocket launchers is compared to the target vehicle unit's close assault defense factor (see **CA DEFENSE** line on the vehicle unit's data card), the same way a GP factor is used with a GP defense factor when firing GP point effect weapons.

14.5.2.2: The dice are rolled and the GP COMBAT RESULTS TABLE on the Game Card is used with the same procedure as for a GP point effect fire resolution, but the **CLOSE ASSAULT MODIFIERS** (see below and on the Game Card) are used to determine a net modifier, instead of using the GP POINT EFFECT MODIFIERS.

14.5.3 THE ADVANCED GAME CLOSE ASSAULT MODIFIERS:

14.5.3.1 ATTACKING UPHILL: A "-10" modifier is used if the target vehicle unit is at a greater height than the close assaulting leg unit.

14.5.3.2 VS. MOVING VEHICLE: A "-10" modifier is applied if the target vehicle unit is moving (has **FIRE/MOVE**, **MOVE** or **OVERRUN** orders).

14.5.3.3 VS. OPEN VEHICLE: A "+10" modifier is used if the vehicle is open. This modifier also applies if the vehicle's armor basis is "0" at its "TT" or "HD" location (see **ARMOR CHARTS** on the vehicle's data card).

14.5.3.4 ATTACKER GRADE: If the attacker is crack, a "+10" modifier applies. If the attack is poor, a "-10" modifier applies.

14.5.4 RESULTS OF CLOSE ASSAULTS: A close assault combat is resolved by rolling two dice and consulting the GP COMBAT RESULTS TABLE, the same as with GP point effect fire. Unlike GP point effect fire, the combat results always apply to the target vehicle unit, whether it is open or buttoned, armored or unarmored. The vehicle unit is suppressed—place a suppressed (ON) marker—if that was the result rolled, and is knocked out and replaced by a *brewed up* wreck unit if an effective result was rolled.

14.6 HAND-TO-HAND COMBAT: “Hand-to-hand combats” simulate the effects of infantry attacking dismounted enemy leg or towed units from very close range, with a few men on either side possibly briefly coming to personal blows. Hand-to-hand combats are a form of close assault, and are resolved during the Close Assault Step. Only dismounted squad or ½ squad leg units may initiate a hand-to-hand combat, and a unit doing so is called an “attacker”. A unit being attacked is called the “defender”. A CLOSE ASSAULT order is required for a leg unit to attack for hand-to-hand combat. This order may not be given to a mounted or suppressed leg unit, and may not be carried out by a unit that is suppressed before its hand-to-hand combat attack can be resolved. Hand-to-hand combats are *not* considered to be simultaneous.

14.6.1 ABILITY TO ATTACK FOR HAND-TO-HAND COMBAT: Hand-to-hand combat may only be employed against *dismounted* enemy leg (including bailed-out crews—see option 17.2.3) or towed units that are located in a hex adjacent to the attacking leg unit and within the its firing arc.

14.6.1.1: Hand-to-hand combat attacks may not be made against a unit that is more than *two* heights above or below the attacking leg unit.

14.6.1.2: A leg unit may attack for hand-to-hand combat against only one enemy leg or towed unit per Turn. If there are other units in the hex with the unit being engaged in hand-to-hand combat, they are ignored. It is possible for more than one leg unit to attack the *same* enemy unit.

14.6.1.3: Since the Close Assault Step is not simultaneous, it is possible, on the side going first, for a leg unit to attack an enemy unit for hand-to-hand or close assault combat, and then be itself attacked (possibly by the same enemy unit) for hand-to-hand combat during the same Close Assault Step.

14.6.1.4: Attackers in hand-to-hand combats, like those making close assaults, are marked with a spotted (MOVED) marker.

14.6.2 HAND-TO-HAND COMBAT RESOLUTION: Hand-to-hand combats are resolved differently from GP point effect fire or close assaults. Instead, the HAND-TO-HAND COMBAT TABLE on the Game Card is used for combat resolution.

14.6.2.1: Find the line on the table that shows the attacking (given first) and defending units. If there is more than one attacker, use the best (one with the best modifiers for the attacker) possible attacking unit.

14.6.2.2: The dice are then rolled, modified by the net modifier determined from the HAND-TO-HAND COMBAT MODIFIERS (see 14.6.3 and on the Game Card), and the “winner” determined by the numbers shown on the appropriate line of the table. *All* units involved in the combat on the other, or losing side, suffer an effective result, with the same effects as for a GP point effect effective result (see 14.4.4.2.3.4—squads are reduced to ½ squads and suppressed). If there are multiple attacking units, *all* suffer the effective result.

14.6.3 THE ADVANCED GAME HAND-TO-HAND COMBAT MODIFIERS: These modifiers are cumulative, and are used depending on the attacker’s, the defender’s or both sides’ situation. *For example, if the attacker is crack, the die roll is “-10”, if defender is crack, the die roll is “+10”, and if both sides are crack there is both a “-10” and a “+10” modifier (net modifier of “0”).*

14.6.3.1 SUPPRESSED: If the defending unit is suppressed, modify the dice roll by “-20”.

14.6.3.2 UPHILL ATTACK: If the defending unit is higher than the attacking unit, modify the dice roll by “+10”.

14.6.3.3 PER CREW LOSS AND/OR BAILED OUT: If the defending unit is a bailed out crew unit, and/or has suffered one or more crew losses, modify the dice roll by “-10”.

14.6.3.4 PER ADDITIONAL ATTACKER: Modify the dice roll by “-10” for each attacking unit after the first one. *For example, if there are three attacking units, this causes a modifier of “-20”.*

14.6.3.5 UNIT GRADES: If the defending unit is crack, modify the dice roll by “+10”. If the attacking unit is crack, modify the dice roll by “-10”. If the attacking unit is poor, modify the dice roll by “+10”. If the defending unit is poor, modify the dice roll by “-10”.

14.7 OVERRUN COMBAT: “Overrun combats” represent attacks where vehicles physically try to “run down” soldiers who are not in vehicles. Overrun combats direct a vehicle unit (the “attacker”) against a dismounted leg or towed unit (the “defender”). *All* overrun combats are resolved during the Overrun Step of the Movement Phase, and the attacking unit *must* have OVERRUN orders. Overrun movement can trigger overwatch fire the same as any other movement.

14.7.1 GENERAL OVERRUN COMBAT RULES: A vehicle unit conducts an overrun attack when it is moved into a hex containing an enemy leg or towed unit, and has OVERRUN orders. Vehicle units making overrun attacks on units in building hexes will have to go *inside* the buildings to do so (see 15.4.3). Before the overrun movement starts, the controlling attacking player should announce the defending unit.

14.7.1.1: Only vehicle units that do not have damage to *all* of their gun armament (i.e., gun or turret compartment hits) that would prevent combat, may attack for overrun combats. Vehicle units without vehicle guns of any kind (i.e., trucks or vehicles carrying only missiles) also may not be used for overrun combats.

14.7.1.2: Overrun combats may only be employed against a dismounted enemy leg or towed unit that can be reached by a vehicle unit’s movement. An attacking vehicle unit must be able to “see” an enemy leg or towed unit *before* any movement can be made towards its hex. If no “sighted” enemy leg or towed unit can be reached for an overrun combat, if a vehicle unit is unable to be moved, or, if the controlling player decides not to perform an overrun attack, a vehicle unit with OVERRUN orders may not be moved. **EXCEPTION:** For Soviet doctrine combat units, if the defending unit is eliminated by one of the earlier attacking vehicles that is part of the doctrine combat unit, the remaining vehicles are considered to be moved to keep the vehicles of the unit together.

14.7.1.3: A vehicle unit may attack to overrun only one enemy unit per Turn. If there are other units in the hex with the unit attacked for overrun combat, they are ignored. Soviet doctrine combat unit vehicles may be assigned to overrun

different enemy units located in the *same* hex.

14.7.1.4: Overrun attacks can not be directed against enemy units which are being transported on vehicle units (this includes those just loaded during the Movement Step). Overrun attacks can be directed against enemy units that were just unloaded during the Movement Step.

14.7.1.5: If more than one vehicle unit attacks the same target unit, the overrun combats are resolved one at a time.

14.7.2 OVERRUN COMBAT RESOLUTION: Overrun combat is resolved in two parts, the “overrun defensive fire” by the defending leg or towed unit (and by no other unit in the hex), and the “overrun fire” by the attacking vehicle unit.

14.7.2.1: OVERRUN DEFENSIVE FIRE: After the vehicle unit enters the overrun combat hex, overrun defensive fire is resolved for the defending leg or towed unit. If the defending towed or leg unit has OVERWATCH orders that can be triggered during the movement of the attacking vehicle unit, the controlling player may use the defending unit for overwatch fire or overrun defensive fire, not both, as desired. If attacked by more than one vehicle unit during the same Overrun Step, the overrun defensive fire is used only against the *first* overrunning vehicle unit. Overrun defensive fire is considered to be GP point effect fire at a 1 hex range (i.e., it happens just before the vehicle unit enters the hex) and uses all applicable modifiers, with the following changes:

14.7.2.1.1 GP Factors Used For Overrun Defensive Fire: *All useable* non-moving (“NM”) gun (including launchers) GP factors at a 1 hex range for the defending unit are *added* together to find the defending unit’s *total* GP factor to be used for its overrun defensive fire. *For example, an American team (see data card USA-7B) with a machinegun (“MG”) attached has 7 GP factors for the team plus 9 GP factors for the attached machinegun for a total of 16 useable GP factors for overrun defensive fire.* A defending unit gets overrun defensive fire even if it *already* fired during an earlier step in the Turn and regardless of its orders.

14.7.2.1.1.1: Towed weapons and leg units’ attached weapons may add in their “NM” GP factors for overrun defensive fire *only* if the hex from which the attacking vehicle unit enters their hex is within their fire arc. Otherwise, they are not useable.

14.7.2.1.1.2: Towed units and leg attached weapons are not useable for overrun defensive fire if the unit was just unloaded during the Movement Step.

14.7.2.1.1.3: Towed or leg units with a location (FULL COVER) marker *may* use overrun defensive fire, and this may be “first fire” if the unit is not also suppressed.

14.7.2.1.2 First Fire/Simultaneous Fire: The towed or leg unit may take its overrun defensive fire *before* (called “first fire”) the overrun fire is resolved, if it has not yet been fired during the Turn and is not suppressed. First fire is considered to take place in the hex just before the attacking vehicle unit enters the defending unit’s hex. If first fire is not possible, the overrun defensive fire and the overrun fire are considered to be simultaneous, although they can be resolved in any convenient order. If first fire damages the attacking vehicle unit in such a way that it cannot enter the defender’s hex, the vehicle unit must remain in the hex adjacent to the defender’s hex and does not get to resolve its overrun fire. If a defender is in a building hex, the overrunning vehicle unit must go “inside” the buildings (see 15.4.3) before resolving the overrun fire. If the vehicle fails to

get inside the buildings, it also does not get to resolve its overrun fire.

14.7.2.2 OVERRUN FIRE: Overrun fire is resolved in the same manner as normal GP point effect fire at a range of 1 hex, with the following changes:

14.7.2.2.1 GP Factors Used For Overrun Fire: The attacking vehicle unit's moving ("MV") GP factors at a range of 1 hex is used for the overrun fire. The moving GP factors of all *useable* vehicle guns are *added* together to find the *total* GP factor for the overrun fire. If the vehicle unit is transporting a leg unit(s), and the leg unit(s) can fire, its moving GP factor and the moving GP factors of any attached weapons that can be fired while being transported (see 15.3.4) at a range of 1 hex are also added to the total vehicle GP factors for the overrun fire.

14.7.2.2.2 Overrun Fire Modifiers: All normal GP point effect fire modifiers apply, plus there is also a "+20" overrun modifier applied to the combat resolution dice roll. In an overrun attack, an effective result against an infantry squad will eliminate it completely, not reduce it to a half squad.

14.7.3 POST OVERRUN ADJUSTMENTS: If an overrunning vehicle unit is still able to move after the combats, it may complete any additional desired movement. When no further movement or firing is possible or desired, all situations with opposing units in the same hex are adjusted following rule 8.8.

14.8 TOTAL CREW LOSS: The size of a unit's crew is shown on its data card—the number listed with its "Bailed Crew" in the "Weapon" column of the FIRING INFORMATION section is the number of soldiers in a crew. If the number of crew losses equals the size of the crew, consider the unit to be knocked out or eliminated (this applies when counting victory points).

[15.0] ADVANCED GAME MOVEMENT RULES

All Basic Game rules of movement still apply, with the following additions and changes. However, instead of the Basic Game's Movement Step followed by an ATGM Resolution Step within the Movement Phase, there are now Movement and Overrun Steps in the Advanced Game Movement Phase, and anti-tank guided missile shots are resolved *during* movement (see 14.2.2).

15.1 LEG UNIT MOVEMENT RULES: Leg units used in the Advanced Game are infantry squads, ½ squads, and teams.

15.1.1: The movement factors for the various leg units are listed on the SPEED lines of their data cards. Squad and ½ squad units with FIRE orders may be moved two hexes, and those with FIRE/MOVE orders may be moved only one hex—this is the meaning of the "2(1)" on their SPEED line. Teams may not fire and move, so there is no sense giving them FIRE/MOVE orders, and they may only be moved one hex with MOVE orders.

15.1.2: Leg units expend one movement factor for each hex entered, regardless of the terrain in the hex. However, leg units (regardless of type) may only enter one new hex if they change height up or down. Leg units may not cross a hexside with more than two height changes. There are no special road or path movement costs for leg units.

15.1.3: Leg units do not expend movement factors for turning within a hex, and may make any number of turns within each hex (including their starting hex).

15.1.4: Leg units may not enter wire hexes (unless transported by a vehicle unit that can enter a wire hex). Leg units that enter a ditch hex must

remain in that hex for at least one Turn after entering the hex.

15.2 TOWED UNIT MOVEMENT RULES: Towed units used in the Advanced Game are anti-tank ("AT") and anti-aircraft ("AA") guns.

15.2.1: The SPEED lines on towed units' data cards show either "towed" or "towed (1)". "Towed" means that towed units may not be moved into new hexes under their own power. "Towed (1)" means that the unit has a *limited* ability to move under its own power—these units may be moved one hex directly to the unit's front or one hex directly to the unit's rear with MOVE orders (they may not be turned until the Pivot Step). These moves may not change the unit's height by more than one height. Either type may be moved into new hexes when transported by vehicle or helicopter units (see option 20.2.2.3 for the latter).

15.2.2: Towed units may be pivoted in place during a Pivot Step with any orders, and do *not* require a transporting unit to do so.

15.2.3: Towed units may not enter wire (unless transported by a vehicle unit that can enter a wire hex) or ditch hexes. Some may not enter block hexes—check the "Block" column on the TARGET INFORMATION sections of their data cards to see if "P"=prohibited.

15.3 VEHICLES USED FOR TRANSPORT: Leg and towed units can be "transported" (carried and/or towed) by vehicle units.

15.3.1 TRANSPORT VALUES: Vehicles have a "Transport Value" line on their data cards. The "transport value" number found on this line is the maximum number of leg and/or towed unit stacking points the vehicle unit can transport at any one time. If the letter "L" appears, leg units can be transported. If the letter "T" appears, towed units can be transported. "LT" indicates leg and/or towed units, as long as the combination of their stacking points does not exceed the vehicle's transport value. If "(FC)" appears on the line, the vehicle offers "full cover", or complete overhead and side cover to its mounted units (i.e., they ride "inside" the vehicle, not on top of it). Units being transported are "mounted", while those not being transported are "dis-mounted".

15.3.2 LOADING AND UNLOADING: Loading and unloading is considered to be a form of movement, and expends movement factors. Units require certain orders to load or unload (see 15.3.2.3), but the decision to actually do so is up to the player when the time comes to move. Leg and towed units have a LOAD/UNLOAD COST line on their data cards. This is the number of a transporting vehicle unit's movement factors required to "load" a unit onto a vehicle (so it can be transported), or to "unload" a unit from a vehicle (after which it operates independently of the vehicle). It is possible for a unit or units to be loaded onto a vehicle at the same time as others are being unloaded.

15.3.2.1: A transporting vehicle unit may use any excess movement factors above those needed to load or unload to enter new hexes (at normal movement costs) before and/or after loading (transporting newly loaded units with it) and/or unloading (possibly leaving formerly transported units behind).

15.3.2.2: If more than one unit is being loaded and/or unloaded at the same time in the same hex, the total movement factor cost is that of the leg or towed unit with the *highest* load/unload cost. The load/unload factors of the units are *not* added together for this purpose.

15.3.2.3: To be loaded, a leg or towed unit must have MOVE orders, but not be moved into a new

hex until *after* it is loaded (assuming that the vehicle unit has any movement factors left to use after loading). To be unloaded, transported units (which have the same orders as the vehicle unit transporting them—see 15.3.3.1) require MOVE or FIRE/MOVE orders, and then must remain in the hex where unloaded. Vehicle units that transport leg and towed units in "full cover" (i.e., inside and not on the vehicle) must be open to load or unload.

15.3.2.4: A vehicle unit which does not have enough movement factors available to load/unload after entering a new hex may not do so. A vehicle unit that does not enter a new hex may be used to perform any loading/unloading, even if it has fewer movement factors available than required (even if using FIRE/MOVE orders).

15.3.2.5: A vehicle unit with FIRE/MOVE orders may be used to fire its weapons, and load/unload. Leg or towed units unloaded from a vehicle unit with FIRE/MOVE orders may *not* be fired.

15.3.2.6: To avoid clutter, remove leg and towed units from the mapboard while they are being transported. Write down the identification numbers of mounted units in the transporting vehicle unit's "Transport" line on the RECORD SHEET. When unloaded, return the leg/towed units to the mapboard and erase their transport notations on the RECORD SHEET.

15.3.3 SPECIAL RULES FOR TRANSPORTED UNITS: Some special rules apply to leg and towed units while they are transported.

15.3.3.1: While being transported, no separate orders need to be marked for leg or towed units. They have the same orders as their transporting vehicle unit—when the vehicle unit is being moved, its transported units are moved along with it, and, when the vehicle unit is being fired, its transported units may also (if allowed) be fired with it.

15.3.3.2: While being transported, the stacking factors of leg and towed units do *not* count towards the total number of stacking factors in a hex. *Only* the stacking factors of the transporting vehicle units are counted. *For example, a BTR60PB (worth 2 stacking factors, and with a transport value of "3LT") transporting an infantry squad (2 stacking factors) and a team (1 stacking factor) does not count as five stacking factors, but only as the BTR60PB's 2 stacking factors.*

15.3.3.3: Leg and towed units being transported are sighted when their transporting unit is sighted, if the transporting unit is not full cover or is open. If it is a buttoned and has full cover, opposing players do not have to be informed of what (if anything) is being transported.

15.3.4 FIRING WITH TRANSPORTED UNITS: Check the NOTES on the data cards to see which special rules on firing transported units apply to specific vehicles and mounted weapons.

15.3.4.1: Some units (all towed units) and many infantry weapons (machineguns, missiles, etc.) may not be fired while being transported. Others (i.e., rocket launchers) may be fired only if the transporting vehicle unit is non-full cover or, if full cover, is open. On some vehicle units, even infantry small arms cannot be fired if the vehicle is buttoned. Otherwise, normal firing procedures and applicable modifiers apply.

15.3.4.2: Leg units, when transported by certain full cover vehicle units may be fired when the vehicle unit is buttoned (see NOTES on the Vehicle unit's data cards). The maximum range for this fire is "2" hexes. Leg units transported by vehicle units without this capability, may fire only if the vehicle unit is open. Normal ranges apply from an open vehicle unit.

15.4 MOVEMENT IN BUILDING HEXES: Building hexes represent groups of buildings that may attain quite a bit of height.

15.4.1 LOCATIONS WITHIN BUILDING HEXES: Units in a building hex may be inside or outside the actual structures, and at ground level or a number of floors higher. Like all movement, changing locations in a building hex expends movement factors and requires orders that permit movement (ie., FIRE/MOVE, MOVE or OVERRUN orders).

15.4.1.1 LEG UNIT LOCATIONS: When a leg unit is located in a building hex, its individual soldiers are normally considered to be at ground level and making maximum use of cover, either inside or near the actual buildings. For game purposes, a leg unit in a building hex that is not otherwise marked is always considered to be "inside" the buildings at the hex's ground level. Leg units may also be located in the upper floors of buildings (if they have them). To show that a leg unit is inside buildings and one or more height above the hex's ground level, mark the leg unit with a location (UP) marker, and indicate its exact height above the hex's ground level (this is *not* secret, and the information *should* be made available to the opposing players) on the RECORD SHEET "Notes" line.

15.4.1.2 VEHICLE AND TOWED UNIT LOCATIONS: Vehicle and towed units in building hexes, on the other hand, unless otherwise marked, are considered to be in the streets and open spaces around the buildings. Some vehicle and towed units may also be located inside buildings at ground level (they may never go UP), and, to show this, mark with a location (INB) marker ("INB" = "in building"). Vehicle units whose data card's NOTES section indicates that they "may not enter or overrun buildings", may *not* go inside buildings, and section 15.4.3 does not apply to them.

15.4.2 MOVING LEG UNITS UP AND DOWN INSIDE BUILDINGS: Leg units may be moved up or down one height in a building hex by expending 1 movement factor per height changed. Leg units may be moved as high as the maximum height of the buildings in a hex.

15.4.3 MOVING VEHICLE UNITS INSIDE BUILDINGS: The player moving a vehicle unit in a building hex announces his intention to enter "inside" a building in the hex. Moving inside a building expends one movement factor over and above other movement costs (if any). Vehicle units entering a building may suffer Track ("TK") and/or main gun ("GN") damage as they do so. The possibility of this damage occurring must be checked *immediately*, and before completing any possible further movement or before resolving overrun fire. This procedure is *not* followed when units inside buildings leave them; that is just normal movement. Use the following procedure when moving "inside" a building to determine any damaged suffered:

15.4.3.1 FINDING THE MODIFIED DICE ROLL: Roll the two dice and check the VEHICLE'S INTO BUILDINGS TABLE on the Game Card. Modify the dice roll by "+5" per number of the vehicle unit's close assault defense factor. For example, the close assault defense factor for a M1 (data card USA-1A) is a "7"—7 times 5 = 35, so the modifier is "+35".

15.4.3.2 FINDING THE EFFECTS: Check the column on the table that identifies the type of building hex. If the *modified* number rolled falls into one or more of the ranges listed, the type of damage on that line affects the vehicle—"TK" (track hit) or "GN" (main gun hit).

15.4.3.2.1: Only one of the two gun lines ("forward" or "back") is used in determining damage to the main gun, depending on the gun's facing. The main gun is considered to be facing "forward" if it is facing directly towards the *direction of movement* or is adjacent to the direction of movement. The main gun is considered to face the "back" if it is facing directly away from the *direction of movement* or is adjacent to that direction. Vehicle units may use reverse moves to enter or exit a building. In fact, this is the only way that units lacking a rotating turret could use to get the main gun to the "GN (Back)" line. These directions can be easily seen if a player moves a vehicle unit into a building hex, and simultaneously announces movement inside a building. If a vehicle unit is *already* in a building hex, and the controlling player wishes to move it inside a building there, merely announce if the movement is forward or reverse to check which way the main gun faces in relation to movement.

15.4.3.2.2: All damage is decided by one dice roll. For example, a vehicle unit with its main gun facing the same direction as the vehicle and a close assault defense factor of "6" moves straight ahead into a wooden building hex. A "15" is rolled, which, with the "+30" modifier, gives a modified dice roll of "45". This causes no track damage (that would require a modified roll of "40" or less), but the main gun is damaged.

15.4.3.2.3: Any track and/or main gun damage on the unit is recorded in and has the same effects as normal hits of these types.

15.4.3.2.4: A vehicle unit suffering a track hit while attempting to enter a building is considered *not* to have moved inside the building. It may not make overrun fire.

15.4.4 MOVING TOWED UNITS INSIDE BUILDINGS: A towed unit can get inside a building if it is transported there by a vehicle.

15.4.5 STARTING INSIDE BUILDINGS: During setup for a game, vehicle and towed units that start placed on the mapboard in building hexes may be considered to be inside or outside of the buildings, at their controlling player's choice. There is no damage to these units. Leg units that start inside buildings may be "UP", if desired.

15.5 FULL COVER: Dismounted leg and towed units can employ "full cover" to make maximum use of the natural cover in the hex they occupy. To show that a unit is doing so, a leg or towed unit with MOVE orders has a location (FULL COVER) marker placed and *does nothing else* during a Movement Step. This does *not* count as movement, and the unit is not marked with a spotted (MOVED) marker and does not trigger Overwatch fire. A unit already marked for full cover may be given *any* orders, but can do nothing (except entrench—see option 17.4.4) during a Movement Step (full cover can only be changed during an Adjust Markers Step).

15.6 PATH RESTRICTIONS ON MAIN GUNS: Many modern vehicles have very long main guns. In the game, paths represent fairly narrow roadways. When a path passes through a building or woods hex, the vehicles with the long guns may be unable to proceed with their long guns pointing to the side. Vehicle units whose data cards' NOTES sections say "path restrictions on turret turns in building and wood hexes" require the following special rules:

15.6.1: These vehicle units may only be moved following a path across a hexside to or from a woods (light or heavy) or building hex if their turret unit faces *directly* to the vehicle unit's front or rear.

15.6.2: Unless following the track of a road, these vehicle units may only be moved to enter light woods hexes if their turret unit faces *directly* to

the vehicle unit's front or rear.

15.6.3: Unless located in a hex containing a road (note that a hex containing *both* a road and a path qualifies as a road hex for this purpose), these vehicle units may not have their turret units turned while located in a woods (light or heavy) or building hex.

15.6.4: While *inside* a building, these vehicle units may never have their turret units turned.

15.7 VEHICLES LAYING EXHAUST SMOKE WHILE MOVING: Vehicle units equipped with exhaust smoke generators (those where the abbreviation "EX" appears under "Smoke Makers" in the FIRING INFORMATION section of their data cards), and which do not have a hull compartment hit may be used to lay smoke in any or all of the hexes in its wake.

15.7.1: A player may decide to use a vehicle's exhaust smoke generator while moving an individual vehicle unit (any movement orders may be used—FIRE/MOVE, MOVE, or OVERRUN).

15.7.2: An individual vehicle unit's exhaust smoke generator may be used only three times per game. When used, make a note of this on the unit's "Smoke" line on the side's RECORD SHEET. Each time it is used, smoke may be placed in any number of hexes, depending on how far the vehicle unit is moved.

15.7.3: When using a vehicle unit's exhaust smoke generator, a smoke (ON) marker may be placed in a *continuous* track in every hex the vehicle exits during its movement, including the hex where it started its movement (this does *not* include the final hex where the movement ends). If desired, smoke does not have to be placed in *all* of these hexes, but from a starting to a finishing point the track must be *continuous*. If the vehicle does not enter any new hexes, exhaust smoke may be created in that one hex.

[16.0] THE ADVANCED GAME ADJUSTMENT PHASE

The following additions are made to the Basic Game Rules (see 9.0).

16.1 THE ADVANCED GAME PIVOT STEP: Basic Game 9.1 still applies in full. In addition to possible vehicle units, all desired dismounted leg and towed units (regardless of orders) that are *not* suppressed may now have their facing changed by one, two or three hexsides (up to 180 degrees) in any direction.

16.2 THE ADJUST TURRETS STEP: This step is identical to that in the Basic Game (see 9.2), except the vehicle units with turret compartment hits must have their turret units changed to their open side.

16.3 THE ADVANCED GAME ADJUST MARKERS STEP: In addition to removing any "unseen" spotted markers (see 9.3), the following additional marker adjustments are made:

16.3.1 REMOVE MARKERS: First, remove all temporary suppress, suppress (OFF), smoke (OFF), and smoke (DS) markers.

16.3.2 ADJUST "ON" MARKERS: Then, change all suppressed (ON) markers to suppress (OFF) markers, and all smoke (ON) markers to smoke (OFF) markers.

16.3.3 REMOVE FULL COVER MARKERS: Finally, players may remove any desired FULL COVER markers with their units.

16.4 THE ADVANCED GAME END TURN STEP: This is the same as in the Basic Game Rules, except that the objective victory point values and the determination winners varies from scenario to scenario and is found in the Victory Conditions portion of each scenario.

MBT OPTIONAL RULES OF PLAY

INTRODUCTION TO THE OPTIONAL GAME RULES

The rules and mechanics of the Advanced Game should be mastered before trying any of the Optional Rules. The Optional Rules are just that—optional—they can be added to the game in any combination to suit the players' tastes. Each Optional Rule adds greater scope and realism, as well as additional complexity to the play of the game. Some Optional Rules are necessary for the use of certain units, and are not needed if those units are not used in a particular game. The Optional Rules, in many cases, simply add to the Basic and Advanced Game Rules, and those rules still apply unless otherwise stated. Several new phases and steps are added to the Sequence of Play when certain Optional Rules are used—these are given in the SEQUENCE OF PLAY WITH ALL OPTIONS on the Game Card. Simply ignore any phases and steps that do not apply to the rules being used for a particular game.

[17.0] COMBAT OPTIONS

17.1 AREA EFFECT FIRE: With the point effect fire (AP or GP), covered in the Basic and Advanced Rules, a *specific unit* is targeted for the fire. "Area effect fire", on the other hand, is not directed at a single target combat unit, but is considered to be a large volume of fire or explosive force directed into a particular "impact hex", and may harm *all* combat units in that hex. All area effect fire is GP, and it is not utilized for any AP fire. Area effect fire may be used only by artillery (which is off-board—see option 19.0), on-board mortar weapons, and certain air weapons (see option 20.0). With area effect fire, the impact hex may be either the originally target hex, or another nearby hex into which the fire may "scatter".

17.1.1 GENERAL AREA EFFECT FIRE RULES: On-board units (ie., mortars) that are to employ "direct area effect fire" must have FIRE orders. On-board units that employ "indirect area effect fire" must have FIRE orders *and* a written order ("plot"), plus an observer unit that can "see" the target hex. Off-board artillery units must have a plot, plus an observer unit that can "see" the target hex. Both artillery and mortars may use continuous fire (see option 19.2.1.4). Air units resolve their area effect fire when announced, but may also have an observer unit.

17.1.1.1 DIRECT AREA EFFECT FIRE: To use "direct area effect fire", the firing unit must be able to be used to "see" the target hex. The fire is announced and resolved during the same Direct Firing Step.

17.1.1.2 INDIRECT AREA EFFECT FIRE—OBSERVERS AND PLOTS: To use "indirect area effect fire", a firing unit must be in communication (both must have or be in same hex with units that have radios) with an "observer" unit that can be used to "see" the target hex. Radio availability is found in the NOTES sections of the data cards.

17.1.1.2.1 NATO Observers: Any NATO unit with a "CO", "XO" or "SP", or a U. S. OH-58D or West German SA-313C helicopter unit can be used as an observer unit for one target hex at a time (multiple artillery battery and/or mortar units may fire at the same target hex using one observer unit). In addition, FISTV (data card USA-4A/2) and BEOBPZ (data card FRG-2B/2) vehicle units can be used as an observer unit for up to two target hexes at a time.

17.1.1.2.2 Soviet Observers: Any Soviet reconnaissance platoon "CO", any company head-

quarters unit with a "CO", any battalion headquarters unit with a "CO" or "XO", or a Mi-2 helicopter unit can be used as an observer unit for one target hex at a time (multiple artillery battery and/or mortar units may fire at the same target hex using one observer unit). In addition, ACRV (data card USSR-6B/2) vehicle units can be used as an observer unit for up to two target hexes at a time.

17.1.1.2.3 Other Observer Prerequisites: To be used, an observer unit must have OVERWATCH orders (it may also perform other overwatch functions, in addition to its observing duties) both during the Turn that the "sighting" of the target hex is made, *and* during the Turn that the fire impacts.

17.1.1.2.4 Written Orders (Plots): Indirect area fire must be plotted. Therefore, during the Mark Orders Step of a Turn, a written "plot" must be made on the RECORD SHEET noting (for mortars) the target hex, the type of ammunition used, and the identification number of the observer unit (ie., "2HH9-GP-102"). For mortar units and off-board artillery batteries, open up a column on the "Artillery Plots" section of the RECORD SHEET by filling in the appropriate information. Off-board artillery batteries require more elaborate plots, as explained in option 19.2. These plots and the identities of observer units may be kept secret from opposing players.

17.1.2: AREA EFFECT FIRE PROCEDURE: Once it has been determined that area effect fire is possible, the following procedure is followed for all situations. The results of area effect fire are applied in different phases; the phase used depends on the type of unit firing. All *direct* area effect fire by mortar units is resolved during Direct Fire Steps. All *indirect* area effect fire from mortars and artillery is resolved during Artillery Steps. All area effect fire from aircraft and helicopters is resolved during the Air Phase in which it is announced, and follows a somewhat different procedure (see options 20.1.3.3—20.1.3.4 and 20.2.3.3.1).

17.1.2.1 CHECKING FIRE: If desired, during an Artillery Step, any indirect area effect fire by artillery or mortars, with the exception of planned type fire (see option 19.2.1.1) or fire missions where an observer unit can no longer "see" the target hex, can be "checked". If checked, the fire can either be "canceled" or "delayed" (with no other changes) for a Turn. Checking prevents new plots for that artillery battery or mortar unit during a Turn in which it occurs. If cancelled, a new plot can be written when the next open Turn line is available on the RECORD SHEET. If delayed, simply draw a new line below the current one on the RECORD SHEET.

17.1.2.2 THE AREA EFFECT SCATTER MODIFIERS: Determine if the target hex can be "seen" (by the firing unit for direct area effect fire or by an observer unit for indirect area effect fire), if fire is possible (always possible for off-board artillery, if the target hex can be "seen" by an observer unit), and the range from the *sighting* unit to the target hex. When firing is to be resolved, place an artillery marker in the target hex. Use the marker with the appropriate letter for an artillery battery and any unused artillery marker for a mortar or air unit.

17.1.2.2.1: Then, consult the AREA EFFECT SCATTER MODIFIERS CHART on the Game Card to determine what effect, if any, the conditions will have on the shot. The conditions are

listed across the top of the chart. Below each column is a series of numbers. These numbers represent the range in hexes from the sighting unit to the target unit. Find the line containing the range in the proper conditions column, then go to the left of the chart. Along the left hand side of the chart are the "scatter modifiers". For example, if the Conditions are "Moonlight" and the range is "18" hexes, the scatter modifier is "-30". The terrain and the presence of combat units in the target hex has no bearing on the determination of this modifier, although the presence of a burning hex (see option 18.3) and/or artificial illumination (see options 18.1.2 and 19.2.4.6) can affect the "sighting" of the target hex.

17.1.2.2.2: Additional, cumulative, scatter modifiers are found in the OBSERVER SCATTER MODIFIERS sections on the firing unit's or artillery data cards. These modifiers depend on the types and situations of the observer (for indirect area effect fire) or firing (for direct area effect fire) units, and are self-explanatory. For example, If the observing unit is of crack grade, the scatter modifier is changed by "+10".

17.1.2.2.3: For air unit area effect weapons, the additional scatter modifiers are found on the unit's data card (see option 20.1.3.3).

17.1.2.3 FINDING THE FINAL HIT LOCATION:

17.1.2.3.1 Using The AREA EFFECTS SCATTER TABLE: The AREA EFFECT SCATTER TABLE on the Game Card is used to determine the final hit location of area effect fire. All area effect weapons have a "scatter factor".

17.1.2.3.1.1: Scatter factors are found in the SCATTER FACTORS section of their data cards for artillery. Cross-grid the fire type with the "Observed" or "Unobserved" (the fire is "unobserved" if the observer is no longer able to see the target hex when the fire impacts for any reason) columns to find the scatter factor that applies. For mortar, aircraft, and helicopter weapons, a weapon's scatter factor (which may vary with the range from the *sighting* unit to the target hex, or, for air units, with its speed and altitude) is found on the "SCATR" lines of their weapons.

17.1.2.3.1.2: Scatter factors are expressed as a number from "10 to 80", and are listed along the top of the table. Roll both dice, and modify the roll by any scatter modifiers that apply. Listed along the side of the table are the *modified* results of the dice roll. Cross-reference the appropriate modified dice roll with the proper scatter factor. If the result is a "H", the fire has impacted in the target hex. If the result is a number, this is the number of hexes the fire scatters from the target hex. For example, if the base scatter factor is "20", and the modified dice roll is "08", the fire scatters 2 hexes.

17.1.2.3.2 Using The SCATTER DIAGRAM: Now, consult the SCATTER DIAGRAM on the Game Card. The large printed numbers on the SCATTER DIAGRAM ("1-6"), correspond to the mapboard direction numbers determined by the directional hex (see 1.1). Roll the dice, then, on the corresponding mapboard hexes, move the artillery marker the number of hexes found on the AREA EFFECT SCATTER TABLE in the direction indicated by the dice roll from the original target hex. For example, the fire scatters 2 hexes, and a "72" is rolled on the dice, the artillery marker is moved 2 hexes from the original target hex in mapboard direction 5. This is the "impact hex" where the fire actually "hits". If the im-



fact hex is off the mapboard, it is considered out of play.

17.1.3 RESOLVING AREA EFFECT FIRE:

Area effect fire is resolved the same as GP point effect fire, except that the weapon's GP factor must be used separately against each combat unit in the hex. *For example, if the 107mm mortar of the M106A1 (data card USA-8B/1) is fired, and its impact hex contains both a leg unit and a towed unit, the "21" GP factor of the weapon is used against the leg unit's GP defense factor, then against the towed unit's GP defense factor, with separate dice rolls.* Also, separately resolve combat against any terrain in the hex that can be destroyed. GP point effect modifiers marked "(AE)" on the GP POINT EFFECTS MODIFIERS section of the Game Card apply, plus others that may be noted on the firers data card. Many area effect weapons affect more than just their impact hex, and all units and terrain in these additional hexes must be separately resolved (see options 19.0 and 20.0).

17.2 HIT VARIATIONS: These rules vary the results of some hits.

17.2.1 EFFECTS OF TURRET FACING:

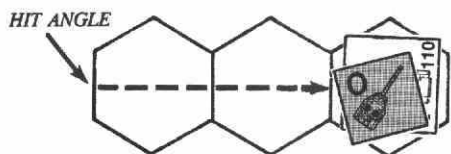
Vehicle units with rotating turret units may have their turret unit facing in a completely different direction from the vehicle unit's facing. Anytime a vehicle unit with its turret unit facing in a different direction from the vehicle unit is hit in a turret location ("TF", "TS", "TR") other than the "TT", by an AP point effect weapon, the AP POINT EFFECT TURRET FACING TABLE on the Game Card is checked to find the actual location of the turret hit.

17.2.1.1: Find the hit angle to the turret unit (see 7.4.5.1).

17.2.1.2: Roll the dice, and find the number rolled on the line with the hit angle to the turret. Then read to the top of the column where the number rolled was found. Listed along the top of the table are the new turret hit locations.

17.2.1.3: Determine penetration using the armor basis at this turret location.

12.2.1.4: *For example, an AP point effect shot scores a turret front ("TF") hit location on the combat unit in the diagram below from the direction shown by the arrow. This direction is at a rear/side hit angle to the turret unit. A "62" is rolled, so the hit location is actually "TR" ("turret rear"). Use the "TR" armor basis from the rear/side angle of the target to determine penetration.*



17.2.2 SPECIAL LEG UNIT LOSSES: Leg unit attached weapons and equipment (i.e., flamethrowers and "GLLD" sights) may possibly be destroyed or lost whenever a full squad suffers a reduction to a half-squad. The same applies to a "CO" or "XO" officer that may be with a squad. Each attached weapon or officer is immediately checked for possible loss. A roll of "01-50" eliminates the weapon, equipment, or officer. Attached rocket launcher and anti-aircraft missile attached weapons are considered as rounds of ammunition, and are not subject to this loss. Mark off losses on the RECORD SHEET.

17.2.3 BAILING OUT: Instead of vehicle crews and transported units always being eliminated when their vehicle is knocked out, this option allows "bail out" attempts. Units may, whether

the players want them to or not, bail out of disabled, knocked out, or brewed-up vehicle units. This is checked after all fire at the vehicle is resolved and completed in a single phase or step. Because of the number of weak units this can add to the mapboard, use of this option to bail out and keep up with vehicle and towed unit crews is suggested only for smaller games. Transported leg and towed units that can bail out are much more useful, so checking them for bail out attempts is recommended for all but the very largest games.

17.2.3.1 BAIL OUT PROCEDURE: When a vehicle unit receives a gun ("GN"), track ("TK"), any AP point effect hit that penetrates, a GP fire "effective" result that causes a vehicle knock out or brew up result, or has a close assault attack by a flamethrower, there is a chance that the vehicle unit's crew and any transported leg and towed units will bail out. Whenever there is a chance to bail out, the attempt must be made. The BAIL OUT TABLES on the Game Card are used to resolve all bail out attempts.

17.2.3.1.1: Cross-grid the type of penetrating hit, the type of bail out unit, and the hit location ("EF KO" = any GP fire hit that causes a knock out or brew up result). If there are several hits scored during the same phase or step, the unit bails out if the dice roll calls for a bail out for any of those hit locations.

17.2.3.1.2: Then roll the dice once per unit attempting to bail out. If a dice roll falls within the range of numbers found (if "Elim", there is no chance and the unit is automatically eliminated), the unit bails out. If the dice roll exceeds the range of numbers, the unit does not bail out. *For example, a vehicle unit transporting a leg unit is knocked out by AP fire that hit the "TF" location. The dice are rolled once for the crew, then again for the leg unit. For the crew, if its roll is from "1" to "25", the vehicle crew bails out. For the leg unit, if its roll is from "1" to "40", the leg unit bails out.*

17.2.3.1.2.1: For no damage or compartment hits, a roll is made only for the crew. Any transported units will automatically bail out if the crew does, or stay on the vehicle if the crew does. Failure to bail out with no damage or compartment hit damage has no additional effects over the normal ones.

17.2.3.1.2.2: For knock out and brew up hits, a failure to bail out means that the unit is eliminated (full squads are totally eliminated).

17.2.3.2 MARKING AND USING BAILED OUT UNITS: All units which bail out are marked with a suppressed (ON) marker. They may be faced as desired by the controlling player.

17.2.3.2.1 BAILED OUT LEG & TOWED UNITS: Bailed out leg and towed units perform normally after bailing out. Towed units that bail out of vehicle units keep both their crew and their main gun weapon.

17.2.3.2.2 BAILED OUT CREW UNITS: If a vehicle crew bails out, place an extra leg unit on the mapboard in the vehicle unit's hex. Replace the number of the old unit with the new leg unit's number on the RECORD SHEET. The leg unit now represents the bailed out vehicle unit's crew.

17.2.3.2.2.1: A bailed out vehicle crew may never re-occupy their original unit or be used as the crew for any other combat unit for the remainder of the game.

17.2.3.2.2.2: Bailed out crews may be fired using the information in the "Bailed Crew" (the number next to the words shows the size of the crew) section of the FIRING INFORMATION on their data cards. Bailed out vehicle crew units function otherwise the same as "team" leg units.

17.2.3.2.2.3: For all GP point effect fire by bailed out crews, there is a "-10" modifier. Bailed out vehicle crew units also use the "-10" Per Firing Crew Loss modifier (see 14.4.2.1.2) when firing GP point effect fire for any crew losses suffered while with their vehicle unit. A bailed out crew keeps its original grade.

17.2.3.2.2.4: Bailed out vehicle crew units do not carry a radio.

17.2.3.3 BAILING OUT TOWED UNIT CREWS:

If a towed unit that is not being transported is eliminated, its crew can attempt to bail out from the main gun weapon. Use the "EF KO" column on the BAIL OUT TABLES, and roll normally. If the gun crew does bail out, handle the same as with bailed out vehicle crews.

17.2.3.4 BAILING OUT FROM ABANDONED VEHICLES:

When using this option, Soviet crews may automatically bail out of abandoned vehicles (see 13.4.2.5) to give the crews a better chance of survival (for victory points—see D.2 of the Scenario Format rules). If desired, also allow NATO players to also abandon disabled vehicles to improve their survival chances.

17.2.4 LOWER FRONT HULL ARMOR:

Most vehicles have less armor protecting the lower part of the hull front ("HF"). This location is represented by the "HF" location with a note (usually "HF*", but sometimes "HFa") on the vehicle data cards' HIT LOCATION CHARTS. Unless the target vehicle unit is hull down (in which case the hit location counts as a "miss"), a hit at this location may hit an area with thinner armor. The effects of "KE" and "CE" armor remain the same.

17.2.4.1 HIT FROM LEVEL: If the "HF*" location is hit, and the shot elevation is "level", roll the dice again. If the roll is from "01" to "20", consider the armor basis listed for the "HF" position as if it were half the listed value (round fractions up).

17.2.4.1 HIT FROM RISING: If the "HF*" location is hit, and the shot elevation is "rising", roll the dice again. If the roll is from "01" to "30", consider the armor basis listed for the "HF" position as if it were half the listed value (round fractions up).

17.2.4.1 HIT FROM FALLING: If the "HF*" location is hit, and the shot elevation is "falling", roll the dice again. If the roll is from "01" to "10", consider the armor basis listed for the "HF" position as if it were half the listed value (round fractions up).

17.2.5 OPTIONAL HULL DOWN: Almost every hex may contain slight irregularities of ground that can be used by vehicles to assume hull down positions. When using this option, one to four vehicle units may attempt to find hull down positions in any hex, except all-water ones, where automatic hull down positions may not be available. This is done using the HULL DOWN TABLE on the Game Card.

17.2.5.1: Any vehicle unit(s) may attempt to find hull down positions in a hex by having MOVE orders, and expending all of their available movement factors for a Turn in the hex during the Movement Step. No more than one attempt (dice roll) per Turn per hex may be made, but a single attempt may include from one to four vehicle units in that hex.

17.2.5.2: Roll the dice and crossgrid the number of vehicle units involved in an attempt with the terrain in the hex. If one of the listed numbers is rolled, all of the involved vehicle units are considered to be hull down against shots from any angle or height. If none of the listed numbers were rolled, the attempt to find suitable hull down

positions failed.

17.2.5.3: Show that a vehicle unit is hull down using this option by placing a location ("HD"="HULL DOWN") marker with it.

17.2.5.4: If desired, after all units are placed on the mapboard during setup, players may roll for this (assuming that it was done during a pre-game Turn) once per hex containing vehicle units.

17.2.6 RADAR/MISSILE DESTRUCTION: Certain vehicle units have exposed radar installations and missile (ATGM or AAM) weapons. The NOTES sections of these vehicle units say, "Subject to artillery and bomb missile (or radar) destruction." If the vehicle unit is suppressed by artillery fire or by an aircraft iron, cluster or napalm bomb attack, and the number rolled is with "10" of the maximum suppressed number, the radar installation or missile weapon has been destroyed (record on the "Damage" line of the RECORD SHEET).

17.2.7 CREW LOSS = OFFICER LOSS: If a crew with an officer (CO, XO, or SP) suffers a crew loss, roll one die. If the roll is "1" through "3", the crew loss is the officer. Cross off the officer on the RECORD SHEET.

17.3 WEAPON AND UNIT LIMITATIONS: These rules put some additional limitations on using various weapons and units.

17.3.1 WEAPON DEPRESSION/ELEVATION (DEP/EL): Weapon depression/elevation can play an important part in deciding the tactical placement of vehicle and towed units. Weapons can be hampered by the inability to fire down on (depression=falling shots at lower height targets) or up at (elevation=rising shots at higher height targets) enemy units at close range. This has no effect when firing at a target at the same height (=level shots), and no effect on sighting ability (although it may be possible to "see" a unit without being able to fire at it). All weapons' depression/elevation are listed in the "DEP/EL" column of the FIRING INFORMATION section on their data cards, in that order. For example, on the Leopard 2 (data card FRG-1B), the depression is "8" and the elevation is "10". The depression and elevation numbers found on the data cards are used with the LINE OF SIGHT CHART on the Game Card to determine if fire is possible at a higher or lower target.

17.3.1.1: If the data card shows "Unl" ("unlimited"), there are no restrictions.

17.3.1.2: If the data card shows a number, cross-grid the line showing the depression (if a falling shot) or elevation (if a rising shot) number with the column showing the height difference between the firing unit and the target. The highest number found is the minimum range at which firing is possible. For example, for a rising shot at a target 5 heights higher with a weapon with an elevation number of "7", the target range must be at least 4 hexes from the firing unit. If the target is only 1 to 3 hexes from the firing unit, no shot at that target with that weapon is possible.

17.3.2 LIMITED AMMUNITION: Combat units, even fully loaded, carry limited amounts of ammunition into combat, and a full load is not always possible, given stretched supply lines and chronic shortages. This option requires additional note keeping in the "Ammunition, Armaments, Attached, Loads" line of the RECORD SHEETS, as players must mark the total number of "rounds" available for each unit's weapons before a game starts, and then mark them off as they are fired.

17.3.2.1 AMMUNITION SUPPLY: All weapons' ammunition information are listed in the "TOT AMMO" column of the FIRING INFOR-

MATION section on their data cards.

17.3.2.1.1 Unlimited Ammunition: If the data card shows "Unl" ("unlimited"), there is no problem—there is more than enough ammunition for the weapon to supply a scenario. No written records need to be kept for these weapons. Limits can be imposed if desired, but it is not necessary.

17.3.2.1.2 Air Unit Loads: For aircraft and helicopters, the ammunition supply for guns is listed (as in 17.3.2.1.4, below), but other munitions are limited by an air unit's maximum number of loads or armaments and by what was assigned or "purchased" with points before the scenario started.

17.3.2.1.3 Towed Units: Towed units have unlimited ammunition, as long as their transporting vehicle unit is in the same or an adjacent hex as the towed unit, or the towed unit was already in place on the mapboard at the start of the game (in which case there would be a nearby "ammo dump"). If the towed unit was transported by a helicopter unit, the transporting vehicle unit moves away or is knocked out or brewed up, the towed unit moves away from the transporting vehicle unit or "ammo dump", it has its ammunition supply reduced to the amount given on its data card, and is handled like all other weapons with limited ammunition. If the transporting vehicle unit moves back into proper supplied position, or the towed unit moves back to its proper supplied position, the ammunition supply returns to unlimited. Only the vehicle unit that originally transported a towed unit may be used to supply ammunition for that towed unit.

17.3.2.1.4 Limited Ammunition: The maximum number of available rounds (a "round" in this game usually represents more than one actual shot) for a weapon is the number in the "TOT AMMO" column of the FIRING INFORMATION sections of the data cards. The number in parentheses is the number of times a single die is rolled to determine available ammunition. This information can be used as follows:

17.3.2.1.4.1 Maximum Ammunition: Ammunition supply may be limited to the maximum number of "rounds" listed per weapon.

17.3.2.1.4.2 Variable Ammunition: Alternately, players may wish their units' to have more varied supplies of ammunition. A single die may be rolled the number of times listed in parenthesis for each weapon, and the rolls totalled to determine the total number of "rounds" carried. If the total exceeds the weapon's maximum, use the maximum. For example, for the M60A3's 105mm main gun (data card USA-3A/1), the numbers are "14" and "(2)". A die is rolled twice, with rolls of "9" and "6"="15". Since "15" exceeds the maximum of "14", the number of rounds carried="14".

17.3.2.2 AMMUNITION EXPENDITURE: Each AP "shot" fired by a unit expends one "round" of ammunition. For example, a unit with a maximum rate of fire of "2" expends two "rounds" of ammunition when it fires. AP "rounds" can be conserved simply by announcing the firing of fewer shots than allowed. GP "shots" are slightly different. Even though all GP fire is resolved as one shot, the firing weapons are still considered to expend a number of shots equal to the weapon's maximum rate of fire each time they are fired. When firing GP weapons with a rate of fire of more than "1", announce the reduced rate of fire and a GP modifier of "-10" applies for each shot less than its maximum listed rate of fire that is used. For example, a 105mm weapon fires at a maximum rate of fire "2". If only one shot is fired, a GP modifier of "-10"

applies. Anti-aircraft fire must always use the maximum rate of fire or it may not be used for that purpose. When all of its "rounds" are expended, a weapon may no longer be fired, as the unit has run out of ammunition for that weapon.

17.3.2.3 AMMUNITION ALLOTMENT: For more detail, this section of rules may be used to augment 17.3.2.2. Instead of subtracting all types of "shots" from one total number of "rounds", the players may divide up each unit's "rounds" into the types of ammunition the weapon can fire. Record the number of "rounds" of each type of ammunition on the RECORD SHEETS before the game starts, then subtract them by type as they are expended. With this option, units may run out of some types of ammunition, while still having plenty of other types.

17.3.2.3.1: Weapons not identified as main guns ("MnGn") or mortars ("Mrt") do not have separate types of ammunition, but, normally, belts or clips of mixed ammunition and/or types of ammunition that produce both effects. For these weapons, only the total ammunition has to be noted, and the effect desired (depending on the type of target) is announced when the weapon is fired.

17.3.2.3.2: HEAT, HEAT-MP, HESH, and HEP "rounds" have considerable explosive force, and can be used as GP "rounds" in a pinch. Whenever a HEAT, HESH or HEP "round" is used for GP fire, the normal GP factors are used, but a "-10" GP modifier applies. The HEAT-MP type of ammunition can be used as a HEAT "round", or as a GP "round" without using the "-10" GP modifier.

17.3.2.3.3: Special ammunition types (i.e., smoke and canister) would normally be carried in limited quantities, while other types would be carried in larger quantities. For example, the following are the actual representations of normal main gun ammunition "rounds":

M60A3: APFSDS-8, HEAT-4, HEP-2, Smoke-1, Canister-1
Leopard 1A4: APFSDS-7, HEAT-4, HESH-2, Smoke-1
T-72M1: APFSDS-3, HEAT-2, GP-5

17.3.3 FUEL LIMITS: Fuel consumption by vehicle units is only considered if this option is used. If desired, dice rolls may be used to determine the amount of fuel available to vehicle units in scenarios where shortages could occur.

17.3.3.1 DETERMINING FUEL FACTORS: The number of "fuel factors" available for each vehicle unit is determined before the game begins by rolling one die three times and adding the numbers rolled together. Record available fuel on the RECORD SHEETS.

17.3.3.2 USING FUEL: One fuel factor is expended for every Turn in which a vehicle unit enters at least one new hex, or in which it produces exhaust smoke.

17.3.4 INFANTRY ALTERNATE FIRE: When infantry units fire their attached weapons, their basic small arms GP point effect fire is modified by "-5" per attached weapon also fired. This does not apply when GP factors are added together for overrun defensive or overrun fire.

17.4 LEG UNIT VARIATIONS:

17.4.1 "ELITE" INFANTRY: There are three distinctive types of elite infantry units, "squad plus", "assault infantry", and "special forces". These units cost and are worth more victory points than a normal leg unit of the same type. A squad unit may not be both a squad plus and an assault squad, but can be one or the other. Any type of squad unit (including squad plus and assault squads and teams) can also be a special forces unit. All

of these units retain their special capabilities even if reduced to a half-squad as a result of combat.

17.4.1.1 SQUAD PLUS INFANTRY: These represent normal squad units with additional men and their related weapons attached, and can be designated as such for an additional "15" points per squad. All normal rules that apply to a squad apply to a squad plus, but a squad plus always gets a "+10" GP point effect fire modifier, and gets a "5" (plus or minus, depending on attacking or defending) hand-to-hand combat modifier. Squad plus status does not affect close assault combats.

17.4.1.2 ASSAULT INFANTRY—FLAMETHROWERS: These are squad units with additional assault weapons attached, and can be designated as such for an additional "15" points per squad. These units should be considered as the assault or combat engineers of a force. All normal leg rules apply, but assault infantry always gets a "+10" close assault combat modifier, and gets a "10" (plus or minus, depending on attacking or defending) hand-to-hand combat modifier. They may also create smoke (this is "other" smoke) in their own hex an unlimited number of times. To do so, simply place a smoke (ON) marker in their hex during their side's portion of a Movement Step (they may do so with any orders). They may also close assault adjacent terrain hexes. For an additional 10 points, one flamethrower can be attached to an assault squad. Flamethrowers have a maximum range of zero; they can only be used during close assault and hand-to-hand combats, causing a modifier of "+20" ("–20" if attacking for hand-to-hand combat).

17.4.1.2.1: A flamethrower automatically starts fires (see option 18.3) when used against units in a building (any type) hex.

17.4.1.2.2: If the Bailing Out option (17.2.3) is used, the crew of a vehicle unit against which a flamethrower is used in a close assault combat must automatically make a bail out attempt if the vehicle unit was not knocked out. Use the "EF KO" column, "No Damage" line of the BAIL OUT TABLES to determine if the crew bails out in this case.

17.4.1.3 SPECIAL FORCES—REPELLING: "Special forces" units represent that special type of soldier that is bold and resourceful. Trained in the black arts of stealth and sabotage, they are fielded as elite units that can vanish into alien territory or strike anywhere with speed and surprise. They are known by many names, like the U.S.A.'s Rangers and Green Berets, the West German Grenzschutzgruppe (GSG-9), and the U.S.S.R.'s Spetsnaz, but they all represent the best-of-the-best that each army has to offer.

17.4.1.3.1 Special Forces Costs: There are no individual lines on the leg unit data cards that reference special forces. Any squad unit (including squad plus or assault infantry) can be designated as a special forces unit for an extra 30 points.

17.4.1.3.2 Special Forces Capabilities: A special forces unit must also be crack grade. It gets special modifiers of for GP point effect fire, close assault and hand-to-hand combats (see the GP POINT EFFECT, CLOSE ASSAULT and HAND-TO-HAND MODIFIERS on the Game Card). It can "quickmarch" (see 17.4.2) with a reduced fatigue level. Only special forces units can "repel" (lower themselves on ropes) down the sides of hills ("surface repelling"), etc., and repel out of helicopters (unload using "air repelling") into any hexes. It may be moved (with a MOVE order) one hex, even while suppressed, unless marked with a location (FULL COVER) marker, and no repelling or quickmarching can be done while suppressed.

17.4.1.3.2.1 Surface Repelling: Special forces units with MOVE orders have the ability to "repel down" into an adjacent hex, crossing a hexside that has up to a 4 height change. This "surface repelling" expends a unit's entire movement factor.

17.4.1.3.2.2 Air Repelling: Special forces units (who are considered to have MOVE orders when they do so) have the ability to "repel down" from a transporting helicopter unit. The helicopter unit must be at nape of earth ("NOE") altitude, and expend no more than half its movement factor on a Turn when "air repelling" is done. Normal unloading procedures (see 15.3.2) are otherwise followed, and the unloaded units are placed in the hex (on the ground).

17.4.2 QUICKMARCH: All leg units have the ability move at a greater speed, but may become disorganized (suppressed) while doing so. Squad and half squad units that are not suppressed may be moved 3 hexes and team units 2 hexes by using a "quickmarch". A quickmarching unit must have MOVE orders. Units may quickmarch for any number of consecutive or total turns. After the quickmarch movement has been completed, the QUICKMARCH TABLE on the Game Card must be checked to determine if the unit has suffered suppression as a result of the movement. Find the unit's grade (or special forces rating), and roll the dice. If the result falls within the listed range on the unit's line, the unit has suffered suppression (same effects as from combat). The unit is marked with a suppressed (ON) marker. There are no effects if the result exceeds the listed numbers.

17.4.3 MACHINEGUN PINNING FIRE: Only leg machinegun teams, and no other machineguns, can employ this form of GP point effect fire—"pinning fire". Pinning fire simulates the ability of these machineguns to "pin" enemy units, keeping heads down and limiting fire and movement, as opposed to trying to eliminate the enemy units. Pinning fire may be used with FIRE or OVERWATCH orders, and the use and type of pinning fire is announced at the time the fire is resolved.

17.4.3.1 NORMAL PINNING FIRE: This GP point effect fire is directed against a single leg or towed target unit. The combat is resolved normally, but there is a "+10" GP modifier. An effective result obtained by this pinning fire is treated as a suppressed result.

17.4.3.2 AREA PINNING FIRE: This GP point effect fire is directed against any or all leg and/or towed units in any one hex. The GP defense factors of all of the target units are added together for the combat, which is otherwise resolved normally (no extra "+10" GP modifier in this case). The result obtained is applied against all of the target units. An effective result obtained by this pinning fire is treated as a suppressed result.

17.4.4 HASTY ENTRENCHMENTS: Infantry units are noted for their ability to "dig in" under fire. This option represents the rapid construction of shallow cover.

17.4.4.1: To construct hasty entrenchments, an individual unsuppressed squad or half squad must have a location (FULL COVER) marker and OVERWATCH orders (which are not used for overwatch fire) for a total of three Turns (not necessarily consecutive) in the same hex. Use the "Notes" line on the RECORD SHEET to record the construction. At the end of the third Turn, during the Adjust Markers Step, place a hasty entrenchment marker in the hex with the constructing unit. There can never be more than one hasty entrenchment

marker per hex.

17.4.4.2: Once placed, a hasty entrenchment marker may be used by any leg unit, not just squad and half squad units, and remains in the hex for the remainder of the scenario. A hasty entrenchment marker has a maximum capacity of 8 leg stacking factors that can be "in" the extra protection. If there are more than 8 leg stacking factors in a hex, it is necessary to note which are in the hasty entrenchments.

17.4.4.3: A GP modifier of "–10" applies for all types of GP fire directed at units located "in" hasty entrenchments.

17.5 MINES AND MINEFIELDS: There are three kinds of minefields in MBT—"hasty", "deliberate", and "FASCAM" ("Field Artillery Scattered Mines"—used by NATO only)—aircraft delivered mines are the same as FASCAM in effects, and are used by everybody. Hasty and deliberate minefields may contain mines of one of two types—"anti-vehicular" (effective only against vehicle units or helicopter units that "land" in the hex), or "anti-personnel" (effective only against leg and towed units that are not being transported) mines. FASCAM minefields always have a mixture of mines, and are a combination of anti-vehicular and anti-personnel mines. Mines have no effects on "flying" air units. Anti-vehicular mines have the capability of inflicting hull compartment or track hits on vehicle units. Anti-personnel mines can inflict effective results on leg and towed units.

17.5.1 MINEFIELD PLACEMENT: A "minefield" occupies one hex. Minefields are secretly placed by the controlling player during the setup of a scenario using them (EXCEPTION: FASCAM and aircraft mines, whose placement during a game is covered in options 19.2.4.5 and 20.1.3.3.5, have known locations). Minefields are "placed" by noting in the "Minefields" section of the RECORD SHEET the identifications of hexes in which they are placed, along with the kind (hasty or deliberate), and type of minefield (anti-vehicular or anti-personnel) in each hex. For example, "HV-1G9" is a hasty anti-vehicular minefield in hex 1G9.

17.5.1.1: Hasty and deliberate minefields may not be placed in building or stream hexes, or in the same hex with ditch or improved position units. FASCAM minefields that may scatter into these hexes are considered to be ineffective there, and ignored. Anti-vehicular and anti-personnel minefields may be placed in the same hex, and may be of the same or different kinds, but placing more than one minefield of the same type in the same hex has no additional effects; there is still only one "attack" (use the most effective, if there is a choice) when a unit enters the hex.

17.5.1.2: Once placed, minefields cannot be moved or their type changed (FASCAM or aircraft mines could be delivered into the same hex during a game).

17.5.2 MINEFIELD "ATTACKS": Friendly units are assumed to know the exact placement of mines in their side's hasty and deliberate minefields, and may be moved through them normally. However, as soon as an enemy unit enters an hasty or deliberate minefield hex, the opposing player must announce that a minefield is entered and resolve a minefield "attack". Due to the random placement nature of FASCAM and aircraft delivered minefields, units of both sides must be attacked by these minefields (the opposing side handling the dice rolling duties). Units are attacked only upon entry to a minefield hex of a type effective against them (if not effective, the opposition is informed of the minefield's location, but not attacked), not again upon exit,



or if it turns in place there. If a unit ceases moving after the attack on entering a minefield hex, it is not attacked again. To resolve minefield attacks, refer to the MINE EFFECTS TABLE on the Game Card. NOTE: When Soviet doctrine combat units enter a minefield hex, a separate attack with a separate dice roll is made against each of the combat units that compose the doctrine combat unit.

17.5.2.1 ANTI-VEHICULAR MINEFIELD ATTACKS: On the table, find the column containing the vehicle or landed helicopter unit's GP defense factor, and cross-reference this with the line showing the type of minefield in the hex. The opposing player rolls the dice and the indicated result is immediately applied, with the normal results and effects. *For example, if a vehicle unit with a GP defense factor of "5" enters an enemy anti-vehicular hasty minefield, a roll of "01-10" causes a hull compartment ("HC") hit and a roll of "11-50" causes a track ("TK") hit (rolls of "51" or more have no effect). Bail out attempts (see option 17.2.3) for hull compartment hits use the "HF" column on the BAIL OUT TABLES. If crew and/or transported units successfully bail out, they are immediately attacked by anti-personnel mines, if also present in the hex.*

17.5.2.2 ANTI-PERSONNEL MINEFIELD ATTACKS: On the table, find the leg/towed column, and cross-reference this with the line showing the type of minefield in the hex. The opposing player rolls the dice and the indicated result is immediately applied, with the normal GP results and effects (EF=effective result—reduce a squad to a half squad and suppress it). *For example, if a leg unit entered an enemy anti-personnel deliberate minefield, the table shows an "EF" result on a roll of "01-70". If a leg unit enters an anti-personnel minefield using quick-march (see option 17.4.2), modify the dice roll by "-20".*

17.5.3 ELIMINATING MINEFIELDS: Minefields can normally be eliminated in three manners; by artillery fire, by assault infantry unit close assault attacks, and by mine plows. Minefields have a GP defense factor, and are treated as terrain features that can be eliminated (see 14.4.3.3), except that weapons other than these three are ineffective against them. Hasty minefields have a GP defense factor of "3", deliberate minefields one of "6", and FASCAM and aircraft minefields one of "9". If there is a mixture of kinds of minefields in a hex, use the minefield with the highest GP defense factor for all of them; then, if one is eliminated, all are eliminated.

17.5.3.1 ARTILLERY VS. MINEFIELDS: Off-board artillery fire automatically eliminates any minefield hex that is an affected hex (see option 19.2.3) for all but smoke or illumination fire missions. More rarely, this also applies if an air unit "crashes" (see option 20.3.4.2) into a minefield hex.

17.5.3.2 ASSAULT INFANTRY VS. MINEFIELDS: Assault infantry units may "attack" adjacent minefields using CLOSE ASSAULT orders in the same manner as they can attack other terrain; only an effective result eliminates a minefield. If an assault infantry unit enters a minefield hex, it is attacked in the normal manner, but can also make a close assault attack a minefield hex it currently occupies.

17.5.3.3 MINE PLOWS VS. MINEFIELDS: Vehicles that can carry "mine plows" (no more than one per platoon) have this mentioned in the NOTES on their data cards. If a mine plow vehicle unit enters a minefield hex, it "attacks" with a GP factor of "50" (there are no modifiers), and an effective result eliminates the minefield. Even if the attack fails, a mine plow vehicle unit can

pass through a minefield without being attacked. If a minefield is eliminated, there is also a chance that the mine plow will be destroyed, so roll the dice everytime a mine plow vehicle unit eliminates a minefield hex. A roll of "01-25" will destroy the mine plow; the vehicle unit is unaffected and may still perform normally. With doctrine combat units, the mine plow vehicle unit is always assumed to enter a minefield hex first. If the attack on the minefield fails, the other vehicles in the doctrine combat unit are attacked normally, otherwise all enter the hex without being attacked.

17.6 REDUCING UNIT VISIBILITY:

17.6.1 CAMOUFLAGE: Units are able to limit the ability of enemy units to "see" them by the use of "camouflage". Only units that start the scenario on the mapboard may be camouflaged. Players should record on the "Notes" line of their RECORD SHEETS any units that start the scenario camouflaged.

17.6.1.1: Units that attempt to "sight" a camouflaged unit must fulfill all normal requirements and roll a die to do so. Players roll one die; the result must be equal to or less than the listed sighting range in the SIGHTING RANGES CHART on the Game Card for the unit that is being sighted. *For example, if a camouflaged vehicle unit is located in an improved position hex and an enemy open unit is sighting it during "Day" conditions, the die roll would need to be "3" or less. Obviously, it is of no value to be camouflaged in certain terrain hexes with certain units.*

17.6.1.2: Camouflaged units are automatically "sighted" at a range of 1 hex.

17.6.1.3: Camouflaged units permanently lose their camouflage advantage if they fire, move out of their original hex, turn within the hex, or use searchlights.

17.6.1.4: Camouflage has no effect against units equipped with thermal imagers; out to their 20 hex range these units can "sight" camouflaged units normally.

17.6.2 LESS VISIBLE FIRING WEAPONS: A unit that fires only small arms and/or mortars may be marked with a spotted (MOVED) marker instead of a spotted (FIRED) marker.

17.7 AMPHIBIOUS MOVEMENT: Vehicle units are classified as being "amphibious" or "not amphibious" in the NOTES sections of their data cards. There is also a difference in their ability to enter non-fordable stream hexes (there is a cost of 6 movement factors vs. prohibited) shown in the MOVEMENT COSTS sections of their data cards.

17.7.1: Amphibious vehicle units may enter any all-water hexes (ie., the pond hex in 1G7) as well as non-fordable stream hexes, at the same non-fordable stream movement factor cost. Any amphibious vehicle unit in a non-fordable stream or all-water hex is defined to be "floating".

17.7.2: Any "floating" vehicle unit is unable to generate exhaust smoke.

17.7.3: Any "floating" vehicle unit that takes a hull compartment hit or is the impact hex of artillery or aircraft GP area effect fire is automatically knocked out (ie., it sinks). No bail outs are possible.

17.8 WEIGHT LIMITATIONS:

17.8.1 BRIDGE WEIGHT LIMITATIONS: The standard weight limit for bridges is 60 tons, enough to hold any unit in the game. This can be lowered in the scenarios, so there may be bridges that vehicles over a certain weight may not cross. Units too heavy to cross a particular bridge must use an alternate route.

17.8.2 ICE WEIGHT LIMITATIONS: Like

bridges, the ice on frozen bodies of water may have weight limitations established by the scenario. Units that can cross on the ice, pay movement costs based on other terrain in the hex (ie., ignore the stream). If too heavy for the ice, a unit may only cross (if fordable, or if amphibious) by expending the normal movement factors.

17.9 PANIC MOVES: During a side's Movement Step, the controlling player may announce a "panic move" for any desired ground combat unit(s) that is otherwise unable to move due to orders or situation. *For example, a panic move might be used to move a suppressed leg unit out of a burning hex, or to move a seriously threatened unit with a "fire" command marker.* A panic move may not be performed by a unit that has already used its orders to do something else, or by a vehicle unit unable to move due to damage. To perform a panic move, roll the dice and consult the SCATTER DIAGRAM on the Game Card. The dice roll determines a direction, and the unit making the panic move must be moved in that direction as many hexes as its maximum movement factors (not reduced if suppressed or due to orders—road and path rates are not used for panic moves) will allow. Mark the unit with a suppressed (ON) marker.

[18.0] TERRAIN OPTIONS

18.1 NIGHTTIME: A "Nighttime" scenario is considered to be one that includes Night, Moonlight or Dusk conditions.

18.1.1 NIGHTTIME MOVEMENT: Vehicle units have their movement reduced by two movement factors during Night or Moonlight conditions, although never reduced below "2" movement factors. Leg units are reduced to a maximum movement of "1" hex during Night or Moonlight conditions, and may not be quickmarched. Movement is not reduced during Dusk conditions.

18.1.2 SEARCHLIGHTS: "Sighting" uses the appropriate lines or columns of the SIGHTING RANGES and AREA EFFECT SCATTER MODIFIERS CHARTS on the Game Card. Spotted (MOVED) and spotted (FIRED) markers have the usual effects, and sights like image intensifiers and thermal imagers can also be very useful at night. In addition, "sighting" conditions can be improved and extended by the use of "searchlights". Searchlights are of two types, "white light" ("WL") and "infrared" ("IR"). The data cards NOTES sections indicate which vehicle units have searchlights, and the type(s) they carry.

18.1.2.1 ACTIVATING SEARCHLIGHTS: Searchlights are normally "off" and must be activated to be considered "on". During the Adjust Markers Step, players mark all desired units with the sighting (WL—for using a white light searchlight) or sighting (IR—for using an infrared searchlight) marker to indicate that the searchlight is "on". Units equipped with combination IR/WL searchlights may employ only one type at a time, but may switch from Turn to Turn. Once activated, a searchlight remains on until turned "off" (remove the marker during a later Adjust Markers Step). All searchlights cover a 60 degree arc (same as a 60 degree firing arc), and this arc is measured from the front of the vehicle unit, or if equipped with one, the turret unit.

18.1.2.2 USING INFRARED (IR) SEARCHLIGHTS: Units using an "on" infrared searchlight have a sighting range of "10" hexes, and, out to this range, can "sight" all units, within the 60 degree arc, as if it were "Day" conditions—use the "Day" sighting ranges. In addition, all other friendly units (all of which are considered to carry passive infrared sights) may also be used to



"sight" units that fall within the searchlight's range and arc. Units with an "on" infrared searchlight are themselves subject, within a 360 degree arc, to "sighting" by any enemy units (also all carrying passive infrared sights), out to a maximum range of "10" hexes from those enemy units. Infrared searchlights are subject to the limits of normal blocking terrain, and cannot pass through "other" smoke hexes. They may not be used during "Fog" or "Blowing Snow" conditions.

18.1.2.3 USING WHITE LIGHT (WL) SEARCHLIGHTS:

Units using an "on" white light searchlight have a sighting range of "15" hexes, and, out to this range, can "sight" all units, within the 60 degree arc, as if it were "Day" conditions—use the "Day" sighting ranges. In addition, all other friendly units may also be used to "sight" units that fall within the searchlight's range and arc. Units with an "on" white light searchlight are themselves subject, within a 360 degree arc, to "sighting" by any enemy units out to maximum "Day" ranges from those enemy units. White light searchlights are subject to the limits of normal blocking terrain, and cannot pass through "other" smoke hexes. They may not be used during "Fog" or "Blowing Snow" conditions.

18.2 GROUND WEATHER CONDITIONS—NORMAL, SNOW AND MUD: "Ground weather conditions" can be either "Normal" (as always in the Basic and Advanced Games), "Snow", or "Mud". Depending on the ground conditions, the "Snow" or "Mud" movement factors (these could be further reduced if Night or Moonlight conditions also prevail) and their road and path movement costs on the vehicle data cards are used instead of the "Normal" information.

18.2.1: In "Snow" ground weather conditions, if determined by the scenario, stream hexes may be considered to be frozen over, and treated as clear hexes.

18.2.2: In "Mud" ground weather conditions, if determined by the scenario, stream hexes may be considered to be unfordable, and may only be crossed by amphibious units or at bridges.

18.2.3: "Mud" or "Snow" may be defined to apply only in specific hexes. If this is the case, the "Mud" or "Snow" movement factors are used only by vehicle units that start their movement in these hexes (otherwise, use "Normal"), but the "Mud" or "Snow" road and path movement costs apply to any vehicle units moving through these hexes.

18.3 FIRES IN BUILDING HEXES:

hexes may catch on fire and "burn" as a result of combat situations, and, once on fire, may be extinguished, continue to burn, or spread. Fire may be created in building hexes as a result of GP fire that is directed at units in the hex or impacts in the hex. All resolution of fires is done with the BUILDING FIRE TABLE on the Game Card during the Adjust Markers Step—either side may roll the dice for resolution. In all cases, if there is already a burning marker in a hex, do not place another one—there should never be more than one burning marker per hex.

18.3.1 EXISTING FIRE STATUS: First, for each building hex that had a burning marker placed during a previous Turn, check the status of the fire. The dice are rolled and the "FIRE STATUS" section of the Table is checked. Look along the row that contains the type of building in the hex and find the column into which range of numbers the dice roll falls. The word at the top of the column reveals what the fire does. For example, if "28" is rolled for a stone building hex, the fire

will "Continue".

18.3.1.1. SPREAD: If the fire will "Spread", it spreads into all adjacent building hexes (regardless of type). Place burning markers in the hexes into which the fire spread.

18.3.1.2 CONTINUE: If the fire will "Continue", the fire simply continues in its original hex.

18.3.1.3 ENDS: If the fire will "End", the fire ends, and the burning marker is removed.

18.3.2 NEW FIRES: Any building hex that is not on fire and had GP factors (for GP point effect fire, a gun must be 14.5mm or larger—launchers can start fires) directed at it during the current Turn must now be checked to determine if a new fire has started. Cross-reference the building type line with the column containing the largest GP factor that was directed at the hex during the Turn, and roll the dice. If the dice roll falls within the listed range of numbers, a new fire has started and the hex has a burning marker placed. If the dice roll exceeds the listed range of numbers, there is no effect.

18.3.3 COMBAT UNITS IN FIRE HEXES: Combat units may not remain or enter a hex containing a burning marker. Any combat unit that has not vacated a fire hex by the end of the next Turn after a fire has started in the hex is brewed up or eliminated. Suppressed leg units may take a panic move (see 17.9) to exit a fire hex, if that rule is used.

18.3.4 FIRE AREA VISIBILITY: Dusk sighting conditions apply to an area within two hexes range of a fire hex during Night and Moonlight conditions. Any hex containing a burning marker is also considered to be an "other" smoke hex (although it has a "+5" height), and has the normal effects on sighting.

18.4 BIOLOGICAL, CHEMICAL, AND NUCLEAR ENVIRONMENTS: The impact of these weapons on battles of the size fought using these rules would be devastating. What these rules cover is operations in an area still contaminated from recent use of these weapons.

18.4.1: Each command organization (see option 21.1) loses one command point from its normal total.

18.4.2: Vehicle units whose data card NOTES indicate that they have "NBC", may be fired normally when buttoned, as long as they sustain no penetrating or compartment hits. All leg and towed units, all vehicle units without "NBC", open, penetrated, or with a compartment hit fire with a "-2" modifier for AP point effect and "-5" for GP point effect fire.

18.4.3: Leg quickmarch movement (see option 17.4.2) may not be used.

[19.0] ARTILLERY

All artillery used in MBT is abstracted and considered to be "off-board". No actual artillery units are placed on the mapboard. Artillery has a long enough range to hit any hex on the mapboard.

19.1 GENERAL ARTILLERY INFORMATION: "Artillery batteries" are differentiated by the "size" (caliber) of their guns, and by their "attachment level".

19.1.1 ARTILLERY SIZES: The sizes of batteries are "light", "medium", "heavy", and "super heavy". Artillery's GP factors, by battery size, are given (as is their ability to knock out vehicles using rule 14.4.4.2.3.3) in the GENERAL ARTILLERY INFORMATION sections on the artillery data cards (USA-2B, FRG-3B, and USSR-12A)

19.1.2 ARTILLERY ATTACHMENT LEVELS:

The different attachment levels are "attached", "organic", and "unattached". These levels represent the degree that each battery is dedicated to specific combat units, and consequently, the expected chance of response; attached is the best, and unattached the worst.

19.1.3 ARTILLERY POINT VALUES: Artillery batteries and fire missions are assigned in scenarios or can be selected by points. The point values of artillery batteries are based on a mix of the battery size and its attachment level, and are found in the POINT INFORMATION sections of the artillery data cards. For example, an attached medium battery for the Soviets is worth 150 points. These point values are for the individual batteries without any "fire missions". Fire missions are the actual "barrages" that the artillery can deliver. These fire missions cost varying additional points (not every nationality can use every mission), which are also given in the POINT INFORMATION sections of the artillery data cards.

19.1.4 ARTILLERY SETUP: The artillery batteries available should be listed on the RECORD SHEET in the "Artillery Plots" section. On the "Type or ID" line, list the battery size and attachment level (ie., "HA"="heavy attached" battery). The letter at the top of the column indicates the letter of the artillery marker that will be used with the battery. The available fire missions, per battery, should be noted on the "Fire Missions" line under the battery identification (ie., "2HE"=2 HE fire missions available).

19.2 ARTILLERY ORDER PLOTS: Artillery fire missions are "requested" or plotted during the Mark Orders Step of a Turn. This is the same as explained in option 17.1.1.2.4 for mortars, but artillery plotting is more detailed. Each battery is plotted individually indicating the fire type, target hex, SHEAF, fire mission, and observer unit. Planned fire is plotted before the game starts and impacts on the plotted Turn. Designated and called fire is plotted on one Turn and is intended to impact on the next Turn (write the plot in one Turn line and draw a line through the next Turn line on the "Artillery Plot"). Continuous fire impacts the same Turn as it is plotted.

19.2.1 ARTILLERY FIRE TYPES: There are four specific "types" of artillery fire; "planned", "designated", "called", and "continuous".

19.2.1.1 PLANNED ARTILLERY FIRE: Planned artillery fire is plotted before the scenario begins (ie., during setup), and before any combat units are placed on the mapboard. Planned artillery fire represents fire support that is laid out before the battle begins.

19.2.1.1.1: Planned artillery fire can be plotted for any hex on the mapboard and does not require an observer unit to call the fire, although an observer unit is required if this fire is to be continued (see 19.2.1.4).

19.2.1.1.2: Planned artillery fire can be plotted to arrive on Turn 1 or on any later Turn. The plot is marked for the desired Turn of arrival. To show that the fire is planned, list a "P" before the target hex identification.

19.2.1.1.3: An artillery battery may be used for any number of planned fire plots, however, at least one Turn must be skipped between planned plots. A battery with planned fire missions can also be used for other types of fire when they do not interfere with the planned plots.

19.2.1.2 DESIGNATED ARTILLERY FIRE: Designated artillery fire is basically "pre-registered" or "zeroed-in" fire in pre-designated hexes. Each battery may have up to three different hexes, anywhere on the mapboard, listed in its "Designated" lines. These designated hex identifications are plotted before the scenario begins,

and before any combat units are placed on the mapboard. These are the *only* hexes that can be used for designated artillery fire by a battery. Designated artillery fire can be plotted only when an observer unit can "sight" a designated hex. The designated hex is then listed as the target hex in the plot. To show that the fire is designated, list a "D" before the target hex identification. Draw a line through the following Turn line to show when the fire impacts.

19.2.1.3 CALLED ARTILLERY FIRE: Called artillery fire is fire "called in" by observer units on the mapboard. All called artillery fire is plotted during the course of the game. Called artillery fire can only be plotted when an observer unit can "sight" the target hex and a sighted target unit is in the target hex. The target hex is then plotted—list a "C" before the target hex identification to show that the fire is called. Draw a line through the following Turn line to show when the fire impacts.

19.2.1.4 CONTINUOUS ARTILLERY FIRE: Continuous artillery fire is used to maintain and adjust fire that arrived in the previous Turn as planned, designated, or called fire. It can be requested to continue each Turn, and is not subject to a one Turn wait.

19.2.1.4.1: Continuous artillery fire can only be plotted when an observer unit can "sight" the impact hex as the fire impacts. Mark an "S" (for "continuous") before the target hex for the current Turn; the fire is not subject to a one Turn wait. Mortar units may also use continuous fire with the same plot.

19.2.1.4.2: Continuous artillery fire may be plotted in the original impact hex or may be shifted up to two hexes in any direction, as long as the new impact hex can be "sighted" by the observer unit. Use the scatter factors on the artillery data card's SCATTER FACTORS section (to use continuous fire with a mortar unit, also consult this section on the same nationality's artillery data card). Use the scatter factors on the "Continue (Same)" line if the new target hex is the same as the last impact hex, the "Continue (1st)" line if the new target hex is 1 hex from the last impact hex, and the "Continue (2nd)" line if the new target hex is 2 hexes from the last impact hex.

19.2.1.4.3: If the original fire was either designated or called, or was by a mortar unit, the observer unit used for that fire is the *only* observer unit that can continue the fire. Any observer unit may continue what was originally planned fire on the previous Turn.

19.2.1.4.4: A SHEAF or fire mission change may be used in conjunction with continuous artillery fire. Simply list the abbreviations for the changes.

19.2.2 TARGET HEX: The target hex identification of a fire mission is marked in the box in the artillery battery's column and opposite the current Turn. Then, draw a line through the next Turn's box to indicate when the fire mission should arrive.

19.2.3 ARTILLERY FIRE SHEAF: There are three types of Fire "SHEAF" (= pattern): "tight", "line", and "loose". Some types of fire missions can use any of the three types while others may only be able to use one or two types. The FIRE MISSION EFFECTS sections on the artillery data cards indicate the possible mix. For example, it states that a smoke fire mission can be fired in a loose or line SHEAF—this rules out using a tight SHEAF with a smoke fire mission. SHEAFs are further explained on the artillery data cards' FIRE SHEAF PATTERN sections.

19.2.3.1 TIGHT SHEAF: A tight SHEAF affects the impact hex and the six adjacent hexes.

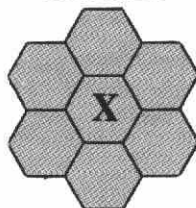
It affects all of these hexes at the firing battery's full GP factor. To show a tight SHEAF is to be used, list a "T" after the target hex identification.

19.2.3.2 LINE SHEAF: A line SHEAF affects the impact hex and the next six hexes in a line away from the impact hex based on a *desired* direction number that corresponds to the numbers on the mapboard's directional hex. It affects all of these hexes at the firing battery's full GP factor. To show a line SHEAF is to be used, list a "L" and the desired direction number after the target hex identification.

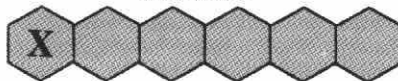
19.2.3.3 LOOSE SHEAF: A loose SHEAF affects the impact hex and the two rows of adjacent hexes. It affects all of these hexes at *half* the firing battery's GP factor. To show a loose SHEAF is to be used, list a "L" after the target hex identification (i.e., a "L" without a number is a loose SHEAF, while a "L" with a number is a line SHEAF).

19.2.3.4 SHEAF DIAGRAMS: These diagrams show the hexes affected by each SHEAF ("X"=impact hex).

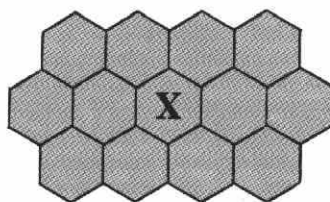
TIGHT SHEAF



LINE SHEAF



LOOSE SHEAF



19.2.4 ARTILLERY FIRE MISSIONS: There are seven possible types of "fire missions"; HE (high explosive), ICM (improved conventional munitions—dual purpose), ICM (improved conventional munitions), smoke, FASCAM (field artillery scattered mines), illumination, and CLGP (cannon launched guided projectile). Not all fire missions are available to all nationalities. The "Fire Mission" portion of the POINT INFORMATION section and the FIRE MISSION EFFECTS section on the artillery data cards indicates the available fire missions for each nationality (if it's not there, they can't do it).

19.2.4.1 HE FIRE MISSIONS: HE fire missions can be fired in any SHEAF. To show an HE fire mission, list "HE" after the SHEAF notation. There is a "-20" GP modifier against vehicle unit targets when HE is used.

19.2.4.2 ICM DP FIRE MISSIONS: ICM DP fire missions can only be fired in a loose SHEAF. There is a "+20" GP modifier against leg and towed target units. ICM DP *automatically* has no effect if the target is or is a unit in a building (any type) or improved position hex. To show an ICM DP fire mission, list "IC" after the SHEAF notation.

19.2.4.3 ICM FIRE MISSIONS: ICM fire missions can only be fired in a loose SHEAF. There is a "-30" GP modifier against vehicle units and a "+20" GP modifier against leg and

towed target units. ICM *automatically* has no effect if the target is or is a unit in a building (any type) or improved position hex. To show an ICM fire mission, list "IC" after the SHEAF notation.

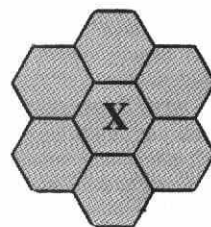
19.2.4.4 SMOKE FIRE MISSIONS: Smoke fire missions can be fired in a line or loose SHEAF. Smoke does not attack combat units or terrain; instead, place a smoke (ON) markers in every hex of the SHEAF pattern, along with the appropriate artillery marker in the impact hex, on the mapboard. To show a smoke fire mission, list "SM" after the SHEAF notation. Mortars may also fire smoke missions, but, having no SHEAF pattern, a smoke marker is placed only in the impact hex.

19.2.4.5 FASCAM FIRE MISSIONS: FASCAM fire missions can only be fired in a loose SHEAF. FASCAM fire missions consist of placing minefields (a mixture of anti-vehicular and anti-personnel mines in each hex—see option 17.5 for mine effects). Any units currently in a hex affected by a FASCAM fire mission are *not* immediately attacked—a unit must *enter* a minefield hex to be attacked by the mines there. Make a note of the impact hex and all the SHEAF pattern hexes around it in the "Minefields" section of the RECORD SHEET to record the minefield placement. To show a FASCAM fire mission, list "FM" after the SHEAF notation.

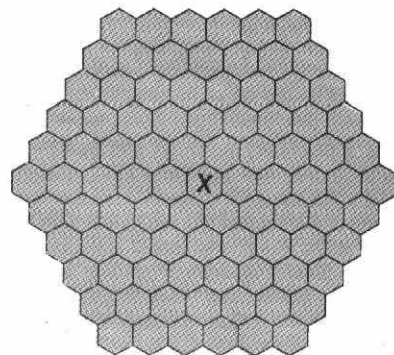
19.2.4.6 ILLUMINATION FIRE MISSIONS: Illumination fire missions can only be fired in a tight SHEAF. Illumination does not attack combat units or terrain; instead, during "Nighttime" conditions ("Night", "Moonlight" or "Dusk"), an artillery illumination fire mission makes the impact hex and every hex within a 5 hex range of the impact hex an area in which "Day" sighting distances are possible. No terrain or smoke blocks this effect. No special marker is used—simply use the artillery marker as a reference for the illuminated area. The effects end with the Turn in which the fire mission impacted. To show an illumination fire mission, list "IL" after the SHEAF notation. Mortars may also fire illumination missions, with identical effects, except the illuminated area is only the impact hex and all immediately adjacent hexes.

ILLUMINATION AREAS ("X"=IMPACT HEX)

FROM MORTARS



FROM ARTILLERY

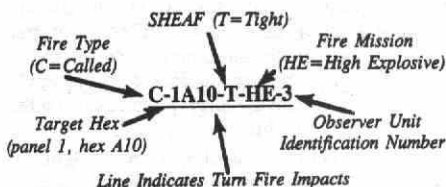


19.2.4.7 CLGP FIRE MISSIONS: CLGP fire missions represent the use of the American "Copperhead" guided projectile, and is fired at a *specific* target vehicle unit. Copperheads are laser guided projectiles that home on reflected laser energy. To be used, its observer unit *must* have a laser designator ("D") sight. To show a CLGP fire mission, list the fire type, "CP" (for a CLGP fire mission), the identification number of the target vehicle unit identification number, and the observer unit identification—no target hex or SHEAF notations are needed.

19.2.4.7.1: CLGP fire missions are only useful against vehicle units. As long as the observer unit can still "sight" the target vehicle unit, a CLGP fire mission will not scatter, but will hit and brew up a vehicle unit on a dice roll of "01-90" (this drops to "01-70" if the observer is suppressed). A CLGP fire mission automatically misses if the observer unit can no longer "see" the target unit and use its "D" sight on it.

19.2.4.7.2: A CLGP fire mission does not hit leg or towed units or vehicle units located *inside* buildings. It can hit the target vehicle unit, plus all other vehicle units (not inside buildings) in the target vehicle unit's hex (make a separate roll for each).

19.2.5 OBSERVER UNITS: Finally, the identification number of the observer unit is added to an artillery order plot. As can be seen, artillery order plots can be quite detailed and lengthy. Below is a sample plot:



19.3 ARTILLERY FIRE RESOLUTION: All artillery fire is resolved during the Artillery Step, using the area effect fire rules (see option 17.1). A possible "fire delay", unique to artillery use, works as follows: Based on the attachment level of a battery, the fire may *not* arrive as during the desired artillery step. This represents the battery's use by other units. This applies to all types of artillery fire, even planned and continuous. Check the ARTILLERY DELAY section of the artillery data cards.

19.3.1: An attached battery will *always* arrive on time, as plotted if the observer is a unit in the organization of which the the artillery battery is a part. *For example, a Soviet Motorized Rifle Company includes its "Motorized Rifle Company Attached Artillery". Any observer unit that is part of that Motorized Rifle Company can use this as attached artillery.* If the observer unit is from another organization (say, from another company in the same battalion or from the battalion headquarters), the artillery battery would be considered to be unattached.

19.3.2: For organic or unattached batteries, the dice must be rolled when it is time for a fire mission to arrive. If the roll is within the listed number range, the fire has been delayed, and will not arrive during that Artillery Step. *For example, if "01-25" is rolled for an organic American artillery battery, the fire is delayed.* To indicate this delay, draw a line through the next Turn of the artillery battery's column in the "Artillery Plot" section of the RECORD SHEET. Artillery fire can be delayed any number of Turns before it impacts.

19.3.3: Artillery markers should be left in their impact hexes after fire is resolved for future reference. Only remove a marker at the start of a new

Artillery Step while announcing that it is no longer needed there.

19.4 ARTILLERY COUNTER BATTERY: "Counter battery" is the action of locating enemy artillery batteries, and then firing suppressive missions to disrupt or eliminate those enemy batteries. Modern counter battery systems use ranging equipment to locate enemy batteries. The type of ranging equipment utilized (sound, flash, or radar), and their effectiveness varies with the conditions. In the game, counter battery is off-board and highly abstracted; it is considered to use other artillery batteries than the ones supporting the battle to accomplish its mission. Counter battery capabilities are assigned by scenarios or can be purchased for points. The points for each type are listed in the "Ctr Bty" portion of the POINT INFORMATION sections on the artillery data cards.

19.4.1 USING COUNTER BATTERY: A counter battery capability is considered to be available at all times, can be used any number of times, and each can attempt to find one enemy battery per Turn. Whenever enemy artillery *impacts* (not checked fire), "counter battery fire" can be announced.

19.4.2 RESOLVING COUNTER BATTERY: For each counter battery capability used, the player rolls the dice and consults the COUNTER BATTERY TABLE on the side's artillery data card. Find the line that describes the type of counterbattery ranging equipment and the conditions. If the dice roll falls within the numbers listed in the "Location Attempt" column on that line, the enemy battery has been "located" and another, "Effects", dice roll is made. If the "Location Attempt" numbers are exceeded, the enemy battery has not been found and that counter battery procedure ends. The results of an "Effects" dice roll are as follows:

19.4.2.1 DISRUPTED (DIS): The artillery battery may not fire or plot any new fire missions for the next two game Turns. Mark an "x" through the next two Turns in the battery's column on the RECORD SHEET.

19.4.2.2 1/4 LOSS: The artillery battery has 1/4 (round up) of its remaining fire missions destroyed. The battery's controlling player chooses the actual fire missions destroyed—cross off destroyed fire missions on the RECORD SHEET.

19.4.2.3 1/2 LOSS: The artillery battery has 1/2 (round up) of its remaining fire missions destroyed. The battery's controlling player chooses the actual fire missions destroyed—cross off destroyed fire missions on the RECORD SHEET.

19.4.2.4 KNOCK OUT (KNK OUT): The artillery battery is knocked out and it and its remaining fire missions may not be used for the remainder of the game (this knock out is only temporary, and does not count for any victory points).

19.4.3: Counter battery fire is *also* subject to counter battery fire from the enemy. The announcement of counter battery fire can *immediately* trigger a whole series of counter battery actions. Handle location attempts on enemy counter battery fire the same as for locating firing batteries. If located, the counter battery "Effects" treat the "1/2" and "1/4" results as a disruptions. The knock out result eliminates the counter battery capability for the rest of the game.

19.5 SOVIET ARTILLERY DOCTRINE: Soviet artillery batteries employ doctrine, as most of their fire is pre-planned before a battle begins. Two-thirds (round fractions up) of all Soviet fire missions *must* be plotted as *planned* fire missions before a scenario begins.

[20.0] AIR UNITS AND ANTI-AIRCRAFT FIRE

Air units in *MBT* are available in two types; "aircraft" and "helicopters". These all "fly" and attack during the two Air Phases. During an Air Phase, the first side's aircraft units enter and move across the mapboard, then, when they have exited, the second side's aircraft do the same. This is followed by moving and attacking with the first side's helicopters, followed by doing the same with the second side's helicopters.

20.1 AIRCRAFT OPTIONS: Aircraft are capable of delivering a heavy and varied load of weapons. Each force has a cross section of aircraft types to choose from for ground support. Any aircraft unit can be used to represent any type of aircraft, even if the picture on the counter doesn't match the type used. The aircraft data cards (USA-7A, FRG-7B, and USSR-11A) provide the information needed to use the different types of aircraft. Aircraft have a "base point" value that is the cost to acquire the aircraft in a clean state (without weapons other than any integral guns), and additional weapons cost additional points.

20.1.1 AIRCRAFT LOAD RESTRICTIONS:

The "Maximum Weapon Loads" line in the data cards' GENERAL INFORMATION sections indicates the maximum number (they can carry less) of specific weapon "loads" that can be "carried" by the aircraft; each weapon also has a specific point cost, shown in the data cards' POSSIBLE LOADS AND THEIR POINT VALUES sections. *For example, an aircraft unit capable of carrying 6 weapon loads adds six cluster bomb weapons for six times the indicated points for cluster bombs (50 points). It could alternately carry a mix of up to any 6 different weapons or other loads.* When aircraft are used, they are outfitted with the desired weapon mix by the controlling player during setup. Once outfitted, the weapon mix cannot be changed during the course of the scenario. List all loads and gun ammunition in the "Ammunition, Armaments, Attached, Loads" line in an aircraft's column on the RECORD SHEET and mark them off as they are used.

20.1.1.1: It is highly recommended that the Limited Ammunition Rules (17.3.2) be applied to aircraft unit's gun weapons.

20.1.1.2: Gun pod loads count for two weapon loads each.

20.1.1.3: The ability or inability to carry "precision munitions" ("PGM") and "ECM pod" loads is indicated on the appropriate lines of the GENERAL INFORMATION section ("YES" or "NO"), and aircraft units that may carry ARM missile loads are indicated in the NOTES section on the data cards.

20.1.1.4: Check the specific restrictions on some weapon loads on some aircraft, which appear in the "Notes" of the data cards' FIRING INFORMATION sections.

20.1.2 AIRCRAFT MOVEMENT: Aircraft units *never* remain on the mapboard during the course of a game; they "appear", enter the mapboard, move hex by hex, attack and are attacked as they are moved, and then, if they survive, exit the mapboard all during their side's portion of one Air Phase.

20.1.2.1 AIRCRAFT CONDITIONS: Aircraft vary in their ability to fly effectively during adverse conditions, and, this is reflected on their "Condition Level" lines of their data cards. An aircraft is rated as one of four "condition levels", 1-4, with 1 being the best and 4 being the worst.

20.1.2.1.1: The AIRCRAFT CONDITION



CHART on the Game Card shows the effects of conditions on aircraft with various condition levels. For example, in a game played in "Moonlight" conditions, a condition level 3 aircraft shows an "X" on the chart. This means that, during the game, that aircraft may not be "flown" at low altitude, may not use any point effect weapons (i.e., guns), no PGM weapons (see 20.1.3.4.3) may be used, and an extra "-20" scatter modifier applies when using area effect weapons (i.e., bombs and rockets).

20.1.2.1.2: NATO Forces may carry night/adverse condition aids as a weapon load. The U.S.A.'s LANTIRN (Low Altitude Navigation & Targeting Infrared System for Night) Pod and the F.R.G.'s All Weather Pod enable aircraft units equipped with these pods to fly as if the aircraft unit was rated as a condition level 1 aircraft.

20.1.2.2 AIRCRAFT APPEARANCE AND REAPPEARANCE: There are two Air Phases. A specific aircraft unit can only appear in one or the other of these two phases, not both (it may appear on different Aircraft Phases on different Turns).

20.1.2.2.1: A side may have its aircraft units appear on any desired Turn or Turns of a scenario, unless restricted by scenario rules. After appearing for the first time, an aircraft unit may then reappear on either Air Phase of any desired later Turn or Turns as long as fuel is available.

20.1.2.2.2: On its first appearance, an aircraft unit may appear on any side of the mapboard. Subsequent appearances must be on the side from which the aircraft unit exited the mapboard on its previous appearance, unless there is at least one Turn skipped between appearances; then, the aircraft unit may reappear on any desired mapboard side.

20.1.2.2.3: When an aircraft unit appears, it enters the mapboard by being placed in any hex or partial hex along the side of the mapboard where it appears. After moving across the mapboard, it then exits the mapboard from any hex or partial hex along a mapboard side.

20.1.2.3 AIRCRAFT LOITER TIME AND FUEL TANKS: One of the aircraft load options is a "fuel tank". Fuel tanks provide aircraft unit with the added fuel necessary to "loiter" over the battle area for an extended period of time.

20.1.2.3.1: Without additional fuel tanks, an aircraft unit is available (can "loiter" in the battlefield area) for only a total of five Turns, including the one in which it makes its first appearance, whether it actually appears during all of those Turns or not.

20.1.2.3.2: For each fuel tank carried, an aircraft unit can extend its "loiter time" by an extra five Turns.

20.1.2.4 AIRCRAFT SPEED/ALTITUDE AND EVASIVE MANEUVERING: When an aircraft unit is placed on the mapboard, its "speed", "altitude", and use or not of "evasive maneuvering" must be announced, and these will remain the same during that Air Phase (they can be changed for later appearances).

20.1.2.4.1: Speed and altitude can each be represented as being low, medium, or high, in any combinations. Restrictions, if any, on these can be found in the data cards' GENERAL INFORMATION sections. For example, an A-10A may not use high speed. There are advantages to various combinations. An aircraft unit at low speed and low altitude generally has the greatest chance of hitting its target, but is at the greatest risk of being hit by anti-aircraft fire. An aircraft unit at high speed and high altitude would present the opposite set of circumstances.

20.1.2.4.2: Evasive maneuvering makes an aircraft unit harder to hit with anti-aircraft weapons, but also degrades the aircraft unit's attack capability.

20.1.2.5 AIRCRAFT MOVEMENT PROCEDURES: An aircraft unit is moved from hex to hex in the direction of its front facing (no reverse movement allowed!). It does not expend movement factors, and is considered to be "flying" above all mapboard terrain. An aircraft unit's turning ability is based on its announced speed (altitude and evasive maneuvering have no effect on turning).

20.1.2.5.1: An aircraft unit at low speed may make two one-hexside turns (60 degrees each) during its move across the mapboard. There must be at least "10" hexes range between the two turns. These turns may be in different directions.

20.1.2.5.2: An aircraft unit at medium speed may make one one-hexside turn (60 degrees) at any one time during its move across the mapboard.

20.1.2.5.3: An aircraft unit at high speed may not be turned—it "flies" straight.

20.1.3 AIRCRAFT COMBATS: Aircraft units may attack ground combat units with guns or weapon loads. They may make these attacks from any hex or hexes an aircraft unit enters during its movement across the mapboard. As many attacks as desired and/or possible may be made during this movement, but no more than one attack using one weapon per hex. Aircraft weapons are a combination of point and area effect weapons. Due to their high speed, aircraft units are limited in their ability to "sight" ground units. Aircraft units must have a "sighted" target unit to make any type of attack.

20.1.3.1 AIRCRAFT SIGHTING: All aircraft units have a 120 degree "sighting arc" from the front of the aircraft unit (same as a 120 degree firing arc—see 14.2.1). As aircraft units are "flown" across the mapboard, they are able to "acquire" unblocked ground targets which they can "see" within this arc.

20.1.3.1.1 Aircraft Acquiring Targets: Aircraft units require a certain number of hexes of movement "to acquire" a ground target. The AIRCRAFT ACQUIRED RANGES CHART on the Game Card is used to determine these ranges.

20.1.3.1.1.1: Cross-grid the "Air Used" line with the proper "Speed/Altitude Matrix" column (this matrix is an abbreviation of the combination of the aircraft unit's speed and altitude, in either order—i.e., "LL"="low/low", "MH"="medium/high", etc.) to determine the minimum acquisition range necessary. For example, an aircraft unit at medium speed and low altitude ("LM") requires an acquisition range of "10" hexes for each target. An aircraft unit must have an unblocked target within its sighting arc while moving a consecutive number of hexes at least equal to the acquisition range before it can attack. An aircraft unit may be turned and still be acquiring a target, as long as the target unit remains in its sighting arc.

20.1.3.1.1.2: Aircraft units without observer units may "acquire" ground units in all hexes except building, woods, and improved position hexes. Observer units are required to help acquire target units in building woods, and improved position hexes.

20.1.3.1.1.3: Ground units that are closer to the edge of the mapboard than the minimum required acquisition range are still considered to be acquired (if not blocked). The aircraft unit is considered to have acquired the unit as it was "flying" up to the mapboard edge. The aircraft unit would then be required to meet

the minimum acquisition range for any subsequent targets during the phase.

20.1.3.1.1.4: After resolving an attack, an aircraft unit may start acquiring its next target from that point. An aircraft unit may never be acquiring or have acquired more than one target at a time.

20.1.3.1.2 Observer Sighting For Aircraft: Ground units in woods, heavy woods, buildings, and improved positions may not be "acquired" unless an appropriate observer unit (any unit that can serve as an observer for area effect fire can also observe for an aircraft unit—the same prerequisites apply, and a written plot in the aircraft unit's "Notes" line indicating the observer unit is needed.

20.1.3.1.2.1: Any target unit in a building, woods, or improved position hex that a plotted observer unit can "see" could be attacked by the aircraft unit. Even when an observer unit has "sighted" a target unit, the aircraft unit must still also acquire the target hex as in 20.1.3.1.1. Otherwise, a ground unit in these hexes may not be attacked by an air unit.

20.1.3.1.2.2: Observer units may also be used to "sight" target hexes—this is necessary for an air unit to attack a hex (for example, a building or bridge hex) in which no enemy combat units can be "seen" or are located.

20.1.3.1.2.3: Observer units used for this purpose may not be used as observers for any other purpose. Check the OBSERVER SCATTER MODIFIERS on the artillery or mortar data cards of the same nationality as the air unit. Any of these scatter modifiers that apply will apply when the aircraft attacks using the observer unit (this does not affect gun fire).

20.1.3.1.3 Terrain Blocking Aircraft Sighting: In addition to the acquisition ranges, to acquire a target unit or hex an aircraft unit must also have a clear line of sight, unblocked by terrain, to the target hex during its entire acquisition range movement. The AIR SIGHTING CHART on the Game Card, is used to determine clear lines of sight. The line of sight from an aircraft to a ground unit is blocked if the ground unit is within a certain number of hexes of a potential blocking terrain hex of a certain height, based on the altitude of the aircraft unit.

20.1.3.1.3.1: Blocking terrain heights are based on the highest height in a hex—i.e., use the tops of the trees in a woods hex, rather than the ground height.

20.1.3.1.3.2: Find the line on the chart that shows the air unit's altitude. The "Effects" on that line show what height terrain in the line of sight can block the "sighting" of a target unit. For example, an aircraft unit is at "Medium" altitude. The line of sight is blocked if a ground unit is within 1 hex range of the possibly blocking terrain, and that terrain is height "+4" or more ("1/+4" on the chart). The line of sight is also blocked if a ground unit is within 2 hexes range of height "+5" or more terrain ("2/+5" on the chart), within 3 hexes range of height "6" or more terrain ("3/+6" on the chart), etc.

20.1.3.1.3.3: If the line of sight to a target is blocked from any hex entered while attempting to acquire the target, the air unit may not acquire it as a target.

20.1.3.2 AIRCRAFT GUN COMBATS: Most aircraft units are armed with an integral gun or cannon; gun pods can also be added as a weapon load. All of these guns are point effect weapons and are fired at ground units using most of the same rules as other point effect weapons, whether using AP or GP fire. Some special rules that apply

to using aircraft guns are as follows:

20.1.3.2.1 Aircraft Gun Use Limitations: Guns may only be fired from low altitude. If an attacking aircraft has more than one gun, up to all guns may be fired at once, at the same target, although the fire from each is resolved separately.

20.1.3.2.1.1: Only one target unit per hex may be attacked unless the hex is a road or path hex, in which case (they are considered to be strung out along the road or path) up to three units per hex may be attacked. Once aircraft gun firing starts, consider that sequential hexes from the original target hex can be attacked, continuously, one by one, as the aircraft unit enters new hexes, as long as all the new hexes contain target units and can be "seen"—they do not have to be separately acquired. All of this gun firing counts as just one attack, although ammunition is expended separately in each hex and for each target unit.

20.1.3.2.1.2: Once gun firing ceases, later targets must be separately acquired as different attacks.

20.1.3.2.2 Aircraft Gun AP Point Effect Fire: All AP point effect modifiers that apply to aircraft are used. In addition, a "-5" modifier applies if the firing aircraft is using evasive maneuvering, a "+2" modifier applies if the firing aircraft is at low speed, and a "-2" modifier applies if the firing aircraft is at high speed. All AP point effect modifiers that may apply when using aircraft guns are marked with an "(A)" in the AP POINT EFFECT MODIFIERS section on the Game Card (ignore the other modifiers).

20.1.3.2.2.1: All firing of guns from aircraft is considered to be from a "falling" elevation. The only change is in the manner of determining the hit location for the turret top ("TT") and the hull deck ("HD") (see 7.4.5.3). The "TTA" and "HDA" columns of a target vehicle unit's HIT LOCATION CHARTS on its data card are used when the fire is from an aircraft, instead of the "TTG" and "HDG" columns.

20.1.3.2.2.2: When firing aircraft guns, hit angles and penetration are determined in the same manner as for ground combat.

20.1.3.2.3 Aircraft Gun GP Point Effect Fire: All GP point effect fire is resolved in the same manner as ground combat. A "-10" modifier applies if the firing aircraft is using evasive maneuvering, a "+5" modifier applies if the firing aircraft is at low speed, and a "-5" modifier applies if the firing aircraft is at high speed. These, and other modifiers that may apply for using GP fire from aircraft guns are marked with an "(A)" in the GP POINT EFFECT MODIFIERS section of the Game Card (ignore the other modifiers).

20.1.3.3 AIRCRAFT "DROPPED" WEAPON COMBAT: With the exception of gun pods, rockets, PGM bombs, and ARM missiles, other aircraft weapon loads have no range, and are GP area effect weapons. They are "dropped" from the aircraft and fall onto the target. Using iron bombs (free fall bombs), cluster bombs, napalm

bombs, mine canisters, and smoke bombs is similar to using other GP area effect weapons. The information that applies to these weapons is listed in the the FIRING INFORMATION sections on the aircraft data cards, as follows:

20.1.3.3.1 Dropped Weapon Combat Procedures:

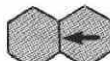
20.1.3.3.1.1 Target Hex: All of these weapons are "dropped" when the aircraft unit is moved into the acquired target unit's hex. This hex is the target hex, and scatter and the final impact hex are immediately determined, using the area effect fire rules found in option 17.1.2.

20.1.3.3.1.2 Scatter Direction: The SCATTER DIAGRAM is not used with these weapons. The direction of scatter is always the direction in which the front of the aircraft unit faces. All of these weapons effect their impact hex and other hexes.

20.1.3.3.1.3 Dropped Weapon Example: A F-111F (see data card USA-7A/2) facing in mapboard direction "1" has acquired hex 1M5 as a target hex, and an iron bomb is to be dropped there. Condition is "Day" and the F-111 was declared to be at low speed, medium altitude, and is evasive maneuvering. The scatter factor for an iron bomb is "50". The scatter modifiers are "0" from the AREA EFFECT SCATTER MODIFIERS CHART on the Game Card, "+10" for "LM" from the data card's FIRING INFORMATION section, and, from note f on the data card, "+10" for 2 crew (which a F-111F has) and "-20" for evasive maneuvering, for a net scatter modifier of "0". A "33" is rolled on the dice, and, as shown on the AREA EFFECTS SCATTER TABLE on the Game Card, the impact hex scatters 2 hexes in mapboard direction "1" (same as aircraft facing) from the target hex to hex 1M3.

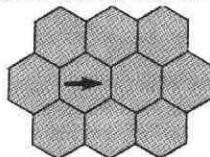
20.1.3.3.2 Iron Bomb Special Rules: Iron bombs affect the final impact hex and the next adjacent hex in the direction the aircraft unit's front facing. An effective result against a vehicle unit produces a brew up result.

IRON BOMB HEXES ("→"=IMPACT HEX/
AIRCRAFT FLIGHT DIRECTION)



20.1.3.3.3 Cluster Bomb Special Rules: Cluster bombs affect the final impact hex, the next adjacent hex in the direction the aircraft unit's front facing, and all hexes adjacent to those two hexes. A "+10" GP modifier applies on the GP COMBAT RESULTS TABLE when using cluster bombs. An effective result against a vehicle unit produces a brew up result.

CLUSTER BOMB HEXES ("→"=IMPACT HEX/
AIRCRAFT FLIGHT DIRECTION)



SCATTER MODIFIERS BASED
ON SPEED/ALTITUDE a

Iron Bombs	1	—	Uni	c	d	GP	MV	SCATR	50	SCATTER MODIFIERS BASED ON SPEED/ALTITUDE a				EF = BREW UP if GP DEF = Any.
										LL	LM	MH	HH	
									50f	+20	+10	-10	-20	

SCATTER FACTOR b

a: This uses the speed/altitude matrix abbreviations—see 20.1.3.1.1.1. Even though these appear in range columns, they have nothing to do with range. Other scatter modifiers that apply may be found in the FIRING INFORMATION "Notes" or derived from the

AREA EFFECT SCATTER MODIFIERS CHART on the Game Card.

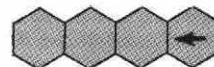
b: Check note "f" for other scatter modifiers that may apply.

20.1.3.3.4 Napalm Bomb Special Rules: Napalm bombs affect the final impact hex, and the next three hexes in the direction the aircraft unit's front facing.

20.1.3.3.4.1: Against dismantled leg and towed units, leg and towed units transported by non-full cover capable vehicle units, or truck vehicle units, a "+30" GP modifier applies and, against open vehicle units, or vehicle units with "0" "HD" or "TT" armor basis, a "+20" GP modifier applies.

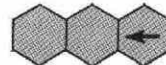
20.1.3.3.4.2: Any hex hit by Napalm effects is considered to automatically and immediately be a fire hex; place FIRE markers in all affected hexes. These are treated the same as normal fire hexes (see option 18.3), although they may be located in non-building hexes. However, they are considered to burn for the entire scenario, and they are never extinguished (even if called for on the BUILDING FIRE TABLE).

NAPALM BOMB HEXES ("→"=IMPACT HEX/
AIRCRAFT FLIGHT DIRECTION)



20.1.3.3.5 Mine Canister Special Rules: Mine canisters affect the final impact hex and the next two hexes in the direction the aircraft unit's front facing. These aircraft delivered minefields are considered to the same as artillery delivered FASCAM minefields in their effects. Like them, players must keep track of these minefield hexes on their RECORD SHEETS.

MINE CANISTER HEXES ("→"=IMPACT HEX/
AIRCRAFT FLIGHT DIRECTION)



20.1.3.3.6 Smoke Bomb Special Rules: Smoke bombs affect the final impact hex and the next two hexes in the direction the aircraft unit's front facing. Place smoke (ON) markers in all of these hexes. This smoke is classed as "other" smoke.

SMOKE BOMB HEXES ("→"=IMPACT HEX/
AIRCRAFT FLIGHT DIRECTION)



20.1.3.4 AIRCRAFT "STANDOFF" WEAPON COMBAT: These weapons are fired at a distance from the aircraft and proceed instantly to the target.

20.1.3.4.1 Rocket Special Rules: A rocket load represents a salvo of numerous rockets. Like guns or anti-tank guided missiles, rockets are fired into an acquired target hex within their firing arc from anywhere within their range. Rockets must be fired from low altitude. Rocket information is presented similarly to the dropped weapons, except that its FIRING INFORMATION scatter modifiers are based on the range. Then, like the dropped weapons, follow area effect fire procedures (see option 17.1.2). The SCATTER DIAGRAM is not used with rockets—the direction of scatter is always the direction in which the front of the aircraft unit faces. Rockets affect only their final impact hex. Since rockets have a range, they can be fired before the aircraft unit enters the mapboard—the theoretical range at which these off-board rockets are launched must be declared when such an attack is made.

20.1.3.4.2 Anti-Radiation Missile (ARM) Special Rules: ARM's are used to attack a single

target unit that is emitting "radar radiation" (i.e., its radar is "on"—see option 20.3.3.1). An ARM "homes" on the radar, so the target unit does not have to be acquired in the normal manner, range, in game terms is limitless, and an ARM missile can be fired before an aircraft unit enters the map-board. Simply announce the firing and the target unit, and, if the impact hex contains the target unit, resolve the combat against the target unit *only*. NOTE: Scatter modifiers are "0" for "MM" and "HH" as well as for "LL".

20.1.3.4.3 Precision Guided Munitions (PGM)

Special Rules: Cluster and iron bombs both come in a PGM version, which perform more like missiles than bombs, and PGM versions of these weapons can be obtained by expending 20 extra points (i.e., a PGM cluster bomb would cost 50+20=70 points). PGM bombs can be guided to a target, and are very accurate. A PGM bomb can be dropped at a 0–5 hex range from low altitude, at a 6–10 hex range from medium altitude, and at an 11–15 hex range from high altitude. The target is acquired normally, except for its range the procedures are as for a dropped weapon, and once it hits its impact hex, has its usual effects, depending on if it is an iron or cluster bomb (see 20.1.3.3.2 and 20.1.3.3.3). A PGM can be fired before the aircraft enters the map-board, like guns or rockets. When fired, apply an extra "+30" scatter modifier.

20.2 HELICOPTER OPTIONS: Helicopters

represent the most versatile combat units available to modern combat forces. They deliver a heavy load of weapons or quickly transport troops to the battle area. Their speed and maneuverability make them a quick strike weapon. The helicopter data cards (USA-6A and 6B, FRG-7A, and USSR-10A and 10B) provide the information needed to use the different types of helicopters. Like aircraft, helicopters have a base point value that is the cost to acquire the helicopter in clean state (without weapons other than any integral guns mentioned with a helicopter's base points at the top of its data card), and additional weapons (called "armaments") cost additional points.

20.2.1 HELICOPTER ARMAMENTS: The POSSIBLE MAXIMUM ARMAMENTS & POINTS

section on the data cards show indicate the maximum number of specific weapons that can be added to a helicopter; like aircraft loads, each weapon also has a specific cost. For example, the U.S.A.'s AH-64A Apache has an integral 30mm chin gun (mounted in a forward-facing turret under the nose), plus a choice of four different armament configurations that an Apache unit may "carry" in addition to its chin gun. It may also "carry" up to 16 Hellfires (15 points each), up to 8 Hellfires (15 points each) and up to 6 rockets (10 points each—these are smaller rockets than those carried on aircraft), up to 8 ITOW (10 points each) and up to 6 rockets (10 point each), or up to 12 rockets (10 points each)—smaller quantities may be taken, if desired. When helicopters are used, they are outfitted with an armament configuration by scenario or, if using the point selection of forces, by the controlling player during setup. List all armaments and gun ammunition in the "Ammunition, Armaments, Attached, Loads" line on the RECORD SHEET. Once outfitted, the armament configuration may not be changed during the course of the scenario. It is highly recommended that the Limited Ammunition Rules (17.3.2) be applied to the helicopter unit's gun weapons.

20.2.2 HELICOPTER MOVEMENT: Helicopter units are handled similarly to ground combat units, although they are *not* marked with command markers and move *twice* a Turn, during *both* of the Air Phases. They remain on the mapboard at all times, unless they exit the game. Helicopters are considered to have

adequate fuel to remain in play for an entire scenario. Helicopter units are all considered to be equipped to fly during Night, Moonlight, or Dusk conditions, although their maximum speed is halved (round fractions up) in these conditions at NOE altitude. All helicopter units are limited to low altitude during "Fog" or "Blowing Snow" conditions. Sights on helicopters perform normally.

20.2.2.1 HELICOPTER ALTITUDE—SPEED: A helicopter unit's altitude affects its maximum possible speed. At the start of each Air Phase, the altitude for each helicopter unit is announced. Helicopter units may be at either NOE (=Nape-of-the-Earth—a helicopter unit is always one height above the *highest* height in a hex) or low altitude (the same as low altitude for aircraft). A helicopter unit's maximum speed for an Air Phase is determined by its altitude, and is listed in the "Speeds" lines of the MOVEMENT INFORMATION section of its data card. For example, an AH-64A "Apache" has a maximum speed of 20 movement factors at low altitude, and 14 movement factors at NOE altitude.

20.2.2.1.1 Hovering: If a helicopter unit expends "0" movement factors during an Air Phase, it is considered to be "hovering".

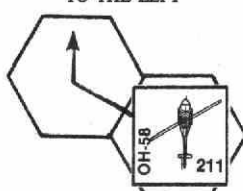
20.2.2.1.2 Pop-Up Attacks: Helicopter units are able to hide behind intervening terrain while flying at NOE altitude and hovering, and "pop-up" to quickly fire at enemy units. When making a pop-up attack, a helicopter unit is considered to be climbing from NOE to low altitude. The attack is then executed as if the helicopter unit is at low altitude. After completing the attack, the helicopter unit immediately returns to NOE altitude.

20.2.2.2 HELICOPTER MOVEMENT PROCEDURES: A "flying" helicopter unit is moved from hex-to-hex, always retaining its facing unless it makes a turn. Helicopter units expend one movement factor per hex entered. Helicopter units may be moved forward any number of hexes equal to or less than its maximum possible movement factor per Air Phase. As a helicopter unit is moved, it is considered to "fly" above the terrain (even at NOE altitude; it changes height as necessary to stay exactly one height above the highest terrain in each hex) in its current hex; helicopter units never "crash" into mapboard terrain due to movement.

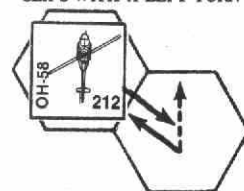
20.2.2.2.1 Turning Helicopters: Helicopter units may be turned one hexside for each new hex entered. If a helicopter unit is not entering new hexes (i.e., "hovering"), it may be turned any number of hexsides in that hex. Turning a helicopter unit expends no movement factors.

20.2.2.2.2 Side Slipping Helicopters: By expending one-half (round up) or more of its total available movement factors, a helicopter unit may perform a "side slip" maneuver for any number of hexes up to the number expended to make the maneuver. When side slipping, the helicopter unit moves forward either to the right or to the left (right and left may *not* be combined in the same maneuver), as desired, but maintains its original facing. Side slips may also be performed in reverse (see 20.2.2.2.3, below). Normal turns in either direction may be combined with side slips.

SIDE SLIPPING FORWARD
TO THE LEFT



COMBINING REVERSE RIGHT SIDE
SLIPS WITH A LEFT TURN



20.2.2.2.3 Helicopter Reverse Moves: Helicopter units may move in reverse at a cost of 2 movement factors per hex entered. Helicopter units may be turned and side slipped during reverse movement. Helicopter units may *not* combine forward and reverse moves during the same Air Phase.

20.2.2.3 HELICOPTER TRANSPORTS/LANDINGS AND TAKE OFFS: Exactly like vehicle units, some helicopter units may be used to transport leg and/or towed units. The "Transport Value" line on the data cards shows the information in the same way as it is shown for vehicle units.

20.2.2.3.1: Normally, helicopter units must "land" during an Air Phase to load or unload (EXCEPTION: see air repelling, option 17.4.1.3.2.2), then "take off" during a later Air Phase (a helicopter unit may not land and take off during the same Air Phase) to get airborne again. During an Air Phase in which it lands or takes off, a helicopter unit must start or end at NOE altitude and can expend no more than one-quarter (round up) of its total movement factors for entering new hexes during that Air Phase. A helicopter unit may be used for loading or unloading, not both, during an Air Phase, but may load or unload during the same Air Phase as it lands or takes off (expending the movement factors to load or unload). Consider loaded units to have MOVE orders to permit them to unload, even though helicopters are not marked with command markers.

20.2.2.3.2: The number of helicopter movement factors required for units to load or unload is the same as required with vehicle transport. Helicopter units may engage in combat during an Air Phase in which it land, loads, or unloads.

20.2.2.3.3: Helicopter units may only be landed in clear or scrub hexes.

20.2.2.3.4: Transported units never bail out of a helicopter unit. If a helicopter unit is destroyed, all units it is transporting are completely eliminated. No units transported on a helicopter unit may be fired.

20.2.2.3.5: Landed helicopters have 2 stacking points.

20.2.3 HELICOPTER COMBATS: Helicopter units attack ground combat units with guns and/or their other armaments. When combat is announced, a helicopter unit may be used to fire all of its guns, and one other armament (EXCEPTION: see 20.2.3.3.3), all of which must be fired at the same time and from the same hex. Helicopter weapons are a combination of point and area effect weapons. Helicopter units are not as limited as in their ability to "sight" ground units, but must have a "sighted" target to make any type of attack. Helicopter units may attack one target unit per Air Phase (EXCEPTIONS: see 20.2.3.2.3 and 20.2.3.3.3); although by the nature of area effect weapons (i.e., rockets), other units in a target unit's hex could also be hit. A helicopter unit may attack from any hex (including the one where it starts an Air Phase) entered during its movement.

20.2.3.1 HELICOPTER SIGHTING: All helicopter units have a 120 degree sighting arc from

the front of the helicopter unit, the same as for aircraft units. As helicopter units are "flown" across the mapboard, they are able to sight ground targets.

20.2.3.1.1: For sighting purposes, helicopter units at NOE altitude are considered to be one height above the *highest* terrain height in the hex they currently occupy. When at NOE altitude, helicopters "sight" in the same manner as ground units.

20.2.3.1.2: When at low altitude, helicopter units "sight" in the same manner as aircraft at low altitude (see option 20.1.3.1), except that they do not have to acquire a target; they only have to be able to "see" it from the hex from which the helicopter attacks.

20.2.3.2 HELICOPTER GUN COMBATS: Most helicopter units are armed with integral guns, cannons, or machineguns, or these weapons can be added as armaments. All of these guns are point effect weapons, and are fired at ground units using most of the same rules as other point effect weapons, whether using AP or GP fire.

20.2.3.2.1 Guns Fired From NOE Altitude Or Landed: Procedure is *exactly* the same as for firing ground unit guns (the helicopter's height when firing is 1 height above the highest point in its current hex). Use the "PYNOE" line for armor penetration when firing from NOE altitude.

20.2.3.2.2 Guns Fired From Low Altitude: Procedure is the same as for firing aircraft guns (see option 20.1.3.2), except that the special aircraft modifiers (for evasive maneuvering and high or low speeds) do not apply. Use the "PYLOW" line for armor penetration when firing from low altitude.

20.2.3.2.3 Guns Fired At Different Targets: Helicopters that carry guns with different firing arcs may fire these guns at different targets. Guns with identical firing arcs must be used against the same target (each gun's firing resolved separately). All guns must be fired at the same time and from the same hex.

20.2.3.3 OTHER HELICOPTER ARMAMENTS COMBATS: Other weapons "carried" by helicopters include rockets and ATGM's (which may be wire guided or laser homing).

20.2.3.3.1 Rockets: Rockets fired from "flying" helicopters work exactly the same as rockets fired from aircraft (see option 20.1.3.4.1). One rocket may be fired per Air Phase. Rockets may not be fired by landed helicopters.

20.2.3.3.2 Wire Guided ATGMs: ITOW, HOT, Sagger Spiral, and Swatter are wire/radio (called "wire") guided ATGM's. These weapons are fired in the same manner as ATGM's on the ground, except that they can be fired while moving, and there is never any delay—the firing is resolved immediately. Unless fired while "hovering" or landed (in which case, they have a 60 degree firing arc), the firing arc for these ATGMs is *directly down the hex row* the helicopter unit's front faces when firing is announced, and the helicopter unit must be moved a number of hexes equal to at least one-half (round fractions up) of its movement factor *directly* towards the target unit *after* announcing firing. One wire-guided ATGM may be fired per Air Phase. If fired while landed, the ATGM AP point effect movement modifiers apply.

20.2.3.3.3 Laser Homing ATGMs: Hellfire is a laser homing ATGM, and has a 60 degree firing arc. These ATGM's are "guided" to their targets by reflected laser energy. They must have a laser designator, or use an observer unit (a ground unit or another helicopter unit) that has one to "paint" the target unit with laser energy. Up to two laser

homing ATGM's can be fired during the same Air Phase from the same hex, at the same or different target units, although each target unit must be controlled by different laser designators. When using an observer unit's laser designator, laser homing ATGM's may be fired over any intervening terrain up to two heights higher than the firing helicopter unit. For an observer unit to be used in this way, its identification number must be indicated in the helicopter unit's "Notes" line on the RECORD SHEET. Observer units used for this purpose may not also be used for other observing purposes. Firing is resolved immediately.

20.2.4 HELICOPTER OBSERVERS: The following helicopter units can be used as observer units: the U.S.A.'s OH-58D "Kiowa", the F.R.G.'s SA-313C "Alouette II", and the U.S.S.R.'s Mi-2 "Hoplite". Observer helicopter units spot for artillery fire and air units as if they were Company CO units. The sighting rules for NOE and low altitude are followed by these helicopters for "seeing" enemy units.

20.3 ANTI-AIRCRAFT FIRE OPTIONS: Anti-aircraft fire is used by ground combat units to neutralize or shoot down enemy aircraft and helicopter units. Anti-aircraft fire is classified into two different categories—gun and anti-aircraft missile ("AAM"). Not all ground units have the ability to use anti-aircraft fire, only those with an "AA" line in the FIRING INFORMATION.

20.3.1 READING ANTI-AIRCRAFT INFORMATION: The FIRING INFORMATION section of a ground combat units' data card will contain "AA" lines for any weapons capable of anti-aircraft fire. If there are no "AA" lines, the unit may not employ anti-aircraft fire. The AA lines are listed with individual weapons on most data cards, but, on the leg unit data cards, the information for all units is grouped at the bottom of the FIRING INFORMATION section.

20.3.1.1: The top line in "AA" information identifies the information, and contains headings. Even though these appear in the same columns as the "Range in Hexes" information for other weapons or ammunition, these columns have nothing to do with that range information. The first six columns show the surface/air matrix abbreviations "LL", "LM", etc.), followed by the damage modifier ("DAM"), the weapon's maximum to minimum firing ranges ("RNG") when used for anti-aircraft fire, and its countermeasures ("CM") rating.

20.3.1.2: The one or two lines found under the heading line give the appropriate information for each heading. These lines are identified in the "Factor" ("FAC") column as applying to optically ("OP") or radar ("RD") controlled anti-aircraft fire. For combat units that do have radar, this is determined by the sighting (RADAR or VISUAL) marker placed with the unit (see 20.3.3.1).

20.3.1.3: For anti-aircraft missiles lines, the "Type Ammo Fired" column will contain the notation "MT" (tail chase missile), or "MA" (all-aspect missile), to identify the missile's guidance system.

20.3.2 WHEN ANTI-AIRCRAFT FIRE IS POSSIBLE: Ground units that may employ anti-aircraft fire are those which have useable (correct firing arc and ranges, open if necessary, etc.) anti-aircraft ("AA") weapons, and which have any orders.

20.3.2.1: Buttoned vehicles with weapons that require an open vehicle (ie., "TTO" and "HDO" machineguns, etc.) may not fire those weapons, and no transported units or weapons may be used for anti-aircraft fire.

20.3.2.2: Anti-aircraft missile weapons may be fired only at "flying" targets. A "MT" type anti-aircraft missile may only be fired when located in an 120 degree arc from the *rear* facing of the target unit. A "MA" type anti-aircraft missile may be fired at any angle from the target unit. Both types have 60 degree firing arcs. They are useless against targets on the ground.

20.3.2.3: Small arms guns of less than 20mm may be fired only at targets at NOE or low altitudes.

20.3.2.4: The target unit must also be "sighted" and acquired (see 20.3.3, below), and be within the anti-aircraft firing range (see "RNG") and the weapon's normal firing arc.

20.3.3 SIGHTING FOR ANTI-AIRCRAFT FIRE: All ground units have a 360 degree sighting arc for "sighting" flying aircraft and helicopters, but these targets must be "acquired" as they are moved before firing is possible.

20.3.3.1: When playing a game using air units, certain ground units that have radar must be marked to show how their anti-aircraft fire will be controlled. Show this by placing either a sighting (RD=radar) or sighting (VIS=visual or optical) marker with the combat unit during the Mark Orders Step. This selection applies during the entire Turn. If radar use is selected, the unit can still be fired optically in situations where radar use is impossible, if the weapon also has an optical capability.

20.3.3.2: Use the AIR ACQUIRED RANGES CHART on the Game Card to determine the distance that a target helicopter or aircraft must be moved before it is acquired. Crossgrid the "Ground Used" line with the column showing the target unit's speed/altitude matrix (treat all "flying" helicopters as "LL"). The numbers found show the distance that a target unit must be moved while "sighted" in order for a ground unit to use anti-aircraft fire against it. The two numbers are, in order, the acquisition distances for guns/missiles. *For example, an aircraft unit at high speed and high altitude ("HH") would have to be moved (while "sighted") 5 hexes to fire a gun or 10 hexes to fire an anti-aircraft missile at it.*

20.3.3.3: Hovering helicopters are *automatically* acquired if they can be "seen".

20.3.3.4: As aircraft units enter or exit the mapboard, they are considered to be *automatically* acquired by ground units that can "see" the entry or exit hex, and anti-aircraft fire can be directed at that hex.

20.3.3.5: The "sighting" of flying aircraft and helicopters can also be blocked by terrain. Use the methods to determine blocking terrain explained for air units (see option 20.1.3.1.3). If an air unit can't "see" a ground unit, that ground unit can't "see" them, either.

20.3.4 ANTI-AIRCRAFT COMBATS: Modifiers and notes for using anti-aircraft fire are found in the ANTI-AIRCRAFT MODIFIERS section on the Game Card. During *each* of the two Air Phases, a ground unit may be used *once* for anti-aircraft fire against one aircraft or helicopter unit. Anti-aircraft fire is resolved immediately when announced. More than one unit and/or weapon may be fired at the same target unit, but the fires are resolved separately. If an air unit and a ground unit(s) announce fire simultaneously, both fires are considered to take place simultaneously. If necessary keep side notes of what units have already been used for anti-aircraft fire during an Air Phase. Units firing anti-aircraft fire are marked with spotted (FIRED) markers (unless option 17.6.2 is used and applies).

20.3.4.1 HITTING THE TARGET: Find the column that contains the speed/altitude matrix



abbreviation that matches that of the target aircraft or helicopter unit (always treated as "LL" for "flying" helicopters, even if at NOE altitude). The number found in that column is the "hit number". All applicable modifiers are determined and the dice are rolled. If the modified result is equal to or less than the hit number, a "hit" has been scored.

20.3.4.1.1 Spoofing: Aircraft units equipped with internal or external (carried as a load) ECM (electronic countermeasures), and helicopter units equipped with Chaff/IRCM (infrared countermeasures) can attempt to "spoof" some anti-aircraft fire. The availability of this spoofing equipment is shown on the aircraft and helicopter data cards. Spoofing throws off the ground unit's fire thereby causing it to automatically miss the target. After a hit has been scored, if a radar directed gun or any anti-aircraft missile did so, and is firing at an equipped aircraft or helicopter unit, the aircraft or helicopter unit may be used to attempt to spoof the fire. To do so, aircraft roll the two dice once for each pod, internal and/or external, that it carries, and an equipped helicopter rolls once. This is done for every hit. If the dice roll is less than or equal to the firing weapon's "CM" rating (if the "CM" rating is "...", the firing unit may not be spoofed), the fire has no effect and is wasted. Air units may only attempt to spoof fire directed at themselves, not fire directed at other targets.

20.3.4.1.2 Suppressed or Moving Hit Number Change: If a firing ground unit is suppressed, has CLOSE ASSAULT, OVERRUN, FIRE/MOVE, or MOVE orders, the hit number is halved (round any fractions up) for each situation. For example, if a ground unit has MOVE orders, and is also suppressed, the hit number would be $\frac{1}{2}$ times $\frac{1}{2}$, or $\frac{1}{4}$ of the normal hit number.

20.3.4.1.3 Target Making Pop-Up Attack: If the target is a helicopter unit executing a pop-up attack, one of the following apply:

20.3.4.1.3.1: If a helicopter is not attacking with wire-guided ATGM or using its own laser designator, the hit number is halved (round fractions up), anti-aircraft missiles may not be fired at the helicopter, and radar controlled fire may not be used against it.

20.3.4.1.3.2: If a helicopter unit is using wire-guided ATGM's or is using its own laser designator, the hit number is still halved, but anti-aircraft missiles and radar controlled fire may be used against it.

20.3.4.1.3.3: The suppressed or moved halving of the hit number from 20.3.4.1.2 may also apply for cumulative fractioning of the hit number.

20.3.4.1.4 Target At NOE Altitude: If the target is a helicopter unit at NOE altitude, the optical ("OP") hit number must be used. Radar controlled fire is ineffective at NOE altitude due to ground clutter.

20.3.4.1.5 Target Evasive Maneuvering: If the target is an aircraft unit using evasive maneuvering, modify the dice roll by "+20".

20.3.4.1.6 Target Hovering: If the target is a hovering helicopter unit that is not making a pop-up attack, modify the dice roll by "-10".

20.3.4.1.7 Firer Grade: Modify the dice roll by "-10" if the firing unit is crack, and by "+10" if the firing unit is poor.

20.3.4.2 DAMAGE TO AIRCRAFT AND HELICOPTERS: If an aircraft or helicopter unit has been hit, it is subject to destruction and "crashing". The dice are again rolled, and modified by any listed "DAM" number for the firing weapon. The modified result is then compared to the target

unit's "defense value" listed on the target's data card. If the modified dice roll is equal to or less than the target unit's defense value number, the air unit is destroyed and will "crash". If the modified dice roll is greater than the defense value, the air unit is suppressed—mark it with a suppressed (ON) marker (this is changed and finally removed in the normal Adjust Markers Step)—being suppressed only effects air units when firing their guns.

20.3.4.2.1: Landed helicopters do not "crash". However, when a "flying" aircraft or helicopter unit is destroyed, it has to "crash" somewhere. A hovering helicopter always "crashes" in its hex. For other units, roll one die. The number rolled is the number of hexes the unit moves forward in its front facing direction before it "crashes". That hex is its "crash hex".

20.3.4.2.2: All ground units in or adjacent to a crash hex are immediately "attacked" with "50" GP factors. These attacks are resolved in the same manner and have the same effects as super heavy battery HE artillery fire (ie., an effective result knocks out any vehicle unit).

20.3.4.2.3: Place a burning marker in the crash hex (only). A burning marker is also placed for landed helicopters that are destroyed. These fires are handled normally, and can spread if adjacent to a building hex (see option 18.3).

20.4 SPECIAL COMBATS AGAINST HELICOPTERS: Anti-aircraft fire is not the only way to harm helicopter units.

20.4.1 GROUND ATTACKS ON HELICOPTER:

20.4.1.1 ARTILLERY VS. FLYING HELICOPTERS: Helicopter units at NOE altitude or landed that are in the impact hex of artillery fire using HE, ICM, or ICMDB, fire missions, or of aircraft iron, cluster, or napalm bombs can be suppressed or destroyed. The GP factor of the weapon is treated as the hit number; no modifiers apply. Resolve from there exactly as in option 20.3.4.1. If hit, the dice are then rolled to determine damage, as in option 20.3.4.2; no modifiers apply.

20.4.1.2 GP FIRE VS. LANDED HELICOPTERS: Normal GP fire procedures (treat as a ground unit for attacks from "flying" aircraft and helicopter units) may be used against landed helicopters during the phases and steps in which such fire normally occurs. Treat a landed helicopter unit as if it were a vehicle unit with a GP defense factor of "1". All normal modifiers vs. ground combat units apply. If knocked out or brewed up, place a burning marker in the hex.

20.4.2 AIR-TO-AIR COMBATS: With the game sequence, opposing aircraft units will never be on the mapboard at the same time, but aircraft units may be used to fire at helicopter units and helicopter units may fire at each other.

20.4.2.1: All air-to-air shooting must be done with guns, and may only be done while a unit is being moved.

20.4.2.2: A target unit must be at the same or no more than one altitude level difference (consider NOE altitude to be one level less than low altitude) from the firing unit. A "flying" air unit must acquire a helicopter target unit as if the helicopter unit were on the ground in its hex.

20.4.2.3: Resolve as with anti-aircraft fire, but use the firing unit's GP factors at the range from which the firing takes place as the hit number. No modifiers apply.

[21.0] COMMAND CONTROL

"Command control" represents the essence of combat action. No matter the quality of the equipment fielded, the force with superior leadership,

communications, and cohesiveness will prove hard to beat. These rules apply *only* to ground combat units—off-board artillery and air units do not require command control.

21.1 COMMAND POINTS: "Command points" represent levels of leadership and training. The more command points that an organization has available, the faster it can respond to battlefield conditions.

21.1.1 DETERMINING THE NUMBER OF COMMAND POINTS: At the start of a Mark Orders Step, each side counts the number of active combat ground units in each of their "command organizations". A command organization is a NATO platoon or section (unless attached to a platoon) or any headquarters basic organization, a Soviet company or battery larger organization, or a Soviet battalion headquarters basic organization.

21.1.1.1 BASIC COMMAND POINTS: The COMMAND POINTS CHART on the Game Card is then used to determine the number of "command points" available to each command organization. Crossgrid the number of active units in a command organization with the grade (use the lowest grade for a command organization with mixed grades) of those units. The number found is the number of command points available for the command organization.

21.1.1.1.1: A Soviet doctrine combat unit is counted as only one active unit for this purpose.

21.1.1.1.2: Mounted leg and towed units are *not* counted as active units. They are counted when dismounted.

21.1.1.1.3: Helicopter and aircraft units, abandoned vehicle units, bailed out crew units, and off-board artillery batteries are *not* included in the active unit total.

21.1.1.2 BONUS COMMAND POINTS: The presence of some "commanding officers" adds some "bonus command points". A bonus command point can be transferred to any combat unit which the commanding officer is considered to "command".

21.1.1.2.1: A "CO" with an active unit in a NATO company, battery, or troop headquarters organization, or any "XO" with an active unit is a commanding officer and provides one bonus command point.

21.1.1.2.2: A "CO" with an active unit in a battalion or squadron headquarters organization is a commanding officer and provides two bonus command points.

21.1.2 USING COMMAND POINTS: Each command point can be used to exchange one command marker for one ground combat unit from a "fire" (red dot) command marker to a "move" (black dot) command marker, or vice-versa.

21.1.2.1: A command marker placed with a transporting vehicle unit counts as the orders for that vehicle unit and for all the leg/towed units it is transporting.

21.1.2.2: Command markers that cannot be exchanged may have a new order indicated.

21.1.2.3: Command points are *not* carried over from Turn to Turn—they must be used or lost.

21.1.2.4: On the Turn after any CO is eliminated, none of the combat units under its command may have their command markers exchanged (this is the only effect Soviet non-reconnaissance platoon COs have on a game). This does not apply if the officer is still present with an inactive unit.

21.1.3 TRANSFERRING OFFICERS: Any officer with an active or inactive unit may be transferred to an active unit (must be one under his

command) during an Adjust Markers Step when located in the same hex. Simply rewrite the notation for the officer with his new combat unit. Note that with this rule it is possible to transfer officers to helicopters. This rule is very useful when using the command control rules, but players not using the command control option may still wish to use this rule to switch observers around.

21.2 RADIO JAMMING: "Radio jamming" is used to disrupt the enemy's communication capability and thereby reduce their overall command effectiveness. A side can be assigned a total number of available "jamming points" in a scenario, or they can be "purchased" (25 points per "jamming point"). At the start of any Order Marking Step, one side or both can announce the use of radio jamming, and the number of jamming points expended. Up to three jamming points can be expended in one Turn. The higher the number of jamming points expended, the greater the chance that communication disruption will occur.

21.2.1 RADIO JAMMING PROCEDURE: Use the RADIO JAMMING TABLE on the Game Card to resolve radio jamming attempts. Cross-grid the number ("NO.") of jamming points expended (a jamming point may be used just once a game) with the column showing the side making the attempt, and roll the dice. If the dice roll exceeds the listed numbers, the attempt failed with no result.

21.2.2 COMMUNICATIONS DISRUPTION EFFECTS: If the dice roll falls within the indicated range of numbers, "communications disruption" has occurred. A force with communications disruption requires two command points to perform what one command point will normally accomplish.

21.2.3 LANDLINES: Units that start a scenario already on the mapboard, are assumed to be hooked up to "landlines" for communication. These units are immune to communication disruption as long as they remain in their original hexes, and are not suppressed by artillery fire or aircraft bombs (this suppression is considered to be enough blasting in the area to cut the landlines). Once ended, a landline hookup cannot be reinstituted.

21.3 MULTI-PLAYER RULES: Larger scenarios lend themselves well to play by more than one player per side. The presence of more than one player per side allows some additional realism to be added to the game as coordination will necessarily not be as good as when one player runs everything. This option contains some suggested rules for use when there is more than one player per side.

21.3.1 ASSIGNING FORCES: Before a game begins, decide which players will control which forces. There should be an overall commander on each side, trying to keep everybody pulling together and conforming to plans (and possibly also commanding some subordinate post to have a few combat units to command personally). Other commanders on a side control lower echelon organizations, or, if there are sufficient air or artillery assets, separate commanders could control these. Players control *only* the units which they are assigned to command personally. No other player may move or roll dice for that player's units.

21.3.2 PERSONAL COMMANDERS: Each ground commander should select one "CO" officer (from the highest echelon commanded) as a "personal" commander. A personal commander's unit represents that player's location on the mapboard. If a personal commander is lost, that officer's "XO" (if there is one) or the next highest-ranking "CO" that the player controls can serve as a replacement personal commander, starting

three Turns after the Turn when the previous personal commander was lost. If no other "CO" or "XO" is available to a player, the player continues playing the rest of the game without a personal commander. Separate air or artillery commanders are assumed to have their personal commanders off the mapboard (with radios).

21.3.3 PLAYER COMMUNICATIONS: The players on a side should get together before a game starts to discuss strategy, and to issue and receive orders. After a game starts, they may communicate with each other only through their personal commanders. A player without a personal commander may never communicate about the game with the other players in any way.

21.3.3.1 CONFERENCES: If some players' personal commanders are located in the same hex, the players they represent may conduct private talks. Otherwise, all communications between players must be by "radio".

21.3.3.2 RADIO COMMUNICATIONS: A player whose personal commander is with a unit with a radio may communicate with any other player whose personal commander is with a unit with a radio. "Radio" communications are simulated by using written messages (have some small sheets of paper available), as follows:

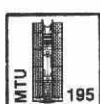
21.3.3.2.1: Radio messages are written during the Mark Orders Step of one Turn and delivered during the Mark Orders Step of the next Turn.

21.3.3.2.2: Each player may send one "free" radio message per Turn, except that a side's overall commander may send up to two "free" radio messages per Turn. Additional radio messages may be sent at a cost of one command point per message. Each individual message must be sent to only one other commander. After a message is written, fold the sheet, and mark the Turn number and the name of the sender and addressee. Any number of messages can be received during a Turn.

21.3.3.2.3: An individual message of 20 or fewer words/numbers is considered to be "in code", and is secure from enemy attentions. An individual message of more than 20 words/numbers is considered to be "in the clear" (not in code), and may be intercepted and read by the enemy. For each of these longer messages, the overall commanders each roll one die during the Mark Orders Step in which it is due to be delivered (note that no attempts at interceptions are possible by a side whose overall commander has been lost or is not with a radio). If the enemy commander rolls a number at least four higher than the commander whose side sent the message, the radio message has been "intercepted" and the enemy overall commander can read the message.

21.3.3.2.4: After the overall commanders roll for interceptions, players receiving messages roll one die for each message due to be received. With a roll of "1" through "7", the message is received and can be read. With a roll of "8" or "9", the message is "delayed", and will not arrive until the next Turn (at which time the roll will be repeated, etc., so it is possible for a message to be delayed for several Turns). With a roll of "10", the message is "lost" or "garbled"—tear it up.

[22.0] ARMORED VEHICLE LAUNCHED BRIDGE—AVLB'S



Vehicle launched or "temporary" bridges are used to span narrow streams and anti-tank ditches. The Americans use the M60 AVLB (data card USA-3A/2), the West Germans use the Biber (data card FRG-8A/2), and the Soviets use the MTU-20 (data card USSR-12B).

22.1: Unless otherwise indicated, all stream and ditch hexes are considered to be narrow enough to be spanned by AVLB's.

22.2: AVLB's "launch" their bridges during the Movement Step. To launch a bridge, an AVLB must have MOVE orders, and remain adjacent to a stream or ditch hex directly to the AVLB's front for the entire Movement Step. At the end of the Movement Step, a bridge marker (representing a temporary bridge) is placed over the stream or ditch hex. After the bridge is placed, the AVLB can be moved away from the bridge during a later Movement Step. Each AVLB has one temporary bridge it can launch.

22.3: Temporary bridges are considered to have the weight capacity to hold all vehicle units in the game (up to 60 tons). If a vehicle unit is rendered immobile while on a temporary bridge hex, the bridge can no longer be used or recovered.

22.4: Temporary bridges can be "recovered" in the same manner as they are implaced; just reverse the procedure.

22.5: Temporary bridges are considered to have a GP defense factor of "7".

[23.0] PLAYING MBT IN MINIATURE

In many ways, *MBT* is a miniatures game in a boardgame format. Miniature wargaming involves the use of model equipment and terrain rather than the cardboard maps and counters found in boardgames.

23.1 COMBAT UNITS: The boardgame's combat units are replaced with models of the vehicles, troops, and other equipment. With the long ranges of modern weapons, model equipment in 1/285 or 1/300 scale is recommended. For Soviet doctrine combat units, it is suggested that, in miniature, all the individual units be placed on the board, just kept together (i.e., strength markers are not needed). Aircraft and helicopter models of the same scale as the ground units can be mounted on bases atop narrow tubing to show altitudes. Numbers can be painted on the models for individual identification.

23.2 GAME COMPONENTS: Some game components are still needed for the miniature version, while others can be replaced.

23.2.1: Many of the game's various command and informational counters (turret units—if the models having moving turrets, these are only needed to show open or buttoned, temporary suppress, sighting, suppressed/spotted, etc.) can be used as is, placed next to the models instead of next to combat counters.

23.2.2: Other markers will look better recreated in miniature, for superior tabletop appearance. For example, model improved positions, hasty entrenchments, blocks, ditches, barbed wire, and temporary bridges could replace those terrain markers. Model wrecks can substitute for wreck markers. Steel wool (with some red and yellow paint near the bottom to simulate fire) makes excellent burning smoke for both fires and (with a smaller piece) brewed up wrecks. Cotton balls work for other kinds of smoke—if one side of a cotton ball is lightly dusted with some loose gray chalk (leaving one side white and the other light gray), one side can be used to indicate (ON), while the other side indicates (OFF). Artillery markers may be replaced by miniature "craters".

23.3 MINIATURE GAMEBOARDS: Miniature terrain can be purchased or constructed in a variety of ways. A major advantage of miniature terrain is that it can be moved around and changed into endless different configurations, making for incredible flexibility in designing scenario layouts.

23.3.1 THE HEXAGONAL LAYOUT: The easiest way to play in miniature is to use a tabletop that is ruled off into large hexes (say, at least 1½" to 2" across). Model hills, buildings, trees, etc. can be placed to conform to the hex pattern, and a number of equipment models will fit easily in every hex. The game can be played exactly like the boardgame version.

23.3.2 THE UNGRIDDED LAYOUT: The ungridded layout is a bit more effort, but only a few rule adaptations are required:

23.3.2.1: Rulers or tape measures will be required for measuring movement and ranges. Assign a value consistent with the table size to equal a hex value in the game. *For example, if 1" = 1 hex, then a unit with a movement factor of 6 would have a miniature movement factor of 6". A target 9" from a firing unit would be equivalent to one at 9 hexes range, etc.* For entering terrain that costs more or less than 1 movement factor to enter, inch equivalents could be used. *For example, each inch of rough terrain moved through expends 4" of a unit's miniature movement factor.*

23.3.2.2: Lines of sight can be handled by stretching a string from the center of one unit to the center of another unit to see if it passes through any potentially blocking terrain.

23.3.2.3: To handle scatter it is necessary to determine tabletop directions. The easiest way to do so is to draw a large hexagon and number its sides; then, cut it out to create a template that can be placed in some unused corner of the table and used as a directional reference. Where hex identifications are needed specify artillery fire target hexes, specify points on the table as target "points" by measuring locations from two sides of the table. *For example, 23" from the top of the table and 13" from the right side of the table specifies an exact point on the table*

23.3.2.4: To handle turning units and turrets, firing arcs, and shot angles, a compass can be used to measure the angles. A unit turned up to 60 degrees is considered to be turning 60 degrees, etc. Stretching a string (as with line of sight) from the center of a firing unit to the center of a target unit with a compass placed in front of the target unit shows the hit angle to the target.

[24.0] THE UMPIRED GAME

There is no wargaming experience to equal playing a well-run umpired game, especially one with multi-players on a side. Suddenly, things that seem quite easy in two-player, face-to-face games become quite difficult. There is *real* command friction and "fog of war". Where is the enemy? Where are our friends? What's going on over there? This option strips much of the game's information from the players, and drops them into the shoes (combat boots?) of actual military commanders—forced to make critical decisions based on incomplete information. This option requires the services of an extra person who is an expert on the game, but plays for neither side; serving, instead, as an "umpire" to process information and run the game. This rules section presents *suggestions* for umpires in running such games. Many other ideas will present themselves to imaginative umpires as they gain experience. It should be pointed out that serving as an umpire can be a surprisingly interesting and enjoyable experience.

24.1 GAME SETUP: The umpire should draw up a new scenario, so that the players will not know what the enemy's order of battle or objectives are. An interesting variation is to secretly and separately inform the sides of what they have to do to win. *For example, objectives could be given different point values for each side and/or*

the two sides could be given different objectives. Each side would know only its own objectives and (but not necessarily) the point values of those objectives. No one (except the umpire) is quite sure what constitutes a "victory" until the game is over.

24.1.1: Separate the players so that they are out of sight of each other. Each player needs a copy of the game, and the umpire needs another copy. All copies are identical, except that only the umpire's copy shows all the information and units for both sides. The player's copies show only their own units, plus any information about other units supplied by the umpire. Players should use some blank counters on which they can write information about units whose exact identities are unknown.

24.1.2: This system works beautifully if all participants have their copies at separate phone stations and the game can be played by phone.

24.2 UMPIRED "SIGHTING": The game is played normally, although all information is known by or comes through the umpire, and the umpire can control the information going to the players to create a more realistic and uncertain atmosphere for the game. All combat units that a player does not directly control (including friendly ones) are considered to be "hidden" until "sighted" by a player's own combat units or (in multi-player games) information is supplied from others on the same side.

24.2.1: Only the umpire knows all locations and unit identities. It is even possible to fire at units without being sure of the target's identity.

24.2.2: A ground unit can be *positively identified* (i.e., it is an American infantry squad, a German machinegun team, a Soviet T-80 tank, etc.) when it is close enough to be "seen" using the ranges printed on the SIGHTING RANGES CHART. Units that are seen from greater ranges due to being marked with a spotted marker provide less information: only their type (vehicle, large, or small) and nationality if "sighted" at up to twice the chart ranges (due to any spotted marker), and only "something just fired from there" if at more than twice the chart ranges and "sighted" due to a spotted (FIRED) marker.

24.3 STREAMLINED UMPIRED SEQUENCE OF PLAY: Due to the fact that the umpire has to go from player to player to obtain and convey information, the following modified, "streamlined" and more "simultaneous" sequence of play is suggested for umpired games, as it cuts down on the number of times the umpire needs to talk to each player during a Turn.

24.3.1 THE INITIATIVE PHASE: The umpire privately rolls dice to determine who goes first, but doesn't tell the players which side has the initiative.

24.3.2 THE COMMAND PHASE AND ADJUSTMENT PHASE (PART): The umpire contacts all the players and brings them up to date on their "sightings", losses and successes, delivers "radio" messages, etc. Then, the players perform Pivot and Adjust Turrets Steps, and record these changes. The players must then *write down* everything they plan to do during the Turn, compose any "radio" messages to be sent, and turn this information over to the umpire:

24.3.2.1: Include the target units or hexes for all firing and combats, except for overwatch fire. This includes attacks by artillery, aircraft, and helicopters.

24.3.2.2: Include the exact movements of all units (including aircraft and helicopters) to be moved, and the order in which they are to be moved.

24.3.2.3: Include any special instructions. *For*

example, "Don't fire overwatch with unit #103 unless a tank is sighted". If special instructions get ridiculously long, detailed or confusing, the umpire should feel free to ignore them.

24.3.3 THE AIR, FIRE, AND MOVEMENT PHASES: The umpire then carries out the instructions of the players as faithfully as possible and in the correct sequence. The umpire handles all dice rolls to resolve combats, etc. Because of the streamlined sequence of play, the umpire will also have to make some decisions for the players. Generally, try to be logical and fair, but, when stuck for a decision, just roll the dice or flip a coin to choose between alternatives. Keep notes, because this information has to go back to the individual players. Some decisions the umpire should make are:

24.3.3.1: If a unit was ordered to fire at a unit that was already knocked out during an earlier step or phase, transfer its fire to the *closest* enemy unit (if any) that is still in action.

24.3.3.2: Decide when overwatch units should fire and at what target.

24.3.4 THE ADJUSTMENT PHASE (PART): The umpire adjusts all markers (the players can also adjust their own markers), checks fires, and performs end of the Turn chores. Pivots and turret adjustments are performed by the players during the next Turn's Command Phase.

24.4 GENERAL UMPIRE SUGGESTIONS: The umpire has a lot to do, must be skilled with the rules, tactful, and able to use imagination in many situations. After some experience in this role, umpires should be able to augment the "bare bones" suggestions here with diabolical ideas of their own, only *those* ideas will not be in this rulebook for anyone else to look up!

24.4.1 ANNOUNCING RESULTS: The umpire handles all dice rolls. Unless there is a spectacular result, like a vehicle brewing up, an air unit crashing, a fire starting, or buildings or terrain disappearing, there is no reason for players other than the one losing the unit to know the *exact* result if too far to "sight" the unit or hex from the ranges on the SIGHTING RANGES CHART.

24.4.2 COMMUNICATIONS: All radio communications go through the umpire. The umpire does not have to inform players when messages are sent to them, when their messages actually get delivered, or when messages get intercepted. If playing by phone, don't even let the players know who else is in the game—this keeps communications behind the umpire's back to a minimum.

24.4.3 THE DIVINE RIGHT OF UMPIRES: From time to time, player's mapboards may show units differently than they appear on the umpire's mapboard, or any other differences of opinion can arise. Be firm, be fair, but, remember, in all cases of conflict, the umpire is *always* right!



**The Avalon Hill
Game Company**

Division of Monarch Avalon, Inc.

TO & E

This section is for reference in constructing scenarios, and contains military organizations formed by the game's combat units (only *combat* units and organizations are included—supply and administrative units and organizations are ignored) and their point values. In format, the basic organizations are named and variants lettered under each name. Then, listed are the number of a each unit type included in that basic organization (ie., "3 x"), the unit's name (ie., "M2A2"), any special equipment or attached weapons in brackets [ie., "with reactive armor"], and a data card reference for that unit in parenthesis (ie., "USA-2A/3"). This is followed by the organization's point values at different grades (Cr=Crack; Av=Average; Pr=Poor). For Soviet units, the type of doctrine used by the organization is also given. Larger organizations simply show their composition in terms of numbers and types of basic organizations.



UNITED STATES OF AMERICA TO & E

1. INDIVIDUAL GROUND UNIT POINT VALUES:

- 1 x M1 (USA-1A) 114Cr-95Av-76Pr.
- 1 x M1A1 (USA-1B) 120Cr-100Av-80Pr.
- 1 x M2A1 (USA-2A/1) 92Cr-77Av-62Pr.
- 1 x M3A1 (USA-2A/2) 90Cr-75Av-60Pr.
- 1 x M2A2 (USA-2A/3) 92Cr-77Av-62Pr.
- 1 x M2A2 [with reactive armor] (USA-2A/3) 104Cr-87Av-70Pr.
- 1 x M3A2 (USA-2A/4) 90Cr-75Av-60Pr.
- 1 x M3A2 [with reactive armor] (USA-2A/4) 102Cr-85Av-68Pr.
- 1 x M60A3 (USA-3A/1) 89Cr-74Av-59Pr.
- 1 x M60AvLB (USA-3A/2) 38Cr-32Av-26Pr.
- 1 x M113A2 (USA-3B/1) 42Cr-35Av-28Pr.
- 1 x M998 (USA-3B/2) 35Cr-29Av-23Pr.
- 1 x M901 (USA-4A/1) 74Cr-62Av-50Pr.
- 1 x M981 FISTV (USA-4A/2) 59Cr-49Av-39Pr.
- 1 x M150 (USA-4B) 54Cr-45Av-36Pr.
- 1 x M730A1 (USA-5A/1) 40Cr-33Av-26Pr.
- 1 x Heavy Truck (USA-5A/2) 26Cr-22Av-18Pr.
- 1 x Medium Truck (USA-5A/3) 25Cr-21Av-17Pr.
- 1 x Light Truck (USA-5A/4) 24Cr-20Av-16Pr.
- 1 x M163A1 (USA-5B) 55Cr-46Av-37Pr.
- 1 x M1A2 (USA-8A) 132Cr-110Av-88Pr.
- 1 x M106A1 (USA-8B/1) 50Cr-42Av-34Pr.
- 1 x M125A1 (USA-8B/2) 48Cr-40Av-32Pr.

2. BASIC ORGANIZATIONS: (platoons, Sections, Headquarters and Off-Board Artillery)

AERO INFANTRY PLATOON: The CO is with the squad without the dragon.

- a. 4 x UH-1H (US-6B/2), 3 x Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 x Squad Light Mechanized Infantry [with LAW] (USA-7B). 570Cr-475Av-380Pr.
- b. 4 x UH-60A [with side MGs] (US-6B/3), 3 x Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 x Squad Light Mechanized Infantry [with LAW] (USA-7B). 834Cr-695Av-556Pr.
- c. 4 x UH-60A [with side miniguns] (US-6B/3), 3 x Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 x Squad Light Mechanized Infantry [with LAW] (USA-7B). 978Cr-815Av-652Pr.
- d. 4 x UH-1H (US-6B/2), 3 x Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 x Squad Light Mechanized Infantry [with AT-4] (USA-7B). 584Cr-487Av-390Pr.
- e. 4 x UH-60A [with side MGs] (US-6B/3), 3 x Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 x Squad Light Mechanized Infantry [with AT-4] (USA-7B). 848Cr-707Av-566Pr.
- f. 4 x UH-60A [with side miniguns] (US-6B/3), 3 x Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 x Squad Light Mechanized Infantry [with AT-4] (USA-7B). 992Cr-827Av-662Pr.

AERO SCOUT SECTION: 2 x OH-58D [no wing armament] (USA-6B/1), 2 x Team [with MG] (USA-7B). 274Cr-228Av-182Pr.

AERO WEAPONS SECTION:

- a. 2 x AH-1S [with chin gun only] (USA-6A/1). 384Cr-320Av-256Pr.

- b. 2 x AH-1S [with ITOWs & rockets] (USA-6A/1). 624Cr-520Av-416Pr.
- c. 2 x AH-1S [with HELLFIREs & rockets] (USA-6A/1). 720Cr-600Av-480Pr.
- d. 2 x AH-1S [with rockets] (USA-6A/1). 576Cr-480Av-384Pr.
- e. 2 x AH-1S [with miniguns & rockets] (USA-6A/1). 612Cr-510Av-408Pr.
- f. 2 x AH-64A [with chin gun only] (USA-6A/2). 504Cr-420Av-336Pr.
- g. 2 x AH-64A [with HELLFIREs] (USA-6A/2). 1080Cr-900Av-720Pr.
- h. 2 x AH-64A [with HELLFIREs & rockets] (USA-6A/2). 936Cr-780Av-624Pr.
- i. 2 x AH-64A [with ITOWs & rockets] (USA-6A/2). 840Cr-700Av-560Pr.
- j. 2 x AH-64A [with rockets] (USA-6A/2). 792Cr-660Av-528Pr.

AIR CAVALRY TROOP HEADQUARTERS: The CO is with the ½ squad.

- a. 1 x OH-58D [no wing armament] (USA-6B/1), 1 x ½ Squad Standard Infantry [with LAW] (USA-7B). 145Cr-121Av-97Pr.
- b. 1 x OH-58D [no wing armament] (USA-6B/1), 1 x ½ Squad Standard Infantry [with AT-4] (USA-7B). 149Cr-124Av-99Pr.

AIR DEFENSE SECTION:

- a. 2 x Team [with Redeye] (USA-7B), 2 x M998 (USA-3B/2). 118Cr-98Av-78Pr.
- b. 2 x Team [with Stinger] (USA-7B), 2 x M998 (USA-3B/2). 137Cr-114Av-91Pr.

ANTI-AIRCRAFT BATTERY HEADQUARTERS: The CO is with the squad.

- a. 1 x Medium Truck (USA-5A/3), 1 x Squad Light Mechanized Infantry [with LAW] (USA-7B). 68Cr-57Av-46Pr.
- b. 1 x Medium Truck (USA-5A/3), 1 x Squad Light Mechanized Infantry [with AT-4] (USA-7B). 72Cr-60Av-48Pr.

ANTI-TANK PLATOON: The CO is with the squad.

- a. 1 x M113A2 (USA-3B/1), 4 x M150 (USA-4B), 1 x Squad Standard Infantry [with LAW] (USA-7B). 289Cr-241Av-193Pr.
- b. 1 x M113A2 (USA-3B/1), 4 x M901 (USA-4A/1), 1 x Squad Standard Infantry [with LAW] (USA-7B). 371Cr-309Av-247Pr.
- c. 1 x M113A2 (USA-3B/1), 4 x M150 (USA-4B), 1 x Squad Standard Infantry [with AT-4] (USA-7B). 293Cr-244Av-195Pr.
- d. 1 x M113A2 (USA-3B/1), 4 x M901 (USA-4A/1), 1 x Squad Standard Infantry [with AT-4] (USA-7B). 374Cr-312Av-250Pr.

ARMORED BATTALION/ARMORED CAVALRY SQUADRON HEADQUARTERS: The CO & XO are in different tanks. The SP is with the ½ squad.

- a. 2 x M60A3 (USA-3A/1), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with LAW] (USA-7B). 244Cr-203Av-162Pr.
- b. 2 x M1 (USA-1A), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with LAW] (USA-7B). 294Cr-245Av-196Pr.
- c. 2 x M1A1 (USA-1B), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with LAW] (USA-7B). 306Cr-255Av-204Pr.
- d. 2 x M1A2 (USA-8A), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with LAW] (USA-7B). 330Cr-275Av-220Pr.
- e. 2 x M60A3 (USA-3A/1), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4] (USA-7B). 247Cr-206Av-165Pr.
- f. 2 x M1 (USA-1A), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4] (USA-7B). 298Cr-248Av-198Pr.
- g. 2 x M1A1 (USA-1B), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4] (USA-7B). 310Cr-258Av-206Pr.
- h. 2 x M1A2 (USA-8A), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4] (USA-7B). 334Cr-278Av-222Pr.
- i. 2 x M60A3 (USA-3A/1), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4, GLLD] (USA-7B). 277Cr-231Av-185Pr.
- j. 2 x M1 (USA-1A), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4, GLLD] (USA-7B). 328Cr-273Av-218Pr.
- k. 2 x M1A1 (USA-1B), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4, GLLD] (USA-7B). 340Cr-283Av-226Pr.
- l. 2 x M1A2 (USA-8A), 1 x M998 (USA-3B/2), 1 x ½ Squad Standard Infantry [with AT-4, GLLD] (USA-7B). 364Cr-303Av-242Pr.

ARMORED CAVALRY MORTAR PLATOON: 2 x M125A1 (USA-8B/2). 96Cr-80Av-64Pr.

ARMORED CAVALRY PLATOON: The CO is in a tank.

- a. 4 x M60A3 (USA-3A/1), 2 x M113A2 (USA-3B/1), 2 x M150 (USA-4B), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 655Cr-546Av-437Pr.
- b. 4 x M60A3 (USA-3A/1), 2 x M113A2 (USA-3B/1), 2 x M901 (USA-4A/1), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 696Cr-580Av-464Pr.
- c. 4 x M60A3 (USA-3A/1), 2 x M3A1 (USA-2A/2), 2 x M150 (USA-4B), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 751Cr-626Av-501Pr.
- d. 4 x M60A3 (USA-3A/1), 2 x M3A1 (USA-2A/2), 2 x M901 (USA-4A/1), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 792Cr-660Av-528Pr.
- e. 4 x M60A3 (USA-3A/1), 2 x M3A2 (USA-2A/4), 2 x M150 (USA-4B), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 751Cr-626Av-501Pr.
- f. 4 x M60A3 (USA-3A/1), 2 x M3A2 (USA-2A/4), 2 x M901 (USA-4A/1), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 792Cr-660Av-528Pr.
- g. 4 x M60A3 (USA-3A/1), 2 x M3A2 [with reactive armor] (USA-2A/4), 2 x M150 (USA-4B), 2 x ½ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). 775Cr-646Av-517Pr.

ooo. 4 × M1 (USA-1A), 2 × M3A2 [with reactive armor] (USA-2A/4), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 954Cr-795Av-636Pr.

ppp. 4 × M1A1 (USA-1B), 2 × M3A1 (USA-2A/2), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 954Cr-795Av-636Pr.

qqq. 4 × M1A1 (USA-1B), 2 × M3A2 (USA-2A/4), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 954Cr-795Av-636Pr.

rrr. 4 × M1A1 (USA-1B), 2 × M3A2 [with reactive armor] (USA-2A/4), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 978Cr-815Av-652Pr.

sss. 4 × M1A2 (USA-8A), 2 × M3A1 (USA-2A/2), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 1002Cr-835Av-668Pr.

ttt. 4 × M1A2 (USA-8A), 2 × M3A2 (USA-2A/4), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 1002Cr-835Av-668Pr.

uuu. 4 × M1A2 (USA-8A), 2 × M3A2 [with reactive armor] (USA-2A/4), 2 × M901 (USA-4A/1), 1 × ½ Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 1026Cr-855Av-684Pr.

ARMORED CAVALRY TROOP HEADQUARTERS: The CO is with the squad.

a. 1 × M113A2 (USA-3B/1), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 144Cr-120Av-96Pr.

b. 1 × M3A1 (USA-2A/2), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 192Cr-160Av-128Pr.

c. 1 × M3A2 (USA-2A/4), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 192Cr-160Av-128Pr.

d. 1 × M3A2 [with reactive armor] (USA-2A/4), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 204Cr-170Av-136Pr.

e. 1 × M113A2 (USA-3B/1), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 148Cr-123Av-98Pr.

f. 1 × M3A1 (USA-2A/2), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 196Cr-163Av-130Pr.

g. 1 × M3A2 (USA-2A/4), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 196Cr-163Av-130Pr.

h. 1 × M3A2 [with reactive armor] (USA-2A/4), 1 × M981 FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 208Cr-173Av-138Pr.

ARMORED COMPANY HEADQUARTERS: The CO & XO are in different tanks.

a. 2 × M60A3 (USA-3A/1), 1 × M981 FISTV (USA-4A/2). 236Cr-197Av-158Pr.

b. 2 × M1 (USA-1A), 1 × M981 FISTV (USA-4A/2). 287Cr-239Av-191Pr.

c. 2 × M1A1 (USA-1B), 1 × M981 FISTV (USA-4A/2). 299Cr-249Av-199Pr.

d. 2 × M1A2 (USA-8A), 1 × M981 FISTV (USA-4A/2). 323Cr-269Av-215Pr.

ARMORED MORTAR SECTION: 2 × M106A1 (USA-8B/1). 101Cr-84Av-67Pr.

ARMORED PLATOON: The CO is in a tank.

a. 4 × M60A3 (USA-3A/1). 355Cr-296Av-237Pr.

b. 4 × M1 (USA-1A). 456Cr-380Av-304Pr.

c. 4 × M1A1 (USA-2B). 480Cr-400Av-320Pr.

d. 4 × M1A2 (USA-8A). 528Cr-440Av-352Pr.

e. 4 × M60A3 [1 with mine plow] (USA-3A/1). 385Cr-321Av-257Pr.

f. 4 × M1 [1 with mine plow] (USA-1A). 486Cr-405Av-324Pr.

g. 4 × M1A1 [1 with mine plow] (USA-2B). 510Cr-425Av-340Pr.

h. 4 × M1A2 [1 with mine plow] (USA-8A). 558Cr-465Av-372Pr.

BRIDGE SECTION: 2 × M60 AVLB (USA-3A/2), 77Cr-64Av-51Pr.

CHAPARRAL ANTI-AIRCRAFT SECTION: 2 × M730A1 (USA-5A/1). 79Cr-66Av-53Pr.

ENGINEER PLATOON: The CO is with the light mechanized squad.

a (Mounted). 3 × M113A2 (USA-3B/1), 2 × Squad Standard Infantry [with Dragon & LAW, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW, "Assault"] (USA-7B). 366Cr-305Av-244Pr.

b (Dismounted). 2 × Squad Standard Infantry [with Dragon & LAW, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW, "Assault"] (USA-7B). 240Cr-200Av-160Pr.

c (Mounted). 3 × M113A2 (USA-3B/1), 2 × Squad Standard Infantry [with Dragon & AT-4, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4, "Assault"] (USA-7B). 377Cr-314Av-251Pr.

d (Dismounted). 2 × Squad Standard Infantry [with Dragon & AT-4, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4, "Assault"] (USA-7B). 251Cr-209Av-167Pr.

e (Mounted). 3 × M113A2 (USA-3B/1), 2 × Squad Standard Infantry [with Dragon & LAW, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon, Flamethrower & LAW, "Assault"] (USA-7B). 366Cr-305Av-244Pr.

f (Dismounted). 2 × Squad Standard Infantry [with Dragon & LAW, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon, Flamethrower & LAW, "Assault"] (USA-7B). 240Cr-200Av-160Pr.

g (Mounted). 3 × M113A2 (USA-3B/1), 2 × Squad Standard Infantry [with Dragon & AT-4, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with

Dragon, Flamethrower & AT-4, "Assault"] (USA-7B). 377Cr-314Av-251Pr.

h (Dismounted). 2 × Squad Standard Infantry [with Dragon & AT-4, "Assault"] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon, Flamethrower & AT-4, "Assault"] (USA-7B). 251Cr-209Av-167Pr.

MECHANIZED INFANTRY BATTALION HEADQUARTERS: The CO & XO are with different light mechanized squads. The SP is with the ½ squad.

a. 2 × M113A2 (USA-3B/1), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with LAW] (USA-7B), ½ Squad Standard Infantry [with LAW] (USA-7B). 236Cr-197Av-158Pr.

b. 2 × M2A1 (USA-2A/1), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with LAW] (USA-7B), ½ Squad Standard Infantry [with LAW] (USA-7B). 337Cr-281Av-225Pr.

c. 2 × M2A2 (USA-2A/3), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with LAW] (USA-7B), ½ Squad Standard Infantry [with LAW] (USA-7B). 337Cr-281Av-225Pr.

d. 2 × M2A2 [with reactive armor] (USA-2A/3), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with LAW] (USA-7B), ½ Squad Standard Infantry [with LAW] (USA-7B). 361Cr-301Av-241Pr.

e. 2 × M113A2 (USA-3B/1), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4] (USA-7B). 247Cr-206Av-165Pr.

f. 2 × M2A1 (USA-2A/1), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4] (USA-7B). 348Cr-290Av-232Pr.

g. 2 × M2A2 (USA-2A/3), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4] (USA-7B). 348Cr-290Av-232Pr.

h. 2 × M2A2 [with reactive armor] (USA-2A/3), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4] (USA-7B). 372Cr-310Av-248Pr.

i. 2 × M113A2 (USA-3B/1), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4 & GLLD] (USA-7B). 277Cr-231Av-185Pr.

j. 2 × M2A1 (USA-2A/1), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4 & GLLD] (USA-7B). 378Cr-315Av-252Pr.

k. 2 × M2A2 (USA-2A/3), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4 & GLLD] (USA-7B). 378Cr-315Av-252Pr.

l. 2 × M2A2 [with reactive armor] (USA-2A/3), 1 × M998 (USA-3B/2), 2 × Squad Light Mechanized Infantry [with AT-4] (USA-7B), ½ Squad Standard Infantry [with AT-4 & GLLD] (USA-7B). 402Cr-335Av-268Pr.

MECHANIZED INFANTRY COMPANY HEADQUARTERS: The CO is with the squad.

a. 1 × M113A2 (USA-3B/1), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 144Cr-120Av-96Pr.

b. 1 × M2A1 (USA-2A/1), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 194Cr-162Av-130Pr.

c. 1 × M2A2 (USA-2A/3), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 194Cr-162Av-130Pr.

d. 1 × M2A2 [with reactive armor] (USA-2A/3), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with LAW] (USA-7B). 206Cr-172Av-138Pr.

e. 1 × M113A2 (USA-3B/1), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 148Cr-123Av-98Pr.

f. 1 × M2A1 (USA-2A/1), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 198Cr-165Av-132Pr.

g. 1 × M2A2 (USA-2A/3), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 198Cr-165Av-132Pr.

h. 1 × M2A2 [with reactive armor] (USA-2A/3), 1 × FISTV (USA-4A/2), 1 × Squad Light Mechanized Infantry [with AT-4] (USA-7B). 210Cr-175Av-140Pr.

MECHANIZED INFANTRY MORTAR SECTION: 2 × M125A1 (USA-8B/2). 96Cr-80Av-64Pr.

MECHANIZED INFANTRY PLATOON: The CO is with the team.

a (Mounted). 4 × M113A2 (USA-3B/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Team [with Dragon & LAW] (USA-7B). 412Cr-343Av-274Pr.

b (Dismounted). 2 × Squad Heavy Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Team [with Dragon & LAW] (USA-7B). 244Cr-203Av-162Pr.

c. 4 × M2A1 (USA-2A/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Team [with Dragon & LAW] (USA-7B). 613Cr-511Av-409Pr.

d. 4 × M2A2 (USA-2A/3), 2 × Squad Heavy Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Team [with Dragon & LAW] (USA-7B). 613Cr-511Av-409Pr.

e. 4 × M2A2 [with reactive armor] (USA-2A/3), 2 × Squad Heavy Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B), 1 × Team [with Dragon & LAW] (USA-7B). 661Cr-551Av-441Pr.

f (Mounted). 4 × M113A2 (USA-3B/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). 426Cr-355Av-284Pr.

g (Dismounted). 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). 258Cr-215Av-172Pr.

h. 4 × M2A1 (USA-2A/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). 628Cr-523Av-418Pr.
 i. 4 × M2A2 (USA-2A/3), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). 628Cr-523Av-418Pr.
 j. 4 × M2A2 [with reactive armor] (USA-2A/3), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). 676Cr-563Av-450Pr.
 k. (Mounted). 4 × M113A2 (USA-3B/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon, AT-4 & GLLD] (USA-7B). 456Cr-380Av-304Pr.
 l. (Dismounted). 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon, AT-4 & GLLD] (USA-7B). 288Cr-240Av-192Pr.
 m. 4 × M2A1 (USA-2A/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon, AT-4 & GLLD] (USA-7B). 658Cr-548Av-438Pr.
 n. 4 × M2A2 (USA-2A/3), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon, AT-4 & GLLD] (USA-7B). 658Cr-548Av-438Pr.
 o. 4 × M2A2 [with reactive armor] (USA-2A/3), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon, AT-4 & GLLD] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). 706Cr-588Av-470Pr.

ORGANIC ARTILLERY: 2 × Heavy Battery (USA-2B), 1 × Superheavy Battery (USA-2B). 500Av.

SCOUT SECTION: The CO is with an ½ squad.

a. 2 × M3A1 (USA-2A/2), 2 × ½ Squad Standard Infantry [with Dragon & LAW] (USA-7B). 283Cr-236Av-189Pr.
 b. 2 × M3A1 (USA-2A/2), 2 × ½ Squad Standard Infantry [with Dragon & AT-4] (USA-7B). 287Cr-239Av-191Pr.
 c. 2 × M3A2 (USA-2A/4), 2 × ½ Squad Standard Infantry [with Dragon & LAW] (USA-7B). 283Cr-236Av-189Pr.
 d. 2 × M3A2 (USA-2A/4), 2 × ½ Squad Standard Infantry [with Dragon & AT-4] (USA-7B). 287Cr-239Av-191Pr.
 e. 2 × M3A2 [with reactive armor] (USA-2A/4), 2 × ½ Squad Standard Infantry [with Dragon & LAW] (USA-7B). 307Cr-256Av-205Pr.
 f. 2 × M3A2 [with reactive armor] (USA-2A/4), 2 × ½ Squad Standard Infantry [with Dragon & AT-4] (USA-7B). 311Cr-259Av-207Pr.
 g. 2 × M3A1 (USA-2A/2), 1 × ½ Squad Standard Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Standard Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 317Cr-264Av-211Pr.
 h. 2 × M3A2 (USA-2A/2), 1 × ½ Squad Standard Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Standard Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 317Cr-264Av-211Pr.
 i. 2 × M3A2 [with reactive armor] (USA-2A/4), 1 × ½ Squad Standard Infantry [with Dragon & AT-4] (USA-7B), 1 × ½ Squad Standard Infantry [with Dragon, AT-4 & GLLD] (USA-7B). 341Cr-284Av-227Pr.

SMALL COMPANY HEADQUARTERS: The CO is with the squad.

a. 1 × M113A2 (USA-3B/1), 1 × Squad Standard Infantry [with LAW] (USA-7B). 83Cr-69Av-55Pr.
 b. 1 × M113A2 (USA-3B/1), 1 × Squad Standard Infantry [with AT-4] (USA-7B). 86Cr-72Av-58Pr.
 c. 1 × M113A2 (USA-3B/1), 1 × Squad Standard Infantry [with AT-4 & GLLD] (USA-7B). 116Cr-97Av-78Pr.

VULCAN ANTI-AIRCRAFT SECTION: 2 × M163 (USA-5B). 110Cr-92Av-74Pr.

3. FREQUENTLY ATTACHED UNITS: These are basic units that are not part of the listed orders-of-battle, but are frequently attached to other basic units or to larger organizations.

ANTI-TANK SECTION:

a. 2 × M150 (USA-4B). 108Cr-90Av-72Pr.
 b. 2 × M901 (USA-4A/1). 149Cr-124Av-99Pr.

SPECIAL FORCES DETACHMENT: The CO is with the squad.

a. 1 × UH-1H (USA-6B/2), 1 × Squad Heavy Mechanized Infantry [with Dragon, AT-4 & Stinger, "Squad Plus" & "Special Forces"] (USA-7B). 221Cr.
 b. 1 × UH-60A [with side MGs] (USA-6B/3), 1 × Squad Heavy Mechanized Infantry [with Dragon, AT-4 & Stinger, "Squad Plus" & "Special Forces"] (USA-7B). 287Cr.
 c. 1 × UH-60A [with side miniguns] (USA-6B/3), 1 × Squad Heavy Mechanized Infantry [with Dragon, AT-4 & Stinger, "Squad Plus" & "Special Forces"] (USA-7B). 323Cr.
 d. 1 × UH-1H (USA-6B/2), 1 × Squad Heavy Mechanized Infantry [with Dragon, AT-4, GLLD & Stinger, "Squad Plus" & "Special Forces"] (USA-7B). 251Cr.

TRUCK SECTION:

a. 2 × Heavy Truck (USA-5A/2). 53Cr-44Av-35Pr.
 b. 2 × Medium Truck (USA-5A/3). 50Cr-42Av-34Pr.
 c. 2 × Light Truck (USA-5A/4). 48Cr-40Av-32Pr.

4. LARGER ORGANIZATIONS: (Troops, Squadrons, Batteries,

Companies, Battalions) These are composed of basic organizations. Those marked with an asterisk are included for reference only, to show how the basic organizations fit into a larger scheme. Those not marked can actually be formed using the unit counters included in the game.

AIR CAVALRY TROOP *: 1 × Air Cavalry Troop Headquarters, 1 × Aero Infantry Platoon, 2 × Aero Scout Sections, 4 × Aero Weapons Sections.

ANTI-TANK COMPANY: 1 × Small Company Headquarters, 3 × Anti-Tank Platoons.

ARMORED BATTALION *: 1 × Armored Battalion/Armored Cavalry Squadron Headquarters, 1 × Organic Artillery, 1 × Armored Battalion Headquarters Company (see), 4 × Armored Companies (see).

ARMORED BATTALION (CROSS-ATTACHED) *: 1 × Armored Battalion/Armored Cavalry Squadron Headquarters, 1 × Organic Artillery, 1 × Armored Battalion Headquarters Company (see), 3 × Armored Companies (see), 1 × Mechanized Infantry Company (see).

ARMORED BATTALION HEADQUARTERS COMPANY *: 3 × Scout Sections, 3 × Armored Mortar Sections, 3 × Air Defense Sections.

ARMORED CAVALRY SQUADRON *: 1 × Armored Battalion/Armored Cavalry Squadron Headquarters, 1 × Organic Artillery, 3 × Air Defense Sections, 1 × Bridge Section, 3 × Armored Cavalry Troops (see), 1 × Air Cavalry Troop (see).

ARMORED CAVALRY TROOP: 1 × Armored Cavalry Troop Headquarters, 3 × Armored Cavalry Platoons, 1 × Armored Cavalry Mortar Platoon.

ARMORED COMPANY: 1 × Armored Company Headquarters, 3 × Armored Platoons.

ARMORED COMPANY (CROSS-ATTACHED): 1 × Armored Company Headquarters, 2 × Armored Platoons, 1 × Mechanized Infantry Platoon.

CHAPARRAL ANTI-AIRCRAFT BATTERY *: 1 × Anti-Aircraft Battery Headquarters, 6 × Chaparral Anti-Aircraft Sections.

ENGINEER COMPANY: 1 × Small Company Headquarters, 3 × Engineer Platoons, 1 × Bridge Section.

MECHANIZED INFANTRY BATTALION *: 1 × Mechanized Infantry Battalion Headquarters, 1 × Organic Artillery, 1 × Mechanized Infantry Battalion Headquarters Company (see), 4 × Mechanized Infantry Companies (see), 1 × Anti-Tank Company (see).

MECHANIZED INFANTRY BATTALION (CROSS-ATTACHED) *: 1 × Mechanized Infantry Battalion Headquarters, 1 × Organic Artillery, 1 × Mechanized Infantry Battalion Headquarters Company (see), 3 × Mechanized Infantry Companies (see), 1 × Armored Company (see), 1 × Anti-Tank Company (see).

MECHANIZED INFANTRY BATTALION HEADQUARTERS COMPANY *: 3 × Scout Sections, 3 × Mechanized Infantry Mortar Sections, 3 × Air Defense Sections.

MECHANIZED INFANTRY COMPANY: 1 × Mechanized Infantry Company Headquarters, 3 × Mechanized Infantry Platoons.

MECHANIZED INFANTRY COMPANY (CROSS-ATTACHED): 1 × Mechanized Infantry Company Headquarters, 2 × Mechanized Infantry Platoons, 1 × Armored Platoon.

VULCAN ANTI-AIRCRAFT BATTERY: 1 × Anti-Aircraft Battery Headquarters, 6 × Vulcan Anti-Aircraft Sections.



FEDERAL REPUBLIC OF GERMANY TO & E

1. INDIVIDUAL GROUND UNIT POINT VALUES:

1 × Leopard 1A4 (FRG-1A) 94Cr-78Av-62Pr.
 1 × Leopard 2 (FRG-1B) 119Cr-99Av-79Pr.
 1 × Marder A1 (FRG-2A/1) 71Cr-59Av-47Pr.
 1 × Marder A3 (FRG-2A/2) 84Cr-70Av-56Pr.
 1 × M113GA1 (FRG-2B/1) 43Cr-36Av-29Pr.
 1 × BEOBPZ (FRG-2B/2) 50Cr-42Av-34Pr.
 1 × TPZ-1 (FRG-2B/3) 41Cr-34Av-27Pr.
 1 × Jaguar 1 (FRG-3A/1) 72Cr-60Av-48Pr.
 1 × Jaguar 2 (FRG-3A/2) 84Cr-70Av-56Pr.
 1 × Luchs 2 (FRG-4A) 58Cr-48Av-38Pr.
 1 × JPZ-45 (FRG-5A) 61Cr-51Av-41Pr.
 1 × M48A2GA2 (FRG-5B) 70Cr-58Av-46Pr.
 1 × Gepard (FRG-6A) 66Cr-55Av-44Pr.
 1 × Roland 2 (FRG-6B/1) 44Cr-37Av-30Pr.
 1 × Heavy Truck (FRG-6B/2) 26Cr-22Av-18Pr.
 1 × Medium Truck (FRG-6B/3) 25Cr-21Av-17Pr.
 1 × Light Truck (FRG-6B/4) 24Cr-20Av-16Pr.
 1 × Leopard 1A1 (FRG-8A/1) 74Cr-62Av-50Pr.
 1 × Biber AvLB (FRG-8A/2) 40Cr-33Av-26Pr.
 1 × M113GA1/120 (FRG-8B) 52Cr-43Av-34Pr.

2. BASIC ORGANIZATIONS: (Platoons, Sections, Headquarters and Off-Board Artillery)

ATTACHED ARTILLERY: 1 × Heavy Battery (FRG-3B). 225Av.

BRIDGE PLATOON: 4 × Biber AvLB (FRG-8A/2). 158Cr-132Av-106Pr.

FLAK BATTERY HEADQUARTERS: The CO is with the squad.

a. 1 × M113GA1 (FRG-2B/1), 1 × Medium Truck (FRG-6B/3), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B), 3 × Team [with Redeye] (FRG-4B). 185Cr-154Av-123Pr.

b. 1 × M113GA1 (FRG-2B/1), 1 × Medium Truck (FRG-6B/3), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B), 3 × Team [with Redeye] (FRG-4B). 193Cr-161Av-129Pr.

FLAK (GUN) SECTION: 2 × FLAKPZ1 (FRG-6A). 132Cr-110Av-88Pr.

FLAK (MISSILE) SECTION: 2 × Roland 2 (FRG-6B/1). 77Cr-64Av-51Pr.

JAGDPANZER COMPANY HEADQUARTERS: The CO is with the squad.

a. 1 × M113GA1 (FRG-2B/1), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). 88Cr-73Av-58Pr.

b. 1 × M113GA1 (FRG-2B/1), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). 96Cr-80Av-64Pr.

JAGDPANZER GUIDED MISSILE (ATGM) PLATOON: The CO is in a Jaguar.

a. 4 × Jaguar 1 (FRG-3A/1). 288Cr-240Av-192Pr.

b. 4 × Jaguar 2 (FRG-3A/2). 336Cr-280Av-224Pr.

JAGDPANZER GUN PLATOON: The CO is in a JPZ4-5.

a. 4 × JPZ4-5 (FRG-5A). 245Cr-204Av-163Pr.

b. 4 × M48A2GA2 (FRG-5B). 278Cr-232Av-186Pr.

MORTAR SECTION: 2 × M113GA1/120 (FRG-8B). 103Cr-86Av-69Pr.

ORGANIC ARTILLERY:

a. 1 × Heavy Battery (FRG-3B). 150Av.

b. 1 × Super Heavy Battery (FRG-3B). 200Av.

PANZER BATTALION HEADQUARTERS: The CO & XO are in different tanks. The SP is with the ½ squad.

a. 2 × Leopard 1A1 (FRG-8A/1), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 1 × ½ Squad Standard Infantry [with PZF-44] (FRG-4B). 258Cr-215Av-172Pr.

b. 2 × Leopard 1A1 (FRG-8A/1), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 1 × ½ Squad Standard Infantry [with PZF-3] (FRG-4B). 266Cr-222Av-178Pr.

c. 2 × Leopard 1A4 (FRG-1A), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 1 × ½ Squad Standard Infantry [with PZF-44] (FRG-4B). 296Cr-247Av-198Pr.

d. 2 × Leopard 1A4 (FRG-1A), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 1 × ½ Squad Standard Infantry [with PZF-3] (FRG-4B). 305Cr-254Av-203Pr.

e. 2 × Leopard 2 (FRG-1B), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 1 × ½ Squad Standard Infantry [with PZF-44] (FRG-4B). 347Cr-289Av-231Pr.

f. 2 × Leopard 2 (FRG-1B), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 1 × ½ Squad Standard Infantry [with PZF-3] (FRG-4B). 355Cr-296Av-237Pr.

PANZER BATTALION RECONNAISSANCE PLATOON: The CO is in a Luchs 2. 4 × Luchs 2 (FRG-4A). 230Cr-192Av-154Pr.

PANZER COMPANY HEADQUARTERS: The CO is in the tank. The XO is with the squad.

a. 1 × Leopard 1A1 (FRG-8A/1), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). 190Cr-158Av-126Pr.

b. 1 × Leopard 1A1 (FRG-8A/1), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). 198Cr-165Av-132Pr.

c. 1 × Leopard 1A4 (FRG-1A), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). 209Cr-174Av-139Pr.

d. 1 × Leopard 1A4 (FRG-1A), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). 217Cr-181Av-145Pr.

e. 1 × Leopard 2 (FRG-1B), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). 234Cr-195Av-156Pr.

f. 1 × Leopard 2 (FRG-1B), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). 242Cr-202Av-162Pr.

g. 1 × Leopard 2 (FRG-1B), 1 × Marder A3 (FRG-2A/2), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). 240Cr-200Av-160Pr.

h. 1 × Leopard 2 (FRG-1B), 1 × Marder A3 (FRG-2A/2), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). 248Cr-207Av-166Pr.

PANZERGRENADIER BATTALION HEADQUARTERS: The CO and XO are with different infantry squads, the XO SP is with the ½ squad.

a. 2 × Marder A1 (FRG-2A/1), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 2 × Squad Standard Infantry [with PZF-44] (FRG-4B), 1 × ½ Squad Standard Infantry [with PZF-44] (FRG-4B). 340Cr-283Av-226Pr.

b. 2 × Marder A1 (FRG-2A/1), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 2 × Squad Standard Infantry [with PZF-3] (FRG-4B), 1 × ½ Squad Standard Infantry [with PZF-3] (FRG-4B). 365Cr-304Av-243Pr.

c. 2 × Marder A3 (FRG-2A/2), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 2 × Squad Standard Infantry [with PZF-44] (FRG-4B), 1 × ½ Squad Standard Infantry [with PZF-44] (FRG-4B). 352Cr-293Av-234Pr.

d. 2 × Marder A3 (FRG-2A/2), 1 × BEOBPZ (FRG-2B/2), 1 × Light Truck (FRG-6B/4), 2 × Squad Standard Infantry [with PZF-3] (FRG-4B), 1 × ½ Squad Standard Infantry [with PZF-3] (FRG-4B). 377Cr-314Av-251Pr.

PANZERGRENADIER COMPANY HEADQUARTERS: The CO is with the squad.

a. 1 × Marder A1 (FRG-2A/1), 1 × Light Truck (FRG-6B/4), 1 × BEOBPZ (FRG-2B/2), 1 × Squad Light Panzergrenadier Infantry [with PZF-44] (FRG-4B), 1 × Team [with Milan] (FRG-4B). 245Cr-204Av-163Pr.

b. 1 × Marder A1 (FRG-2A/1), 1 × Light Truck (FRG-6B/4), 1 × BEOBPZ (FRG-2B/2), 1 × Squad Light Panzergrenadier Infantry [with PZF-3] (FRG-4B), 1 × Team [with Milan] (FRG-4B). 253Cr-211Av-169Pr.

c. 1 × Marder A3 (FRG-2A/2), 1 × Light Truck (FRG-6B/4), 1 × BEOBPZ (FRG-2B/2), 1 × Squad Light Panzergrenadier Infantry [with PZF-44] (FRG-4B), 1 × Team [with Milan] (FRG-4B). 251Cr-209Av-167Pr.

d. 1 × Marder A3 (FRG-2A/2), 1 × Light Truck (FRG-6B/4), 1 × BEOBPZ (FRG-2B/2), 1 × Squad Light Panzergrenadier Infantry [with PZF-3] (FRG-4B), 1 × Team [with Milan] (FRG-4B). 259Cr-216Av-173Pr.

PANZERGRENADIER PLATOON: The CO is with a squad.

a. 3 × Marder A1 (FRG-2A/1), 3 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan] (FRG-4B). 450Cr-375Av-300Pr.

b. 3 × Marder A1 (FRG-2A/1), 3 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan] (FRG-4B). 475Cr-396Av-317Pr.

c. 3 × Marder A3 (FRG-2A/2), 3 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan] (FRG-4B). 468Cr-390Av-312Pr.

d. 3 × Marder A3 (FRG-2A/2), 3 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan] (FRG-4B). 493Cr-411Av-329Pr.

PANZER PIONIER COMPANY HEADQUARTERS: The CO is with a squad.

a. 1 × TPZ-1 (FRG-2B/3), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). 85Cr-71Av-57Pr.

b. 1 × TPZ-1 (FRG-2B/3), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). 94Cr-78Av-62Pr.

PANZER PIONIER PLATOON: The CO is with a squad.

a (Mounted). 3 × TPZ-1 (FRG-2B/3), 3 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan, "Assault"] (FRG-4B). 414Cr-345Av-276Pr.

b (Dismounted). 3 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan, "Assault"] (FRG-4B). 292Cr-243Av-194Pr.

c (Mounted). 3 × TPZ-1 (FRG-2B/3), 3 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan, "Assault"] (FRG-4B). 439Cr-366Av-293Pr.

d (Dismounted). 3 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan, "Assault"] (FRG-4B). 317Cr-264Av-211Pr.

e (Mounted). 3 × TPZ-1 (FRG-2B/3), 2 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan, "Assault"] (FRG-4B), 1 × Squad Light Panzergrenadier Infantry [with PZF-44, Flamethrower & Milan, "Assault"] (FRG-4B). 426Cr-355Av-284Pr.

f (Dismounted). 2 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan, "Assault"] (FRG-4B), 1 × Squad Light Panzergrenadier Infantry [with PZF-44, Flamethrower & Milan, "Assault"] (FRG-4B). 304Cr-253Av-202Pr.

g (Mounted). 3 × TPZ-1 (FRG-2B/3), 2 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan, "Assault"] (FRG-4B), 1 × Squad Light Panzergrenadier Infantry [with PZF-3, Flamethrower & Milan, "Assault"] (FRG-4B). 451Cr-376Av-301Pr.

h (Dismounted). 2 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan, "Assault"] (FRG-4B), 1 × Squad Light Panzergrenadier Infantry [with PZF-3, Flamethrower & Milan, "Assault"] (FRG-4B). 329Cr-274Av-219Pr.

PANZER PLATOON: The CO is in a tank.

a. 4 × Leopard 1A1 (FRG-8A/1). 298Cr-248Av-198Pr.

b. 4 × Leopard 1A4 (FRG-1A). 374Cr-312Av-250Pr.

c. 4 × Leopard 2 (FRG-1B). 475Cr-396Av-317Pr.

d. 4 × Leopard 1A1 [1 with mine plow] (FRG-8A/1). 328Cr-273Av-218Pr.

e. 4 × Leopard 1A4 [1 with mine plow] (FRG-1A). 404Cr-337Av-270Pr.

f. 4 × Leopard 2 [1 with mine plow] (FRG-1B). 505Cr-421Av-337Pr.

RECONNAISSANCE COMPANY (LUCHS) HEADQUARTERS: The CO is in the Luchs 2. 1 × Luchs-2 (FRG-4A). 58Cr-48Av-38Pr.

RECONNAISSANCE COMPANY (PANZER) HEADQUARTERS: The CO is in the tank.

a. 1 × Leopard 1A1 (FRG-8A/1). 74Cr-62Av-50Pr.

b. 1 × Leopard 1A4 (FRG-1A). 94Cr-78Av-62Pr.

c. 1 × Leopard 2 (FRG-1B). 119Cr-99Av-79Pr.

RECONNAISSANCE PLATOON (LUCHS): The CO is in a Luchs 2. 3 × Luchs-2 (FRG-4A). 173Cr-144Av-115Pr.

RECONNAISSANCE PLATOON (PANZER): The CO is in a tank.

a. 3 × Leopard 1A1 (FRG-8A/1). 223Cr-186Av-149Pr.

b. 3 × Leopard 1A4 (FRG-1A). 281Cr-234Av-187Pr.

c. 3 × Leopard 2 (FRG-1B). 356Cr-297Av-238Pr.

d. 3 × Leopard 1A1 [1 with mine plow] (FRG-8A/1). 253Cr-211Av-169Pr.

e. 3 × Leopard 1A4 [1 with mine plow] (FRG-1A). 311Cr-259Av-207Pr.

f. 3 × Leopard 2 [1 with mine plow] (FRG-1B). 386Cr-322Av-258Pr.

3. FREQUENTLY ATTACHED UNITS: These are basic units that are not part of the listed orders-of-battle, but are frequently attached to other basic units or to larger organizations.

BRIDGE SECTION: 2 × Biber AvLB (FRG-8A/2). 79Cr-66Av-53Pr.

SPECIAL FORCES DETACHMENT: The CO is with the squad. 1 × UH-1D (FRG-7A/2), 1 × Squad Heavy Panzergrenadier Infantry [with Milan, PZF-3 & Redeye, "Squad Plus" & "Special Forces"] (FRG-4B). 226Cr.

GUNSHIP SECTION:

a. 2 × BO-105 PAH-1 [with rockets] (FRG-7A/1). 420Cr-350Av-280Pr.

b. 2 × BO-105 PAH-1 [with miniguns] (FRG-7A/1). 384Cr-320Av-256Pr.

- c. 2 × BO-105 PAH-1 [with HOT] (FRG-7A/1). 444Cr-370Av-296Pr.
d. 2 × BO-105 PAH-1 [with 20mm guns] (FRG-7A/1). 420Cr-350Av-280Pr.

JAGDPANZER GUIDED MISSILE (ATGM) SECTION:

- a. 2 × Jaguar 1 (FRG-3A/1). 144Cr-120Av-96Pr.
b. 2 × Jaguar 2 (FRG-3A/2). 168Cr-140Av-112Pr.

JAGDPANZER GUN SECTION:

- a. 2 × JPZ4-5 (FRG-5A). 122Cr-102Av-82Pr.
b. 2 × M48A2GA2 (FRG-5B). 139Cr-116Av-93Pr.

TRUCK SECTION:

- a. 2 × Heavy Truck (FRG-6B/2). 53Cr-44Av-35Pr.
b. 2 × Medium Truck (FRG-6B/3). 50Cr-42Av-34Pr.
c. 2 × Light Truck (FRG-6B/4). 48Cr-40Av-32Pr.

4. LARGER ORGANIZATIONS: (Troops, Squadrons, Batteries, Companies, Battalions) These are composed of basic organizations. Those marked with an asterisk are included for reference only, to show how the basic organizations fit into a larger scheme. Those not marked can actually be formed using the unit counters included in the game.

FLAK BATTERY (GUN) *: 1 × Flak Battery Headquarters, 6 × Flak (Gun) Sections.

FLAK BATTERY (MISSILE) *: 1 × Flak Battery Headquarters, 6 × Flak (Missile) Sections.

JAGDPANZER COMPANY *: 1 × Jagdpanzer Company Headquarters, 2 × Jagdpanzer Guided Missile (ATGM) Platoons, 3 × Jagdpanzer (Gun) Platoons.

PANZER BATTALION *: 1 × Panzer Battalion Headquarters, 1 × Panzer Battalion Reconnaissance Platoon, 1 × Organic Artillery, 3 × Mortar Sections, 3 × Panzer Companies (see).

PANZER BATTALION (CROSS-ATTACHED) *: 1 × Panzer Battalion Headquarters, 1 × Panzer Battalion Reconnaissance Platoon, 1 × Organic Artillery, 3 × Mortar Sections, 2 × Panzer Companies (see), 1 × Panzergrenadier Company (see).

PANZER COMPANY: 1 × Panzer Company Headquarters, 1 × Attached Artillery, 3 × Panzer Platoons.

PANZER COMPANY (CROSS-ATTACHED): 1 × Panzer Company Headquarters, 1 × Attached Artillery, 2 × Panzer Platoons, 1 × Panzergrenadier Platoon.

PANZERGRENADIER BATTALION *: 1 × Panzergrenadier Battalion Headquarters, 1 × Organic Artillery, 3 × Mortar Sections, 3 × Panzergrenadier Companies (see).

PANZERGRENADIER BATTALION (CROSS-ATTACHED)*: 1 × Panzergrenadier Battalion Headquarters, 1 × Organic Artillery, 3 × Mortar Sections, 2 × Panzergrenadier Companies (see), 1 × Panzer Company (see).

PANZERGRENADIER COMPANY: 1 × Panzergrenadier Company Headquarters, 1 × Attached Artillery, 3 × Panzergrenadier Platoons.

PANZERGRENADIER COMPANY (CROSS-ATTACHED): 1 × Panzergrenadier Company Headquarters, 1 × Attached Artillery, 2 × Panzergrenadier Platoons, 1 × Panzer Platoon.

PANZER PIONIER COMPANY *: 1 × Panzer Pionier Company Headquarters, 1 × Bridge Platoon, 3 × Panzer Pionier Platoons.

RECONNAISSANCE COMPANY (LUCHS) *: 1 × Reconnaissance Company (Luchs) Headquarters, 3 × Reconnaissance Platoons (Luchs).

RECONNAISSANCE COMPANY (PANZER): 1 × Reconnaissance Company (Panzer) Headquarters, 3 × Reconnaissance Platoons (Panzer).



UNION OF SOVIET SOCIALIST REPUBLICS TO & E

1. INDIVIDUAL GROUND UNIT POINT VALUES: Values in parenthesis are if added to a unit using doctrine.

- 1 × T-80A (USSR-1A) 96(72)Cr-80(60)Av-64(48)Pr.
1 × T-80A [with reactive armor] (USSR-1A) 114(86)Cr-95(71)Av-76(57)Pr.
1 × T-64B (USSR-1B) 90(68)Cr-75(56)Av-60(45)Pr.
1 × T-64B [with reactive armor] (USSR-1B) 108(81)Cr-90(68)Av-72(54)Pr.
1 × T-72M1 (USSR-2A) 88(66)Cr-73(55)Av-58(44)Pr.
1 × T-72M1 [with reactive armor] (USSR-2A) 106(79)Cr-88(66)Av-70(53)Pr.
1 × BMP-R [with AT-3 Sagger] (USSR-2B/1) 54(41)Cr-45(34)Av-36(27)Pr.
1 × BMP-R [with AT-4 Spigot] (USSR-2B/1) 61(46)Cr-51(38)Av-41(31)Pr.
1 × BMP-1 [with AT-3 Sagger] (USSR-2B/2) 56(42)Cr-47(35)Av-38(28)Pr.
1 × BMP-1 [with AT-4 Spigot] (USSR-2B/2) 64(48)Cr-53(40)Av-42(32)Pr.
1 × MT-LB/2S12 (USSR-3A) 46(34)Cr-38(29)Av-30(23)Pr.
1 × BMP-2 (USSR-3B) 74(56)Cr-62(47)Av-50(37)Pr.
1 × BTR-60/70PB (USSR-4A/1) 37(28)Cr-31(23)Av-25(19)Pr.

- 1 × BTR-80PB (USSR-4A/2) 42(32)Cr-35(26)Av-28(21)Pr.
1 × BMD [with AT-3 Sagger] (USSR-4B) 60(45)Cr-50(38)Av-40(30)Pr.
1 × BMD [with AT-4 Spigot] (USSR-4B) 66(50)Cr-55(41)Av-44(33)Pr.
1 × BRDM (USSR-5A) 54(41)Cr-45(34)Av-36(27)Pr.
1 × BRDM-2 (USSR-5B) 38(29)Cr-32(24)Av-26(19)Pr.
1 × ASU-85 (USSR-6A) 53(40)Cr-44(33)Av-35(26)Pr.
1 × MT-LB (USSR-6B/1) 37(28)Cr-31(23)Av-25(19)Pr.
1 × ACRV (USSR-6B/2) 40(30)Cr-33(25)Av-26(20)Pr.
1 × SA-9 (USSR-7A/1) 36(27)Cr-30(23)Av-24(18)Pr.
1 × SA-13 (USSR-7A/2) 42(32)Cr-35(26)Av-28(21)Pr.
1 × Heavy Truck (USSR-7B/1) 26(20)Cr-22(17)Av-18(13)Pr.
1 × Medium Truck (USSR-7B/2) 25(19)Cr-21(16)Av-17(13)Pr.
1 × Light Truck (USSR-7B/3) 24(18)Cr-20(15)Av-16(12)Pr.
1 × ZSU-23(4) (USSR-8A) 56(42)Cr-47(35)Av-38(28)Pr.
1 × ZU-23 (USSR-8B) 34(25)Cr-28(21)Av-22(17)Pr.
1 × T-12 (USSR-9A/1) 30(23)Cr-25(19)Av-20(15)Pr.
1 × SD-44 (USSR-9A/2) 31(23)Cr-26(20)Av-21(16)Pr.
1 × SPG-9 (USSR-9B) 29(22)Cr-24(18)Av-19(14)Pr.
1 × MTU-20 AvLB (USSR-12B) 38(29)Cr-32(24)Av-26(19)Pr.

2. BASIC ORGANIZATIONS: (Platoons, Sections, Headquarters and Off-Board Artillery)

AIRBORNE ANTI-AIRCRAFT BATTERY HEADQUARTERS: The CO is with the squad.

- a. 1 × Light Truck (USSR-7B/3), 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 65Cr-54Av-43Pr. No doctrine.
b. 1 × Light Truck (USSR-7B/3), 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 66Cr-55Av-44Pr. No doctrine.

AIRBORNE ANTI-AIRCRAFT PLATOON: The CO is with a ZU-23. 2 × Light Truck (USSR-7B/3), 2 × ZU-23 (USSR-8B). 115Cr-96Av-77Pr. No doctrine.

AIRBORNE ANTI-TANK GUIDED MISSILE PLATOON: The CO is with a team.

- a. 3 × Light Truck (USSR-7B/3), 3 × Team [with RPG-7 V/D & AT-3] (USSR-11B). 209Cr-174Av-139Pr. No doctrine.
b. 3 × Light Truck (USSR-7B/3), 3 × Team [with RPG-7 V/D & AT-4] (USSR-11B). 248Cr-207Av-166Pr. No doctrine.
c. 3 × Light Truck (USSR-7B/3), 3 × Team [with RPG-18 & AT-3] (USSR-11B). 212Cr-177Av-142Pr. No doctrine.
d. 3 × Light Truck (USSR-7B/3), 3 × Team [with RPG-18 & AT-4] (USSR-11B). 252Cr-210Av-168Pr. No doctrine.

AIRBORNE ANTI-TANK PLATOON (SD-44): The CO is with a SD-44. 2 × Medium Truck (USSR-7B/2), 2 × SD-44 (USSR-9A/2). With doctrine: 85Cr-71Av-56Pr.

AIRBORNE ANTI-TANK PLATOON (SPG-9): The CO is with a SPG-9. 3 × Light Truck (USSR-7B/3), 3 × SPG-9 (USSR-9B). With doctrine: 119Cr-99Av-79Pr.

AIRBORNE ASSAULT GUN PLATOON: The CO is with an ASU-85. 3 × ASU-85 (USSR-6A). With doctrine: 119Cr-99Av-79Pr.

AIRBORNE BATTALION HEADQUARTERS: The CO is with the squad. The XO is in the BRDM-2.

- a. 1 × BMD [with AT-3] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). 148Cr-123Av-98Pr. No doctrine.
b. 1 × BMD [with AT-3] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). 150Cr-125Av-100Pr. No doctrine.
c. 1 × BMD [with AT-3] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). 149Cr-124Av-99Pr. No doctrine.
d. 1 × BMD [with AT-3] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). 151Cr-126Av-101Pr. No doctrine.
e. 1 × BMD [with AT-4] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). 154Cr-128Av-102Pr. No doctrine.
f. 1 × BMD [with AT-4] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). 156Cr-130Av-104Pr. No doctrine.
g. 1 × BMD [with AT-4] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). 155Cr-129Av-103Pr. No doctrine.
h. 1 × BMD [with AT-4] (USSR-4B), 1 × BRDM-2 (USSR-5B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). 157Cr-131Av-105Pr. No doctrine.

AIRBORNE COMPANY ATTACHED ARTILLERY: 1 × Medium Battery (USSR-12A), 1 × Light Battery (USSR-12A). 225Av. With doctrine.

AIRBORNE COMPANY HEADQUARTERS: The CO is with the squad.

- a. 1 × BMD [with AT-3] (USSR-4B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 103Cr-86Av-69Pr. No doctrine.
b. 1 × BMD [with AT-3] (USSR-4B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B). 104Cr-87Av-70Pr. No doctrine.
c. 1 × BMD [with AT-4] (USSR-4B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 109Cr-91Av-73Pr. No doctrine.
d. 1 × BMD [with AT-4] (USSR-4B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B). 110Cr-92Av-74Pr. No doctrine.

AIRBORNE ENGINEER OR ENGINEER PLATOON (DISMOUNTED): The CO is with the squad with the SA-7B or SA-14.

- a. 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B, "Assault"] (USSR-11B). 190Cr-158Av-126Pr. No doctrine.
- b. 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14, "Assault"] (USSR-11B). 192Cr-160Av-128Pr. No doctrine.
- c. 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B, "Assault"] (USSR-11B). 193Cr-161Av-129Pr. No doctrine.
- d. 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Assault"] (USSR-11B). 196Cr-163Av-130Pr.
- e. 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B, "Assault"] (USSR-11B). 202Cr-168Av-134Pr. No doctrine.
- f. 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14, "Assault"] (USSR-11B). 204Cr-170Av-136Pr. No doctrine.
- g. 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B, "Assault"] (USSR-11B). 205Cr-171Av-137Pr. No doctrine.
- h. 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Assault"] (USSR-11B). 208Cr-173Av-138Pr.

AIRBORNE ENGINEER PLATOON (MOUNTED): The CO is with the squad with the SA-7B or SA-14.

- a. 3 × Medium Truck (USSR-7B/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B, "Assault"] (USSR-11B). 265Cr-221Av-177Pr. No doctrine.
- b. 3 × Medium Truck (USSR-7B/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14, "Assault"] (USSR-11B). 268Cr-223Av-178Pr. No doctrine.
- c. 3 × Medium Truck (USSR-7B/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B, "Assault"] (USSR-11B). 269Cr-224Av-179Pr. No doctrine.
- d. 3 × Medium Truck (USSR-7B/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Assault"] (USSR-11B). 271Cr-226Av-181Pr. No doctrine.
- e. 3 × Medium Truck (USSR-7B/2), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B, "Assault"] (USSR-11B). 277Cr-231Av-185Pr. No doctrine.
- f. 3 × Medium Truck (USSR-7B/2), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14, "Assault"] (USSR-11B). 280Cr-233Av-186Pr. No doctrine.
- g. 3 × Medium Truck (USSR-7B/2), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B, "Assault"] (USSR-11B). 281Cr-234Av-187Pr. No doctrine.
- h. 3 × Medium Truck (USSR-7B/2), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Assault"] (USSR-11B). 283Cr-236Av-189Pr. No doctrine.

AIRBORNE ORGANIC ARTILLERY 1 × Heavy Battery (USSR-12A), 1 × Medium Battery (USSR-12A). 250Av. With doctrine.

AIRBORNE PLATOON: The CO is with the squad with the SA-7B or SA-14.

- a (Mounted). 3 × BMD [with AT-3] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 271Cr-232Av-180Pr.
- b (Mounted). 3 × BMD [with AT-3] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 273Cr-228Av-182Pr.
- c (Mounted). 3 × BMD [with AT-3] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 274Cr-229Av-183Pr.
- d (Mounted). 3 × BMD [with AT-3] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 277Cr-231Av-184Pr.
- e (Mounted). 3 × BMD [with AT-4] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 285Cr-237Av-189Pr.
- f (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). 136Cr-113Av-90Pr. No doctrine.

- g (Mounted). 3 × BMD [with AT-4] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 287Cr-239Av-191Pr.
- h (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). 138Cr-115Av-92Pr. No doctrine.
- i (Mounted). 3 × BMD [with AT-4] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 288Cr-240Av-192Pr.
- j (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). 139Cr-116Av-93Pr. No doctrine.
- k (Mounted). 3 × BMD [with AT-4] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 290Cr-242Av-193Pr.
- l (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). 142Cr-118Av-94Pr. No doctrine.
- m (Mounted). 3 × BMD [with AT-4] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Special Forces"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Special Forces"] (USSR-11B). 437Cr-364Av-291Pr. No doctrine.
- n (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Special Forces"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Special Forces"] (USSR-11B). 239Cr-199Av-159Pr. No doctrine.
- o (Mounted). 3 × BMD [with AT-4] (USSR-4B), 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Squad Plus" & "Special Forces"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Squad Plus" & "Special Forces"] (USSR-11B). 491Cr-409Av-327Pr. No doctrine.
- p (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Squad Plus" & "Special Forces"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Squad Plus" & "Special Forces"] (USSR-11B). 293Cr-244Av-195Pr. No doctrine.

AIRBORNE RECONNAISSANCE PLATOON: The CO is with a team.

- a. 3 × BRDM-2 (USSR-5B), 3 × Team [with RPG-7 V/D & SA-7B] (USSR-11B). 220Cr-183Av-147Pr. No doctrine.
- b. 3 × BRDM-2 (USSR-5B), 3 × Team [with RPG-7 V/D & SA-14] (USSR-11B). 227Cr-189Av-151Pr. No doctrine.
- c. 3 × BRDM-2 (USSR-5B), 3 × Team [with RPG-18 & SA-7B] (USSR-11B). 223Cr-186Av-149Pr. No doctrine.
- d. 3 × BRDM-2 (USSR-5B), 3 × Team [with RPG-18 & SA-14] (USSR-11B). 230Cr-192Av-154Pr. No doctrine.

ANTI-AIRCRAFT SECTION (GUN): 2 × ZSU-23(4) (USSR-8A). 113Cr-94Av-75Pr. No doctrine.

ANTI-AIRCRAFT SECTION (MISSILE):

- a. 2 × SA-9 (USSR-7A/1). 72Cr-60Av-48Pr. No doctrine.
- b. 2 × SA-13 (USSR-7A/2). 84Cr-70Av-56Pr. No doctrine.

ANTI-TANK PLATOON (BRDM): The CO is in a BRDM.

- a. 3 × BRDM (USSR-5A), 3 × Team [with RPG-7 V/D] (USSR-11B). With vehicle doctrine: 208Cr-173Av-139Pr.
- b. 3 × BRDM (USSR-5A), 3 × Team [with RPG-18] (USSR-11B). With vehicle doctrine: 212Cr-176Av-141Pr.

ANTI-TANK PLATOON (BTR): The CO is with a team with an AT-3 or AT-4.

- a. 2 × BTR-60/70PB (USSR-4A/1), 2 × Team [with AT-3 & RPG-7 V/D] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 245Cr-205Av-164Pr.
- b. 2 × BTR-60/70PB (USSR-4A/1), 2 × Team [with AT-3 & RPG-18] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 248Cr-207Av-165Pr.
- c. 2 × BTR-60/70PB (USSR-4A/1), 2 × Team [with AT-4 & RPG-7 V/D] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 272Cr-227Av-181Pr.
- d. 2 × BTR-60/70PB (USSR-4A/1), 2 × Team [with AT-4 & RPG-18] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 274Cr-229Av-183Pr.
- e. 2 × BTR-80PB (USSR-4A/2), 2 × Team [with AT-3 & RPG-7 V/D] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 252Cr-211Av-169Pr.
- f. 2 × BTR-80PB (USSR-4A/2), 2 × Team [with AT-3 & RPG-18] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 255Cr-213Av-170Pr.
- g. 2 × BTR-80PB (USSR-4A/2), 2 × Team [with AT-4 & RPG-7 V/D] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 279Cr-233Av-186Pr.
- h. 2 × BTR-80PB (USSR-4A/2), 2 × Team [with AT-4 & RPG-18] (USSR-11B), 2 × Team [with AGS-17] (USSR-11B), 2 × SPG-9 (USSR-9B). With vehicle & SPG-9 doctrine: 281Cr-235Av-188Pr.

ANTI-TANK PLATOON (MOTORIZED RIFLE REGIMENT): The CO is with a T-12. 2 × MT-LB (USSR-6B/1), 2 × T-12 (USSR-9A/1). With doctrine: 101Cr-84Av-67Pr.

BRIDGE PLATOON: 2 × MTU-20 AvLB (USSR-12B). 77Cr-64Av-51Pr. No doctrine.

ENGINEER PLATOON (MOUNTED): The CO is with the squad with the SA-7B or SA-14.

- a. 3 × MT-LB (USSR-6B/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with

RPG-7 V/D & SA-7B, "Assault" (USSR-11B). 301Cr-251Av-201Pr. No doctrine.

b. 3 × MT-LB (USSR-6B/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14, "Assault"] (USSR-11B). 304Cr-253Av-202Pr. No doctrine.

c. 3 × MT-LB (USSR-6B/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B, "Assault"] (USSR-11B). 305Cr-254Av-203Pr. No doctrine.

d. 3 × MT-LB (USSR-6B/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Assault"] (USSR-11B). 307Cr-256Av-205Pr. No doctrine.

e. 3 × MT-LB (USSR-6B/1), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B, "Assault"] (USSR-11B). 313Cr-261Av-209Pr. No doctrine.

f. 3 × MT-LB (USSR-6B/1), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14, "Assault"] (USSR-11B). 316Cr-263Av-210Pr. No doctrine.

g. 3 × MT-LB (USSR-6B/1), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B, "Assault"] (USSR-11B). 317Cr-264Av-211Pr. No doctrine.

h. 3 × MT-LB (USSR-6B/1), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & Flamethrower, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18, "Assault"] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14, "Assault"] (USSR-11B). 319Cr-266Av-213Pr. No doctrine.

MORTAR SECTION: 2 × MT-LB/2S12 (USSR-3A). 91Cr-76Av-61Pr. No doctrine.

MOTORIZED RIFLE BATTALION HEADQUARTERS: The CO is with the squad. The XO is in the BRDM-2.

a. 1 × BMP-1 [with AT-3] (USSR-2B/2), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 175Cr-146Av-117Pr. No doctrine.

b. 1 × BMP-1 [with AT-4] (USSR-2B/2), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 182Cr-152Av-122Pr. No doctrine.

c. 1 × BMP-2 (USSR-3B), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 193Cr-161Av-129Pr. No doctrine.

d. 1 × BTR-60/70PB (USSR-4A/1), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 156Cr-130Av-104Pr. No doctrine.

e. 1 × BMP-1 [with AT-3] (USSR-2B/2), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 176Cr-147Av-118Pr. No doctrine.

f. 1 × BMP-1 [with AT-4] (USSR-2B/2), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 184Cr-153Av-122Pr. No doctrine.

g. 1 × BMP-2 (USSR-3B), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 194Cr-162Av-130Pr. No doctrine.

h. 1 × BTR-60/70PB (USSR-4A/1), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 157Cr-131Av-105Pr. No doctrine.

i. 1 × BTR-80PB (USSR-4A/2), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 161Cr-134Av-107Pr. No doctrine.

j. 1 × BTR-80PB (USSR-4A/2), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2), 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 162Cr-135Av-108Pr. No doctrine.

MOTORIZED RIFLE COMPANY ATTACHED ARTILLERY: 1 × Medium Battery (USSR-12A). 150Av. With doctrine.

MOTORIZED RIFLE COMPANY HEADQUARTERS: The CO is with the squad.

a. 1 × BMP-1 [with AT-3] (USSR-2B/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 103Cr-86Av-69Pr. No doctrine.

b. 1 × BMP-1 [with AT-4] (USSR-2B/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 110Cr-92Av-74Pr. No doctrine.

c. 1 × BMP-2 (USSR-3B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 121Cr-101Av-81Pr. No doctrine.

d. 1 × BTR-60/70PB (USSR-4A/1), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 80Cr-67Av-54Pr. No doctrine.

e. 1 × BMP-1 [with AT-3] (USSR-2B/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B). 104Cr-87Av-70Pr. No doctrine.

f. 1 × BMP-1 [with AT-4] (USSR-2B/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B). 112Cr-93Av-74Pr. No doctrine.

g. 1 × BMP-2 (USSR-3B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B). 122Cr-102Av-82Pr. No doctrine.

h. 1 × BTR-60/70PB (USSR-4A/1), 1 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B). 82Cr-68Av-54Pr. No doctrine.

i. 1 × BTR-80PB (USSR-4A/2), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 85Cr-71Av-57Pr. No doctrine.

j. 1 × BTR-80PB (USSR-4A/2), 1 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B). 86Cr-72Av-58Pr. No doctrine.

MOTORIZED RIFLE PLATOON: The CO is with the squad with the SA-7B or SA-14.

a. 3 × BMP-1 [with AT-3] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 273Cr-228Av-182Pr.

b. 3 × BMP-1 [with AT-4] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 279Cr-232Av-186Pr.

c. 3 × BMP-2 (USSR-3B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 314Cr-262Av-209Pr.

d (Mounted). 3 × BTR-60/70PB (USSR-4A/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 219Cr-183Av-146Pr.

e (Mounted). 3 × BTR-80PB (USSR-4A/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). With vehicle doctrine: 230Cr-192Av-153Pr.

f (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). 136Cr-113Av-90Pr. No doctrine.

g. 3 × BMP-1 [with AT-3] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 277Cr-231Av-185Pr.

h. 3 × BMP-1 [with AT-4] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 282Cr-235Av-188Pr.

i. 3 × BMP-2 (USSR-3B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 317Cr-262Av-209Pr.

j (Mounted). 3 × BTR-60/70PB (USSR-4A/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 223Cr-186Av-149Pr.

k (Mounted). 3 × BTR-80PB (USSR-4A/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). With vehicle doctrine: 234Cr-195Av-156Pr.

l (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). 139Cr-116Av-93Pr. No doctrine.

m. 3 × BMP-1 [with AT-3] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 276Cr-230Av-184Pr.

n. 3 × BMP-1 [with AT-4] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 281Cr-234Av-187Pr.

o. 3 × BMP-2 (USSR-3B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 316Cr-264Av-211Pr.

p (Mounted). 3 × BTR-60/70PB (USSR-4A/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 222Cr-185Av-148Pr.

q (Mounted). 3 × BTR-80PB (USSR-4A/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). With vehicle doctrine: 233Cr-194Av-155Pr.

r (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-7 V/D & SA-14] (USSR-11B). 138Cr-115Av-92Pr. No doctrine.

s. 3 × BMP-1 [with AT-3] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 279Cr-233Av-186Pr.

t. 3 × BMP-1 [with AT-4] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 285Cr-237Av-190Pr.

u. 3 × BMP-2 (USSR-3B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 320Cr-267Av-213Pr.

v (Mounted). 3 × BTR-60/70PB (USSR-4A/1), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 225Cr-188Av-150Pr.

w (Mounted). 3 × BTR-80PB (USSR-4A/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). With vehicle doctrine: 236Cr-197Av-157Pr.

x (Dismounted). 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-14] (USSR-11B). 142Cr-118Av-94Pr. No doctrine.

ORGANIC ARTILLERY:

a. 1 × Heavy Battery (USSR-12A), 1 × Medium Battery (USSR-12A). 250Av. With doctrine.

b. 2 × Heavy Battery (USSR-12A). 300Av. With doctrine.

RECONNAISSANCE PLATOON (BMP): The CO is with a ½ squad.

a. 3 × BMP-R [with AT-3] (USSR-2B/1), 3 × ½ Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). 266Cr-222Av-178Pr. No doctrine.

b. 3 × BMP-R [with AT-3] (USSR-2B/1), 3 × ½ Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B). 270Cr-225Av-180Pr. No doctrine.

c. 3 × BMP-R [with AT-4] (USSR-2B/1), 3 × ½ Squad Light Motorized Rifle

Infantry [with RPG-7 V/D] (USSR-11B). 288Cr-240Av-192Pr. No doctrine.
d. 3 × BMP-R [with AT-4] (USSR-2B/1). 3 × ½ Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B). 292Cr-243Av-194Pr. No doctrine.

RECONNAISSANCE PLATOON (BRDM): The CO is with a team.

- a. 4 × BRDM-2 (USSR-5B). 4 × Team [with MG & RPG-7 V/D] (USSR-11B). 269Cr-224Av-179Pr. No doctrine.
- b. 4 × BRDM-2 (USSR-5B). 4 × Team [with MG & RPG-18] (USSR-11B). 274Cr-228Av-182Pr. No doctrine.

SMALL AIRBORNE COMPANY HEADQUARTERS: The CO is with the squad.

- a. 1 × Medium Truck (USSR-7B/2). 1 × Squad Standard Infantry [with RPG-7 V/D] (USSR-11B). 66Cr-55Av-44Pr. No doctrine.
- b. 1 × Medium Truck (USSR-7B/2). 1 × Squad Standard Infantry [with RPG-18] (USSR-11B). 67Cr-56Av-45Pr. No doctrine.

SMALL COMPANY HEADQUARTERS: The CO is in the BRDM-2. 1 × BRDM-2 (USSR-5B). 38Cr-32Av-26Pr. No doctrine.

TANK BATTALION HEADQUARTERS: The CO is in the tank. The XO is in the BRDM-2.

- a. 1 × T-64B (USSR-1B). 1 × BRDM-2 (USSR-5B). 1 × ACRV (USSR-6B/2). 168Cr-140Av-112Pr. No doctrine.
- b. 1 × T-72M1 (USSR-2A). 1 × BRDM-2 (USSR-5B). 1 × ACRV (USSR-6B/2). 166Cr-138Av-110Pr. No doctrine.
- c. 1 × T-80A (USSR-1A). 1 × BRDM-2 (USSR-5B). 1 × ACRV (USSR-6B/2). 174Cr-145Av-116Pr. No doctrine.
- d. 1 × T-64B [with reactive armor] (USSR-1B). 1 × BRDM-2 (USSR-5B). 1 × ACRV (USSR-6B/2). 186Cr-155Av-124Pr. No doctrine.
- e. 1 × T-72M1 [with reactive armor] (USSR-2A). 1 × BRDM-2 (USSR-5B). 1 × ACRV (USSR-6B/2). 184Cr-153Av-122Pr. No doctrine.
- f. 1 × T-80A [with reactive armor] (USSR-1A). 1 × BRDM-2 (USSR-5B). 1 × ACRV (USSR-6B/2). 192Cr-160Av-128Pr. No doctrine.

TANK COMPANY HEADQUARTERS: The CO is in the tank.

- a. 1 × T-64B (USSR-1B). 90Cr-75Av-60Pr. No doctrine.
- b. 1 × T-72M1 (USSR-2A). 88Cr-73Av-59Pr. No doctrine.
- c. 1 × T-80A (USSR-1A). 96Cr-80Av-64Pr. No doctrine.
- d. 1 × T-64B [with reactive armor] (USSR-1B). 108Cr-90Av-72Pr. No doctrine.
- e. 1 × T-72M1 [with reactive armor] (USSR-2A). 106Cr-88Av-71Pr. No doctrine.
- f. 1 × T-80A [with reactive armor] (USSR-1A). 114Cr-95Av-76Pr. No doctrine.

TANK PLATOON (TANK REGIMENT): The CO is in a tank.

- a. 3 × T-64B (USSR-1B). With doctrine: 203Cr-169Av-135Pr.
- b. 3 × T-72M1 (USSR-2A). With doctrine: 197Cr-164Av-131Pr.
- c. 3 × T-80A (USSR-1A). With doctrine: 216Cr-180Av-144Pr.
- d. 3 × T-64B [with reactive armor] (USSR-1B). With doctrine: 243Cr-203Av-162Pr.
- e. 3 × T-72M1 [with reactive armor] (USSR-2A). With doctrine: 238Cr-198Av-158Pr.
- f. 3 × T-80A [with reactive armor] (USSR-1A). With doctrine: 257Cr-214Av-171Pr.
- g. 3 × T-64B [1 with mine plow] (USSR-1B). With doctrine: 225Cr-188Av-150Pr.
- h. 3 × T-72M1 [1 with mine plow] (USSR-2A). With doctrine: 220Cr-183Av-146Pr.
- i. 3 × T-80A [1 with mine plow] (USSR-1A). With doctrine: 239Cr-199Av-159Pr.
- j. 3 × T-64B [with reactive armor & 1 with mine plow] (USSR-1B). With doctrine: 266Cr-221Av-177Pr.
- k. 3 × T-72M1 [with reactive armor & 1 with mine plow] (USSR-2A). With doctrine: 260Cr-217Av-173Pr.
- l. 3 × T-80A [with reactive armor & 1 with mine plow] (USSR-1A). With doctrine: 279Cr-233Av-186Pr.

TANK PLATOON (MOTORIZED RIFLE REGIMENT): The CO is in a tank.

- a. 4 × T-64B (USSR-1B). With doctrine: 270Cr-225Av-180Pr.
- b. 4 × T-72M1 (USSR-2A). With doctrine: 263Cr-219Av-175Pr.
- c. 4 × T-80A (USSR-1A). With doctrine: 288Cr-240Av-192Pr.
- d. 4 × T-64B [with reactive armor] (USSR-1B). With doctrine: 324Cr-270Av-216Pr.
- e. 4 × T-72M1 [with reactive armor] (USSR-2A). With doctrine: 317Cr-264Av-211Pr.
- f. 4 × T-80A [with reactive armor] (USSR-1A). With doctrine: 324Cr-285Av-228Pr.
- g. 4 × T-64B [1 with mine plow] (USSR-1B). With doctrine: 293Cr-244Av-195Pr.
- h. 4 × T-72M1 [1 with mine plow] (USSR-2A). With doctrine: 285Cr-238Av-190Pr.
- i. 4 × T-80A [1 with mine plow] (USSR-1A). With doctrine: 311Cr-259Av-207Pr.
- j. 4 × T-64B [with reactive armor & 1 with mine plow] (USSR-1B). With doctrine: 347Cr-289Av-231Pr.
- k. 4 × T-72M1 [with reactive armor & 1 with mine plow] (USSR-2A). With doctrine: 339Cr-283Av-226Pr.
- l. 4 × T-80A [with reactive armor & 1 with mine plow] (USSR-1A). With doctrine: 356Cr-304Av-243Pr.

3. FREQUENTLY ATTACHED UNITS: These are basic units that are not part of the listed orders-of-battle, but are frequently attached to other basic units or to larger organizations.

GUNSHIP SECTION:

- a. 2 × Hind-D [with chin gun only] (USSR-10A/1). 360Cr-300Av-240Pr. No doctrine.
- b. 2 × Hind-D [with Swatters & rockets] (USSR-10A/1). 821Cr-684Av-54Pr. No doctrine.
- c. 2 × Hind-D [with Sagers & rockets] (USSR-10A/1). 792Cr-660Av-528Pr. No doctrine.
- d. 2 × Hind-D [with rockets] (USSR-10A/1). 936Cr-780Av-624Pr. No doctrine.
- e. 2 × Hind-E [with chin gun only] (USSR-10A/2). 408Cr-340Av-272Pr. No doctrine.
- f. 2 × Hind-E [with Spirals & rockets] (USSR-10A/2). 936Cr-780Av-624Pr. No doctrine.

doctrine.

g. 2 × Hind-E [with Swatters & rockets] (USSR-10A/2). 869Cr-724Av-579Pr. No doctrine.

h. 2 × Hind-E [with Sagers & rockets] (USSR-10A/2). 840Cr-700Av-560Pr. No doctrine.

i. 2 × Hind-E [with rockets] (USSR-10A/2). 984Cr-820Av-656Pr. No doctrine.

SPECIAL FORCES DETACHMENT: The CO is with the squad.

a. 1 × BMD [with AT-4] (USSR-4B). 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18 & SA 14, "Squad Plus" & "Special Forces"] (USSR-11B). 176Cr. No doctrine.

b. 1 × Mi-4 (USSR-10B/1). 1 × Squad Heavy Motorized Rifle Infantry [with PRG-18, AT-4 & SA-14, "Squad Plus" & "Special Forces"] (USSR-11B). 188Cr. No doctrine.

c. 1 × Mi-4 (USSR-10B/2). 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18, AT-4 & SA-14, "Squad Plus" & "Special Forces"] (USSR-11B). 176Cr. No doctrine.

TRUCK SECTION:

a. 2 × Heavy Truck (USSR-7B/1). 53Cr-44Av-35Pr. No doctrine. or 40Cr-33Av-26Pr. With doctrine.

b. 2 × Medium Truck (USSR-7B/2). 50Cr-42Av-34Pr. No doctrine. or 38Cr-32Av-25Pr. With doctrine.

c. 2 × Light Truck (USSR-7B/3) (USSR-7B/3). 48Cr-40Av-32Pr. No doctrine. or 36Cr-30Av-24Pr. With doctrine.

4. LARGER ORGANIZATIONS: (Troops, Squadrons, Batteries, Companies, Battalions) These are composed of basic organizations. Those marked with an asterisk are included for reference only, to show how the basic organizations fit into a larger scheme. Those not marked can actually be formed using the unit counters included in the game.

AIRBORNE ANTI-AIRCRAFT BATTERY *: 1 × Airborne Anti-Aircraft Battery Headquarters, 3 × Airborne Anti-Aircraft Platoons.

AIRBORNE ANTI-TANK BATTERY *: 1 × Small Airborne Company Headquarters, 3 × Airborne Anti-Tank Platoons (SD-44).

AIRBORNE ANTI-TANK GUIDED MISSILE BATTERY *: 1 × Small Airborne Company Headquarters, 3 × Airborne Anti-Tank Guided Missile Platoons.

AIRBORNE ASSAULT GUN BATTERY: 1 × Small Airborne Company Headquarters, 2 × Airborne Assault Gun Platoons.

AIRBORNE BATTALION *: 1 × Airborne Battalion Headquarters, 1 × Airborne Organic Artillery, 3 × Airborne Companies (see).

AIRBORNE COMPANY: 1 × Airborne Company Headquarters, 1 × Airborne Anti-Tank Platoon (SPG-9), 1 × Airborne Company Attached Artillery, 3 × Airborne Platoons (Dismounted or Mounted).

AIRBORNE ENGINEER COMPANY *: 1 × Small Airborne Company Headquarters, 3 × Airborne Engineer Platoons (mounted or dismounted).

AIRBORNE RECONNAISSANCE COMPANY *: 1 × Small Company Headquarters, 3 × Airborne Reconnaissance Platoons.

ANTI-AIRCRAFT BATTERY *: 1 × Small Company Headquarters, 2 × Anti-Aircraft Sections (Gun), 2 × Anti-Aircraft Sections (Missile).

ANTI-TANK BATTERY *: 1 × Small Company Headquarters, 3 × Anti-Tank Platoons (BRDM).

ANTI-TANK BATTERY (MOTORIZED RIFLE REGIMENTS): 1 × Small Company Headquarters, 2 × Anti-Tank Platoons (Motorized Rifle Regiment).

ENGINEER COMPANY *: 1 × Small Company Headquarters, 1 × Bridge Platoon, 3 × Engineer Platoons (mounted or dismounted).

MOTORIZED RIFLE BATTALION (BMP) *: All units use the same BMP. 1 × Motorized Rifle Battalion Headquarters, 1 × Organic Artillery, 3 × Mortar Sections, 3 × Motorized Rifle Companies (see).

MOTORIZED RIFLE BATTALION (BMP—CROSS-ATTACHED) *: All units use the same BMP. 1 × Motorized Rifle Battalion Headquarters, 1 × Organic Artillery, 3 × Mortar Sections, 2 × Motorized Rifle Companies (see), 1 × Tank Company (see).

MOTORIZED RIFLE BATTALION (BTR) *: All units use the same BTR. 1 × Motorized Rifle Battalion Headquarters, 1 × Organic Artillery, 3 × Mortar Sections, 1 × Anti-Tank Platoon (BTR), 3 × Motorized Rifle Companies (see).

MOTORIZED RIFLE BATTALION (BTR—CROSS-ATTACHED) *: All units use the same BTR. 1 × Motorized Rifle Battalion Headquarters, 1 × Organic Artillery, 3 × Mortar Sections, 1 × Anti-Tank Platoon (BTR), 2 × Motorized Rifle Companies (see), 1 × Tank Company (see).

MOTORIZED RIFLE COMPANY: All units use the same BMP or BTR. 1 × Motorized Rifle Company Headquarters, 1 × Motorized Rifle Company Attached Artillery, 3 × Motorized Rifle Platoons.

RECONNAISSANCE COMPANY *: 1 × Small Company Headquarters, 1 × Reconnaissance Platoon (BMP), 2 × Reconnaissance Platoons (BRDM).

TANK BATTALION: All units use the same tank. 1 × Tank Battalion Headquarters, Organic Artillery, 3 × Tank Companies (see).

TANK BATTALION (CROSS-ATTACHED): All units use the same tank. 1 × Tank Battalion Headquarters, Organic Artillery, 2 × Tank Companies (see), 1 × Motorized Rifle Company (see).

TANK COMPANY: 1 × Tank Company Headquarters, 3 × Tank Platoons (for Tank or Motorized Rifle Regiments).

THE SCENARIOS

The scenarios in this section provide representative types of ground actions. Each scenario is, in effect, a separate game, and provides the specific information needed to be setup and played.

SCENARIO FORMAT

The information in each scenario is presented in the following format:

A. MAPBOARD TERRAIN: This is information for setting up the mapboard. The mapboard panels to be used and how they are to be placed together (see the mapboard identification numbers for orientation) are given in a diagram. The terrain, its type, height and values is also given. *Standard* heights and values for terrain are given in the STANDARD TERRAIN VALUES CHART on the Game Card, *standard* interpretations of terrain are given in the MAPBOARD TERRAIN section of the Information Card, and these values are always the ones used unless otherwise indicated. The scenarios may contain instructions to treat types of terrain other than as identified on the Information Card. *For example, if instructed to "treat scrub hexes as clear terrain", all of the scrub hexes on all of the mapboard panels are considered to be clear hexes for that scenario. Note that, in such cases, a scrub hex that also contained other terrain, like a stream, would still be considered to contain that other terrain.* In some scenarios, there is a choice of how to place the mapboard panels and/or a choice of which mapboard side to enter for a game. This is done to increase scenario flexibility, and the players should decide how to do it for their game before setting up anything else.

B. SPECIAL RULES: The maximum number of Turns that the game will last and the mapboard sides where units may exit are given here. Any special rules that may apply to the scenario are also given, as well as information needed if certain optional rules are used. The visibility and ground conditions are given or determined here in every scenario.

C. OPPOSING FORCES: This gives the units and organization (using the same format as in the TO&E section of the rules) for both sides needed to play the scenario, and when or where they may be setup or enter the mapboard. All organizations are identified using a continuous numbering and lettering system, so that all basic units on the mapboard have a different identification. Organizations that are subordinate to a headquarters unit are indented to show this. Some scenarios have alternate forces and information included to allow the players more flexibility in the use of options, etc. The players should select the necessary units and data cards for their forces, and enter any necessary information on the RECORD SHEETS.

D. VICTORY CONDITIONS: If all of a side's combat ground units are eliminated and/or immobilized, the other side wins automatically. More commonly, the side which accumulates the most victory points wins, and this section tells how to gain victory points in the scenario. In addition to what is given, all the following victory points apply in *all* scenarios:

1. LOSSES CAUSED: Each side gets victory points for damage and casualties done to the other side. None of these victory points considers grade or doctrine—the points listed on the data cards are the ones used for victory points.

Vehicle Units: Vehicle units list three points. *For example, a M1A1 (data card USA-1B) lists, "100-50-25 points".* The first and largest number of points is awarded as victory points if the vehicle

unit is knocked out or brewed up. The second number of points is awarded as victory points if the vehicle unit has, at worst, suffered a compartment hit. The third and smallest number of points is awarded as victory points if the vehicle unit has, at worst suffered a main gun or track hit, and/or the crew bailed out after a penetrating hit that caused no damage. More minor damage, such as crew losses, losses of machineguns, etc. not already mentioned yield no victory points.

Aircraft And Helicopter Units: Only the printed "base points" are awarded as victory points if an air unit is destroyed. No extra victory points are awarded for extra loads or armaments that the air unit may have carried.

Towed Units: If knocked out, its printed point value equals the number of victory points awarded.

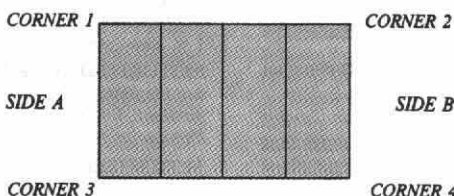
Leg Units: The printed point values of a squad, half squad or team, *plus* the printed point values of any attached weapons and/or equipment, *plus* the value of any elite infantry status (15 extra points) equals the victory points awarded if knocked out. If a squad is reduced to a half squad, the victory points awarded equal the difference in point value between a squad and a half squad of that type, *plus* any point values for weapons lost, but no extra points if the unit has some elite status. *For example, a Soviet light motorized infantry squad is reduced to a half squad (27 minus 20=7 points difference) and also loses its attached AT-3 ATGM (14 points), the award would be 7 + 14=21 victory points.*

2. BAILED OUT CREWS SAVED: If using the bailing out option (see option 17.2.3), a player gets 10 victory points for each one of his own bailed out crew units that survives the game.

SCENARIO ONE: "Meeting Engagements"

This scenario provides the basis for easily generating a virtually unlimited number of different force matchups. It uses variations of the Basic Game Scenario, and represents the head-on meeting of two attacking forces.

A. MAPBOARD TERRAIN: Have any *one* player assemble the mapboard panels as shown, although the panels may be placed in any order and faced in any directions. Then, an *opposing* player may decide to enter from either side A or side B of the mapboard. Alternately (for a somewhat different game), an opposing player may decide to enter from either corners 1 and/or 3 or corners 2 and/or 4 of the mapboard.



Terrain may be varied as desired. Use all standard values, or some suggested variations to try might be:

1. IN THE OPEN PLAINS: Ignore all hills on the mapboard—just consider them to be "0" height hexes. Treat all scrub and rough hexes as clear terrain. All brick building hexes are considered to be 2 heights high and all stone building hexes are considered to be 3 heights high.

2. IN THE UNSPOILED MOUNTAINS: Consider all hill and depression levels as being 2 heights each. Consider that the buildings are not there (although their locations still provide objective hexes). Consider all roads to be paths.

3. IN THE SUNLESS WOODS: Consider that the buildings are not there (although their locations still provide objective hexes). Consider all printed woods hexes to be heavy woods hexes, and all dark green clear hexes to be woods hexes.

B. SPECIAL RULES: Game length is 15 Turns. Units may exit only off the mapboard side (A or B, or sides within four hexes of their corners) near which their side setup. Conditions may be varied as desired. Some suggested condition variations to try:

- 1. ANY:** Due to recent rains, all tan clear hexes are considered to be mud hexes. All stream hexes are considered to be unfordable.
- 2. BLOWING SNOW:** Any player rolls the two dice. The number rolled is the weight that the ice over the frozen streams can handle.
- 3. CHANCE:** Any player rolls 1 die once for ground conditions and then again for visibility conditions. The conditions depend on the die rolls, as follows:

DIE	CONDITIONS	
	WEATHER	VISIBILITY
1-5	Normal	Day
6	Normal	Dusk
7	Snow a	Moonlight
8	Snow b	Night
9	Mud c	Fog
10	Mud d	Blowing Snow

a: Water not frozen.
b: Water frozen—holds any weight.
c: Only tan clear hexes are mud.
d: All non-building hexes are mud.

C. OPPOSING FORCES: Select one of the following matchups. Any planned and/or designated artillery target hexes should be plotted *before* any ground units are placed on the mapboard. After forces are selected, use a competitive die roll to determine setup. The loser of the die roll sets up first, followed by the winner. Both sides may setup in any desired manner within 4 hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of their side or corner(s) of the mapboard.

MATCHUP 1: No options are required to play. Command control option may not be used.

AMERICAN ARMORED PLATOON: 355 points.
1st Armored Platoon: CO in a tank. 4 × M60A3 (USA-3A/1). Crack.

Vs.

SOVIET TANK PLATOONS: 360 points.
1st Tank Platoon: CO in a tank. 4 × T-72M1 (USSR-2A). Poor. With doctrine.
2nd Tank Platoon: CO in a tank. 4 × T-72M1 (USSR-2A). Poor. With doctrine.

Or

SOVIET TANK PLATOONS: 360 points.
1st Tank Platoon: CO in a tank. 3 × T-80A (USSR-1A). Average. With doctrine.
2nd Tank Platoon: CO in a tank. 3 × T-80A (USSR-1A). Average. With doctrine.

MATCHUP 2: No options are required to play. Command control option may not be used.

GERMAN PANZER PLATOON: 396 points.
1st Panzer Platoon: CO in a tank. 4 × Leopard 2 (FRG-1B). Average.

Vs.

SOVIET TANK PLATOONS: 394 points.
1st Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Crack. With doctrine.
2nd Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Crack. With doctrine.

MATCHUP 3: No options are required to play.

GERMAN PANZER COMPANY (CROSS-ATTACHED) (-): 797 points.

"A" Panzer Company Headquarters: CO in the tank, XO with the squad. 1 × Leopard 1A4 (FRG-1A), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-44] (FRG-4B). Average.

1st Panzer Platoon: CO in a tank. 4 × Leopard 1A4 (FRG-1A). Average.

2nd Panzer Grenadier Platoon: CO with a squad. 3 × Marder A1 (FRG-2A/1), 3 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan] (FRG-4B). Average.

Vs.

SOVIET TANK COMPANY (CROSS-ATTACHED): 787 points.

"A" Tank Company Headquarters: CO in the tank. 1 × T-64B (USSR-1B). Crack. No doctrine.

1st Tank Platoon: CO in a tank. 3 × T-64B (FRG-1B). Average. With doctrine.

2nd Tank Platoon: CO in a tank. 3 × T-64B (FRG-1B). Average. With doctrine.

3rd Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BMP-1 [with AT-3] (USSR-2B/2), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Crack. With vehicle doctrine.

MATCHUP 4: Area fire, elite infantry, artillery, helicopter, and anti-aircraft options required to play.

AMERICAN ARMORED COMPANY (CROSS-ATTACHED) (+): 2668 points.

"A" Armored Company Headquarters: CO & XO in different tanks. 2 × M1A1 (USA-1B), 1 × M981 FISTV

(USA-4A/2). Average.

1st Armored Platoon: CO in a tank. 4 × M1A1 (USA-1B). Average.

2nd Armored Platoon: CO in a tank. 4 × M1A1 (USA-1B). Average.

3rd Mechanized Infantry Platoon: CO with the team. 4 × M2A1 (USA-2A/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). Average.

(Att) 4th Anti-Tank Platoon: CO with the squad. 1 × M113A2 (USA-3B/1), 4 × M901 (USA-4A/1), 1 × Squad Standard Infantry [with AT-4] (USA-7B). Average.

(Att) 5th Armored Mortar Section: 2 × M106A1 (USA-8B/1). Average.

(Att) 6th Aero Weapons Section: 2 × AH-64A [with ITOWs & rockets] (USA-6A/2). Average.

Or

GERMAN PANZER COMPANY (CROSS-ATTACHED) (+): 2664 points.

"A" Panzer Company Headquarters: CO in the tank, XO with the squad. 1 × Leopard 2 (FRG-1B), 1 × Marder A1 (FRG-2A/1), 1 × Squad Standard Infantry [with PZF-3] (FRG-4B). Average.

Attached Artillery: 1 × Heavy Battery [with 2 × HE, 1 × ICMDF, 1 × Smoke fire missions] (FRG-3B). Average.

1st Panzer Platoon: CO in a tank. 4 × Leopard 2 (FRG-1B). Average.

2nd Panzer Platoon: CO in a tank. 4 × Leopard 2 (FRG-1B). Average.

3rd Panzergrenadier Platoon: CO with a squad. 3 × Marder A1 (FRG-2A/1), 3 × Squad Light Panzergrenadier Infantry [with PZF-3 & Milan] (FRG-4B). Average.

(Att) 4th Jagdpanzer ATGM Platoon: CO in a Jaguar. 4 × Jaguar 2 (FRG-3A/2). Average.

(Att) 5th Mortar Section: 2 × M113GA1/120 (FRG-8B). Average.

(Att) 6th Gunship Section: 2 × BO-105 PAH-1 [with HOT] (FRG-7A/1). Average.

(Att) 7th Special Forces Detachment: CO with the squad. 1 × UH-1D (FRG-7A/2), 1 × Squad Heavy Panzergrenadier Infantry [with Milan, PZF-3 & Redeye, "Squad Plus" & "Special Forces"] (FRG-4B). Average.

(Att) Counterbattery Capability: 1 × Counterbattery—flash (FRG-3B).

Vs.

SOVIET TANK BATTALION (CROSS-ATTACHED) (+): 2672 points.

1st Tank Battalion Headquarters: CO in the tank, XO

in the BRDM-2. 1 × T-72M1 (USSR-2A), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2). Average. No doctrine.

Organic Artillery: 1 × Heavy Battery [with 1 × HE, 1 × SM fire missions] (USSR-12A), 1 × Medium Battery [with 2 × HE, 1 × SM fire missions] (USSR-12A). Average. With doctrine.

"A" Tank Company Headquarters: CO in the tank. 1 × T-72M1 (USSR-2A). Average. No doctrine.

1st Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

2nd Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

3rd Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

"B" Tank Company Headquarters: CO in the tank. 1 × T-72M1 (USSR-2A). Average. No doctrine.

4th Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

5th Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

6th Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

"C" Motorized Rifle Company Headquarters: CO is with the squad. 1 × BMP-1 [with AT-3] (USSR-2B/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). Average. No Doctrine.

Motorized Rifle Company Attached Artillery: 1 × Medium Battery [with 2 × HE, 1 × SM fire missions] (USSR-12A). Average. With doctrine.

7th Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BMP-1 [with AT-3] (USSR-2B/1), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

8th Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BMP-1 [with AT-3] (USSR-2B/1), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

9th Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BMP-1 [with AT-3] (USSR-2B/1), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

(Att) 10th Anti-Aircraft Section (Gun): 2 × ZSU-23(4) (USSR-8A). Average. No doctrine.

D. VICTORY CONDITIONS:

MATCHUP 1: Each controlled building hex is worth 2 victory points. To win, one side must have at least 35 more victory points than the other side.

MATCHUP 2: Each controlled building hex is worth 2 victory points. To win, one side must have at least 40 more victory points than the other side.

MATCHUP 3: Each controlled building or bridge hex is worth 4 victory points. To win, one side must have at least 80 more victory points than the other side.

MATCHUP 4: Each controlled building hex is worth 15 victory points. Each controlled bridge hex is worth 25 victory points. To win, one side must have at least 250 more victory points than the other side.

SCENARIO TWO: "Delaying Actions"

This scenario provides has one force trying to prevent a superior force from exiting the mapboard.

A. MAPBOARD TERRAIN: The mapboard panels should be assembled in the order shown, although they may be faced in any directions. Have an attacking side player assemble the mapboard panels, then, have a defending side player decide which side of the mapboard to defend.

SIDE A	1	4	SIDE B
	2	3	

TERRAIN FOR MATCHUP 1: Consider the streams to be unfordable. Consider all printed woods hexes to be heavy woods hexes, and all dark green clear hexes to be woods hexes.

TERRAIN FOR MATCHUP 2: Use all standard terrain values, except that all brick building hexes are considered to be 2 heights high and all stone building hexes are considered to be 3 heights high.

B. SPECIAL RULES: Game length is 25 Turns. Units may exit only off the mapboard side (A or B) near which their side setup. Attacking side units may exit for victory points off the opposite mapboard side. Terrain units may *not* be used by the defending side in this scenario. Conditions may be varied if desired, but must be "Normal" and "Day" to permit maximum movement—extend game length by 10 or 15 Turns if "Snow", "Mud", and/or "Nighttime" conditions prevail.

C. OPPOSING FORCES: Select one of the following matchups. Any planned and/or designated artillery target hexes should be plotted *before* any ground units are placed on the mapboard. The defending side sets up first, placing all ground units in any desired manner anywhere on the two mapboard panels on the defending side of the mapboard. The attacking side then sets up in any desired manner within 4 hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of their side of the mapboard.

MATCHUP 1: This represents a Soviet truck convoy and escort trying to fight their way through a raiding American unit. No options are required to play.

ATTACKING SIDE: SOVIET SECURITY FORCES: 394 points.

"A" Small Company Headquarters: CO in the

BRDM-2. 1 × BRDM-2 (USSR-5B). Crack. No doctrine.

1st Reconnaissance Platoon (+): 4 × BMP-R [with AT-3] (USSR-2B/1), 3 × ¼ Squad Light Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). Average. No doctrine.
2nd Truck Section: 2 × Medium Trucks (USSR-7B/2). Average. With doctrine.
3rd Truck Section: 2 × Medium Trucks (USSR-7B/2). Average. With doctrine.
4th Truck Section: 2 × Medium Trucks (USSR-7B/2). Average. With doctrine.

DEFENDING SIDE: AMERICAN SCOUT SECTION: 236 points.

1st Scout Section: CO with an ½ squad. 2 × M3A1 (USA-2A/2), 2 × ¼ Squad Standard Infantry [with Dragon & LAW] (USA-7B). Average

MATCHUP 2: This represents a Soviet force try-

ing to slowly trade ground for time, while the West German is trying to advance as rapidly as possible. Area effect fire, helicopter, anti-aircraft and elite infantry options required to play.

ATTACKING SIDE: GERMAN RECONNAISSANCE COMPANY (PANZER) (CROSS-ATTACHED): 1324 points.

"A" Reconnaissance Company Headquarters: CO in the tank. 1 × Leopard 2 (FRG-1B). Crack.

1st Reconnaissance Platoon: CO in a tank. 3 × Leopard 2 (FRG-1B). Average.

2nd Reconnaissance Platoon (+): CO in a tank. 3 × Leopard 2 (FRG-1B), 1 × Jaguar 2 (FRG-3A/2). Average.

3rd Panzer Pioneer Platoon: CO with a squad. 3 × TPZ-1 (FRG-2B/3), 3 × Squad Light Panzer-grenadier Infantry [with PZF-3 & Milan, ("Assault") (FRG-4B). Average.

4th Gunship Section (-): 1 × BO-105 [with rockets] (FRG-7A/1). Average.

Vs.

DEFENDING SIDE: MOTORIZED RIFLE COMPANY (CROSS-ATTACHED) (-): 662 points.

"A" Motorized Rifle Company Headquarters: CO with the squad. 1 × BTR-80PB (USSR-4A/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-18] (USSR-11B). Crack. No doctrine.

1st Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BTR-80PB (USSR-4A/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). Average. With vehicle doctrine.

2nd Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BTR-80PB (USSR-4A/2), 2 × Squad Light Motorized Rifle Infantry [with RPG-18] (USSR-11B), 1 × Squad Light Motorized Rifle Infantry [with RPG-18 & SA-7B] (USSR-11B). Poor. With vehicle doctrine.

3rd Tank Platoon: CO in a tank. 4 × T-64B (USSR-1B). Average. With doctrine.

D. VICTORY CONDITIONS:

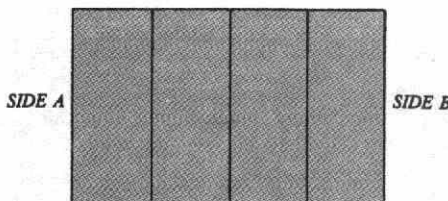
MATCHUP 1: The attacking side gets 42 victory points for each medium truck exited off the defender's side of the mapboard by the end of the game. The defending side gets a 40 victory point "bonus" if no attacking medium truck units exit off the defender's side of the mapboard. To win, one side must have 30 or more victory points than the other side.

MATCHUP 2: The attacking side gets the average point value in victory points for each combat ground unit exited off the defender's side of the mapboard by the end of the game. The defending side gets a 130 victory point "bonus" if no attacking units exit off the defender's side of the mapboard. To win, one side must have 100 or more victory points than the other side.

SCENARIO THREE: "Defensive Engagements"

This scenario provides represents one force trying to hold as much ground as possible, while the other side is trying to capture as much as possible.

A. MAPBOARD TERRAIN: The mapboard panels should be assembled as shown in the diagram, and they may be assembled in any order and faced in any directions. Have an attacking side player assemble the mapboard panels, then, have a defending side player decide which side of the mapboard to defend.



Terrain to use should have the same number as the matchup number (i.e., use terrain variant 1 with matchup 1, etc.).

1. OPEN TERRAIN: Use all standard values, except all brick and stone buildings are considered to be 3 heights high.

2. DENSE TERRAIN: Consider all hill and depression levels as being 2 heights each. Consider all printed woods hexes to be heavy woods hexes, and all dark green clear hexes to be woods hexes.

B. SPECIAL RULES: Game length is 20 Turns. Units may exit only off the mapboard side (A or B) near which their side setup. Terrain units may be used by the defending side in this scenario. Conditions may be varied if desired, but must be "Normal" and "Day" to permit maximum movement—extend game length by 5 or 10 Turns if "Snow", "Mud", and/or "Nighttime" conditions prevail.

C. OPPOSING FORCES: Select one of the following matchups. Any planned and/or designated artillery target hexes should be plotted before any ground units are placed on the mapboard. The defending side sets up first, placing all ground units in any desired manner anywhere on the two mapboard panels on their side of the mapboard. Terrain units may be placed anywhere on the mapboard, at least 10 hexes from the attacking side's mapboard side. The attacking side then sets up in any desired manner within 4 hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of their side of the mapboard.

MATCHUP 1: No options are required for play.

ATTACKING SIDE: AMERICAN ARMORED CAVALRY PLATOON: 869 points.

1st Armored Cavalry Platoon: CO in a tank. 4 × M1A2 (USA-8A), 2 × M113A2 (USA-3B/1), 2 × M901 (USA-4A/1), 2 × ¼ Squad Light Mechanized Infantry [with Dragon & LAW] (USA-7B). Crack.

Vs.

DEFENDING SIDE: SOVIET TANK COMPANY: 565 points.

"A" Tank Company Headquarters: CO in the tank. 1 × T-72M1 (USSR-2A). Average. No doctrine.

1st Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

2nd Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

3rd Tank Platoon: CO in a tank. 3 × T-72M1 (USSR-2A). Average. With Doctrine.

MATCHUP 2: Area effect fire, artillery, helicopter and anti-aircraft options required to play.

ATTACKING SIDE: SOVIET MOTORIZED RIFLE COMPANY (CROSS-ATTACHED) (+): 2010 points.

"A" Motorized Rifle Company Headquarters: CO with the squad. 1 × BMP-2 (USSR-3B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). Crack. No doctrine.

Motorized Rifle Company Attached Artillery: 1

× Medium Battery [with 3 × HE, 2 × SM fire missions] (USSR-12A). Average. With doctrine.

(Att) Organic Artillery: 2 × Heavy Batteries [with 6 × HE, 2 × IC & 2 × SM fire missions] (USSR-12A). Average. With doctrine.

1st Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BMP-2 (USSR-3B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

2nd Motorized Rifle Platoon: CO with the SA-7B squad. 3 × BMP-2 (USSR-3B), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Crack. With vehicle doctrine.

3rd Tank Platoon: CO in a tank. 4 × T-80A [with reactive armor] (USSR-1A). Average. With doctrine.

(Att) 4th Anti-Tank Platoon: CO with a T-12. 2 × MT-LB (USSR-6B/1), 2 × T-12 (USSR 9A/1). Average. With doctrine.

(Att) 5th Helicopter Section (-): 1 × Mi-2 [with rockets] (USSR-10B/1). Average. No doctrine.

Vs.

DEFENDING SIDE: GERMAN PANZER-GRENADIER COMPANY (CROSS-ATTACHED) (- & +): 1504 points.

"A" Panzergrenadier Company Headquarters: CO with the squad. 1 × Marder A1 (FRG-2A/1), 1 × Light Truck (FRG-6B/4), 1 × BEOBPZ (FRG-2B/2), 1 × Squad Light Panzergrenadier Infantry [with PZF-44] (FRG-4B),

1 × TEAM [with Milan] (FRG-4B). Crack.

Attached Artillery: 1 × Heavy Battery [with 4 × HE fire missions] (FRG-3B). Average.

1st Panzergrenadier Platoon: CO with a squad. 3 × Marder A1 (FRG-2A/1), 3 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan] (FRG-4B). Average.

2nd Panzergrenadier Platoon (-): CO with a squad. 2 × Marder A1 (FRG-2A/1), 2 × Squad Light Panzergrenadier Infantry [with PZF-44 & Milan] (FRG-4B). Average.

3rd Reconnaissance (Panzer) Platoon (+): CO in a tank. 3 × Leopard 1A4 (FRG-1A), 1 × Gepard (FRG-6A). Average.

D. VICTORY CONDITIONS:

MATCHUP 1: Each controlled building hex on the defending side's two mapboard panels is worth 15 victory points. Each controlled stone building hex anywhere on the mapboard is worth an additional 10 victory points. To win, one side must have 70 or more victory points than the other side.

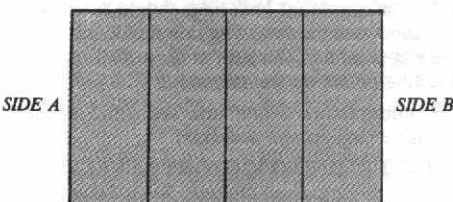
MATCHUP 2: Each controlled building and bridge hex on the defending side's two mapboard panels is worth 40 victory points. Each controlled building and bridge hex on the attacking side's two mapboard panels is worth 10 victory points. To win, one side must have at least 175 more victory points than the other side.

SCENARIO FOUR:

"Counterattack"

This scenario provides a variation of the defensive engagement scenario, only the defending side is reinforced during the game, and, unless the attacker has been very unsuccessful, will have to counterattack to attempt to retake lost objectives.

A. MAPBOARD TERRAIN: The mapboard panels should be assembled as shown in the diagram, and they may be assembled in any order and faced in any directions. Have an attacking side player assemble the mapboard panels, then, have a defending side player decide which side of the mapboard to defend.



Use any desired terrain.

B. SPECIAL RULES: Game length is 24 Turns. Units may exit only off the mapboard side (A or B) near which their side setup. Terrain units may be used by the defending side in this scenario. Conditions may be varied if desired.

C. OPPOSING FORCES: Any planned or designated artillery target hexes should be plotted before any ground units are placed on the mapboard. The defending side sets up first, placing all the ground units and extra equipment of its "holding force" in any desired manner anywhere on the two mapboard panels on their side of the mapboard. The attacking side then sets up in any desired manner within 8 hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of their side of the mapboard. The "relief force" may enter the mapboard on Turn 12 and/or any later Turn. Entering "relief force" ground units are placed in any edge hexes along the defender's mapboard side before the dice are rolled during an Initiative Phase, and may be

moved/fired, etc. normally from there during that and all later Turns. Area effect fire, artillery, helicopter, and anti-aircraft options required to play.

ATTACKING SIDE: SOVIET TANK BATTALION (CROSS-ATTACHED) (+): 2938 points.

1st Tank Battalion Headquarters: CO in the tank, XO in the BRDM-2, 1 × T-72M1 (USSR-2A), 1 × BRDM-2 (USSR-5B), 1 × ACRV (USSR-6B/2). Average. No doctrine.

Organic Artillery: 1 × Heavy Battery [with 4 × HE, 1 × SM fire missions] (USSR-12A), 1 × Medium Battery [with 3 × HE, 1 × SM fire missions] (USSR-12A). Average. With doctrine.

"A" Tank Company Headquarters: CO in the tank, 1 × T-72M1 (USSR-2A). Average. No doctrine.

1st Tank Platoon: CO in a tank, 3 × T-80A (USSR-1A). Average. With Doctrine.

2nd Tank Platoon: CO in a tank, 3 × T-80A (USSR-1A). Average. With Doctrine.

3rd Tank Platoon: CO in a tank, 3 × T-80A (USSR-1A). Average. With Doctrine.

"B" Tank Company Headquarters: CO in the tank, 1 × T-72M1 (USSR-2A). Average. No doctrine.

4th Tank Platoon: CO in a tank, 3 × T-80A (USSR-1A). Average. With Doctrine.

5th Tank Platoon: CO in a tank, 3 × T-80A (USSR-1A). Average. With Doctrine.

6th Tank Platoon: CO in a tank, 3 × T-80A (USSR-1A). Average. With Doctrine.

(Att) 7th Anti-Aircraft Section (Gun): 2 × ZSU-23(4) (USSR-8A). Average. No doctrine.

"C" Motorized Rifle Company Headquarters: CO is with the squad, 1 × BMP-1 [with AT-3] (USSR-2B/2), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B). Average. No doctrine.

Motorized Rifle Company Attached Artillery: 1 × Medium Battery [with 5 × HE, 1 × SM fire missions] (USSR-12A). Average. With doctrine.

8th Motorized Rifle Platoon: CO with the SA-7B squad, 3 × BMP-1 [with AT-3] (USSR-2B/1), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

9th Motorized Rifle Platoon: CO with the SA-7B squad, 3 × BMP-1 [with AT-3] (USSR-2B/1), 2 × Squad Heavy Motorized Rifle Infantry [with

RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

10th Motorized Rifle Platoon: CO with the SA-7B squad, 3 × BMP-1 [with AT-3] (USSR-2B/1), 2 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D] (USSR-11B), 1 × Squad Heavy Motorized Rifle Infantry [with RPG-7 V/D & SA-7B] (USSR-11B). Average. With vehicle doctrine.

Vs.

DEFENDING SIDE:

HOLDING FORCE: GERMAN RECONNAISSANCE COMPANY (PANZER) (CROSS-ATTACHED): 1324 points.

"A" Reconnaissance Company Headquarters: CO in the tank, 1 × Leopard 2 (FRG-1B). Crack.

1st Reconnaissance Platoon: CO in a tank, 3 × Leopard 2 (FRG-1B). Average.

2nd Reconnaissance Platoon (+): CO in a tank, 3 × Leopard 2 (FRG-1B), 1 × Jaguar 2 (FRG-3A/2). Average.

3rd Panzer Pioneer Platoon: CO with a squad, 3 × TPZ-1 (FRG-2B/3), 3 × Squad Light Panzer-grenadier Infantry [with PZF-3 & Milan, ("Assault") (FRG-4B). Average.

4th Gunship Section (-): 1 × BO-105 [with rockets] (FRG-7A/1). Average.

Extra Equipment: 1 × Improved Position, 1 × Block (6 GP DEF), 3 × Wire (1 GP DEF).

RELIEF FORCE: AMERICAN ARMORED COMPANY (CROSS-ATTACHED) (+): 2086 points.

"B" Armored Company Headquarters: CO & XO in different tanks, 2 × M1A1 (USA-1B), 1 × M981 FISTV (USA-4A/2). Average.

5th Armored Platoon: CO in a tank, 4 × M1A1 (USA-1B). Crack.

6th Armored Platoon: CO in a tank, 4 × M1A1 (USA-1B). Average.

7th Mechanized Infantry Platoon: CO with the team, 4 × M2A1 (USA-2A/1), 2 × Squad Heavy Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Squad Light Mechanized Infantry [with Dragon & AT-4] (USA-7B), 1 × Team [with Dragon & AT-4] (USA-7B). Average.

(Att) 8th Armored Mortar Section: 2 × M106A1 (USA-8B/1). Average.

(Att) 9th Aero Weapons Section (-): 1 × AH-64A [with ITOWs & rockets] (USA-6A/2). Average.

D. VICTORY CONDITIONS: Each controlled building or bridge hex on the defending side's two mapboard panels is worth 55 victory points. Each controlled building or bridge hex on the attacking side's two mapboard panels is worth 25 victory points. To win, one side must have 320 or more victory points than the other side.

DOING YOUR OWN SCENARIOS

The opposing forces given in these scenarios just scratch the surface of the games that can be played using these rules. By following these guidelines, players can select their own opposing forces to design their own balanced scenario variants.

A. INITIAL SETUP: Start by deciding on the mapboard terrain and special rules to be used, who controls which side, etc. Usually, the best method is to let one player setup the board and determine the conditions, then allow a player on the other side to select the side of the mapboard on which his side will setup and/or enter. Decide which optional rules are to be used, as many units can

only be used with specific optional rules. Then the "point selection of forces" is used to select the opposing forces for the scenario.

B. THE POINT SELECTION OF FORCES: Basically, player use points to "purchase" the combat units that will compose their forces.

1. ORGANIZATION OF FORCES: Section 12.8 of the Advanced Game Rules, the TO&E section of the rules, and the opposing forces in these scenarios provide guidelines for organizing forces. As far as possible use the basic organizations and limits on headquarters in organizing your forces. All combat units in the same basic organization must be of the same grade. If desired, start

with the given scenario forces, and add points for additional forces to construct larger scenarios.

2. SIZE OF FORCES—FORCE RATIOS AND TOTAL POINTS: Keep the number of players, their experience levels, and the time available in mind when deciding on the size of a game. In general, the more units involved, the longer each Turn takes to play and the longer the scenario lasts. One experienced player can generally handle up to about 1,000 points of units in a reasonable amount of time. Go much over that limit, and it is better to have multiple players on that side. With these considerations, and the parameters listed below, decide how many points to allow for each side.

a. Meeting Engagement Scenarios: Each side gets an *equal* number of points.

b. Delaying Action Scenarios: With the long range weapons available to a defender, more open terrain generally favors a defender more than denser terrain. With all or mostly standard terrain values, the defending side should get about 50% of the points allowed for the attacker. With "dense" terrain (say, considering all dark green hexes as wood hexes), the defending side should get about 60% of the points allowed for the attacker. For a truck convoy, as in Scenario Two's first matchup, the trucks should compose about 25% of the attacker's points.

c. Defensive Engagement Scenarios: With all or mostly standard terrain values, the defending side should get 65–70% of the points allowed for the attacker. With "dense" terrain, the defending side should get 75–80% of the points allowed for the attacker.

d. Counterattack Scenarios: The attacking side should have about 85% of the defending side's total points. The defending side's points should be split into a "holding force" (about 40% of the defending side's total points), and a "relief force" (about 60% of the defending side's total points).

3. THE POINT VALUES OF UNITS: The data cards show the point values of all combat units, off-board artillery batteries, terrain units, weapon loads, armament variations, attached weapons, optional equipment (like reactive armor), etc. Terrain units (which can be purchased only by a defending side), radio jamming, counter battery, etc. have no grade and their point values are constant. The point value of artillery already accounts for its quality and/or use of doctrine (when grade modifies an artillery shot it is due to the grade of the *observer* unit). These point value changes for grade only apply to ground and helicopter *combat* units and their optional equipment/attached weapons/loads/armaments/elite status that appear

on the mapboard. The rest (aircraft units, artillery, etc.) all have constant (*average*) point values.

a. Point Effects Of Grade & Doctrine: If the grade is crack or poor and/or if doctrine is used, these values change, as follows:

Crack Grade Point Value: $1.2 \times$ average point value.

Poor Grade Point Value: $.8 \times$ average point value.

Crack Grade With Doctrine: $.9 \times$ average point value.

Average Grade With Doctrine: $.75 \times$ average point value.

Poor Grade With Doctrine: $.6 \times$ average point value.

For example, a T-80 (data card USSR-1A) is worth 80 points when of average grade. When crack it is worth 96 points, but when crack and part of a doctrine unit, it is worth only 72 points.

b. Rounding Fractions: When computing grade/doctrine point values, round all fractions of ".5" and above up, and lower fractions down. Do this when points have been figured for *each* basic organization, not for individual units (unless a whole organization is just one unit).

c. Using The TO&E Section: To save time and avoid a lot of math, the point values of the standard basic organizations are already computed in the TO&E section of this rulebook. Use these as the basic building blocks for any force. Perform the math only for a few "oddball" units.

4. PURCHASING UNITS: Use the total number of points allowed for a side, and "pay" the point values of organizations and units to "purchase" them for the force. The number of points "purchased" does not have to hit the allowable total *exactly*, but should not exceed it. Once units are purchased, the necessary units and data cards should be rounded up and organized, and the necessary information entered in the RECORD

SHEETS to prepare for play.

C. DETERMINING OBJECTIVE POINTS: Objective hexes may be chosen in any agreeable manner, but should have some "importance"—i.e., buildings offer comfortable billets and often control important roads, crossroads control several roads, bridges can channel an advance, and dominating hilltops permit the observation and control of the surrounding terrain. Try to spread out objective points to prevent the entire battle being fought over one or two key points. This permits players to use a variety of plans and maneuvers to capture the bulk of them. The total number of objective points, no matter how they are spread, should be as follows:

a. Meeting Engagement Scenarios: About 10% of the total points for *both* sides should be objective points.

b. Delaying Action Scenarios: The attacking side always gets the average point values of its exiting units (or double that for convoyed trucks only). The defensive side always gets a bonus for preventing any exits that equals 10% of the attacking side's points (round to the nearest 10 points).

c. Defensive Engagement Scenarios: About 25% of the total points for *both* sides should be objective points, and the defending side should start the game in possible control of at least 80% of the objective points on the mapboard.

d. Counterattack Scenarios: The same as for defensive engagement scenarios.

D. DETERMINING VICTORY LEVELS: All the given scenarios have "victory levels" that state that to win a side must have some given number of victory points more than the other side. This forces the players to fight and try to win a "real" victory, as opposed to just trying to finish a game a few victory points ahead of the other side. These "victory levels" are set at about 5% of the total points for *both* sides.

QUESTIONS:

We regret that we cannot answer game questions by phone. However, we will try to answer all reasonable queries by mail provided you observe the following requests:

1. All questions must be accompanied by a stamped, self-addressed envelope bearing uncanceled U. S. postage sufficient for first class mail. Foreigners unable to secure U.S. postage may purchase an International Reply Coupon sufficient for return postage from their local Post Office. Questions cannot be returned inside other ordered merchandise—keep your questions separate from orders.
2. Do not ask questions for more than one game. If your letter has to go from one designer to another, the chances of it being lost or delayed are greatly increased.
3. Do not ask questions on design or historical subjects. This type of material is best covered in our magazine, *THE GENERAL*. Purchase of the recommended special feature issue of *THE GENERAL* covering that game is recommended.
4. Do not quote map references. You must provide us with a diagram of any question requiring reference to the board.
5. Do not ask us to rewrite a rule for you or to explain it in other terms. We cannot take the time to write individual essay responses to vague questions, nor can we possibly do so with any better results than the version you currently possess which underwent several carefully prepared drafts. Therefore, please phrase your questions in a Yes/No format and refer to the proper rule numbers when posing a question.
6. Please take the time to see if you can answer your own questions. Most questions we receive are clearly answered in the rules. When writing to us, pose your questions carefully—most that we receive are so ambiguously worded that it is impossible to give a precise answer.

Play TAC AIR—the brand new conventional warfare game that examines the capabilities of the U.S. VII Corps in Southern Germany

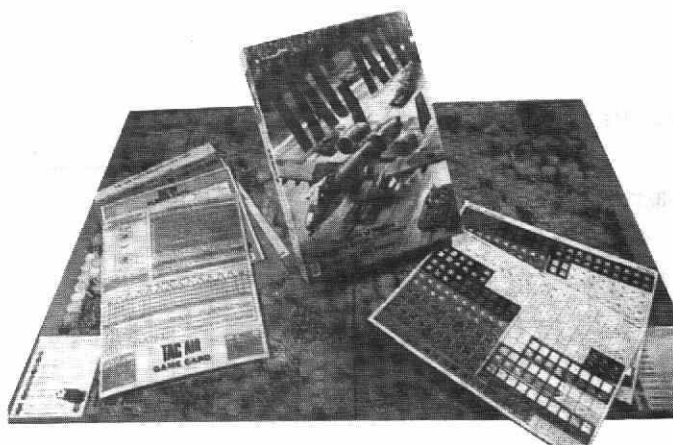
Sometimes the best way to understand a large event is to focus on a small portion of it. **TAC AIR** highlights the possibilities in a hypothetical conventional war in Europe by examining only the forces and terrain located in the United States VII Corps area in southern Germany. This approach allows for the breakdown of the opposing forces into their component combat battalions, air defense batteries and aircraft flights. This scale also permits the representation of the often neglected "soft" command and logistics "tails" that play an essential yet vulnerable role in modern combat. While other modern era wargames abstract command, logistics, engineers, airpower and combined arms tactics, this unique game system practically revels in these factors, although without overloading the game with details. Securing a victory in **TAC AIR** is much more than a matter of pushing units around to secure "high odds" attacks, just as real modern combat is much more than the advances or retreats of the headline-grabbing armored units. **TAC AIR** examines the elements that underlie the mechanized movements that appear on maps.

With the game's mixture of units of varying combat capabilities, winning requires a thoughtful and proper combination of forces. Employing ground combat organizations successfully calls for the proper allocation of all types of units. Armor and infantry are required for frontline combat, headquarters to command other ground units, supply columns to provide fuel and ammunition, artillery for support, engineers to create and clear obstacles, and mobile air defense batteries to throw a defensive "umbrella" over all. Tactical air units are the "kickers"—their ability or inability to provide essential air cover, support and reconnaissance can prove decisive to the units maneuvering below.

These "combined arms" game mechanics are provided by a deceptively simple and straightforward Turn sequence. This sequence of play provides for much player interaction, with few "dead" periods when only one side or the other is busy. Even while the other side is moving, players are watching for opportunities to engage with air defense units or deciding the best ways to employ artillery in coming maneuver combats.

Hits from combat are marked on ground units in the form of "disruptions", and it takes four of these to eliminate a unit, although lesser numbers can seriously degrade a unit's effectiveness (one disruption prevents attacking and two or more disruptions prevent movement and negate zones of control). At the start of a Turn, players may automatically remove a disruption from headquarters units and from units adjacent to their commanding headquarters units and also roll a die to attempt to remove disruptions from *supplied* units. *Supplied* artillery and air defense units can receive ammunition for the coming Turn. Determining proper chains of command and supply lines for these purposes is simplified by the colored symbol on every ground unit that shows its organization at a glance. Then, aircraft servicing is performed and available air units assigned to air control or a variety of air support missions for the coming Air Phase.

One side (usually the attacking Warsaw Pact) then moves its capable ground and helicopter units that are *in command*. These can fight "maneuver combats" versus enemy ground units after movement. Close attention must be paid to which side of a unit shows; the non-moving side is superior for defense and taking advantage of terrain, but the moving side is necessary for rapid movement and superior for attacking, although frighteningly vulnerable to the unfriendly attentions of roving attack helicopters and fighter-bombers. Engineers destroy and build bridges and create and clear obstacles in support of these moves. Attack helicopter and airmobile units are fast-moving and especially effective, but can be engaged by enemy air defense units as they are moved—nap of the earth flying and clever use of terrain are necessary to maneuver them safely into position.



As maneuver combats are announced, the attacking side can lay artillery barrages on the defenders and the defending side can reply with barrages on the attackers and counter-battery fire on the attacking artillery. This artillery fire is resolved *before* a maneuver combat and its effects can greatly influence that maneuver combat. The other side then follows suit by moving its ground and helicopter units, etc.

The "Air Phase" is next and really puts the tactical airpower into **TAC AIR**. Fast-moving air units are alternately moved during ten "Air Rounds" to perform the missions assigned to them earlier. Enemy air defense units may engage air units as they are moved. "Wild Weasel" units engaging in air defense suppression can turn the tables by attacking air defense units and electronic combat aircraft can degrade enemy air defense and air effectiveness. Air control units attempt to protect and intercept other air units by providing close escort and engaging in air-to-air combats by using radar guided missiles or engaging in classic dogfights. Air units with direct air support orders can use forward air controllers to attack front-line ground units, while those with interdiction orders seek to penetrate into enemy rear areas to attack headquarters, supply and reserve ground units and key bridges. These "iron haulers" may employ conventional bombs or stand-off munitions to accomplish their missions. Units with air reconnaissance missions attempt to fly through enemy airspace to spot targets for the coming Turn's interdiction missions. Paratroopers to be air dropped also enter the mapboard during Air Phases.

Look for further **TAC AIR** information in Vol. 25, No. 2 of *THE GENERAL* magazine, due out in early 1989, which will feature the game.

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ARTILLERY PLOTS (OR19.0)							
ARTY MARKER TYPE OR ID	A	B	C	D	E	MORTARS	
FIRE MISSIONS							
DESIGNATED							
DESIGNATED							
DESIGNATED							
TURN 1/11/21							
TURN 2/12/22							
TURN 3/13/23							
TURN 4/14/24							
TURN 5/15/25							
TURN 6/16/26							
TURN 7/17/27							
TURN 8/18/28							
TURN 9/19/29							
TURN 10/20/30							

ORGANIZATION							
UNIT IDENT							
TYPE							
OFFICER							
AMMUNITION, ARMAMENTS, ATTACHED, LOADS							
FUEL							
DAMAGE							
SMOKE							
CREW LOSES							
TRANSPORT							
NOTES							

ORGANIZATION							
UNIT IDENT							
TYPE							
OFFICER							
AMMUNITION, ARMAMENTS, ATTACHED, LOADS							
FUEL							
DAMAGE							
SMOKE							
CREW LOSSES							
TRANSPORT							
NOTES							



USSR-1A: T-80A Main Battle Tank (42.0 tons): 80-40-20 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	6	3/4	3/4
	Mud	4	1	1
TURN COSTS:	0-0-1/2-Tracked			
STACKING POINTS:	2			
TRANSPORT VALUE:	2L			

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS																VEHICLE DAMAGE				ATGM			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F AMMO FIRED	RANGE IN HEXES																FROM HIT				SPEEDS	
								A 1	C 2	P 3	A 4	C 5	P 6	A 7	C 8	P 9	A 10	C 11	P 12	A 13	C 14	P 15	A 16	C 17	P 18	A 19	C 20	P 21	A 22	C 23	P 24	DAM HIT	CMP OUT	KNK OUT	BRW UP	TAR 1-3	MV 4+
125mm Stab. 2 (MnGr)	1	2T	7/9	9 (1)	ILS	APFSDS (KE)	AP PY	20 94	20 94	20 94	18 88	16 84	14 80	12 77	10 71	7 63	5 60	2 57	1 55	01-05	06-13	14-21	75-00	—	—				
						HEAT (CE)	AP PY	19 95	19 95	19 95	16 95	13 95	11 95	8 95	4 95	1 95	—	—	—	—	01-05	06-13	14-21	75-00	—	—			
						GP NM	30 15	30 15	30 15	28 14	26 13	24 12	18 9	12 6	6 6	6 3	EF = KNK OUT if GP DEF = 1-6			—	—	—	—						
						MV	15 15	15 15	15 14	13 13	12 12	9 9	6 6	3 3				—	—	—	—								
Sngrtr Class 1 (ATGM)	1	2T	7/9	3 (1)	ILS	HEAT (CE)	AP PY	— 120	10 120	16 120	18 120	18 120	18 120	18 120	18 120	18 120	18 120	18 120	01-07	08-20	21-60	61-00	24	12					
						GP NM	— 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	—	—	—	—	—	—	—	—							
HMG Stab. 0 (TTC)	5	360	8/10	Unl	10	AP (KE)	AP PY	19 4	19 4	19 4	16 3	12 2	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00	—	—				
						GP NM	8 4	8 4	8 4	5 3	3 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
						AA	— LL	— LM	— LH	— MM	— MR	— HR	— DA	— RA	— RG	— CM	—	—	—	—	—	—	—	—	—	—	—		
						DP	10 8	8 6	6 6	4 4	2 2	+10	1-10	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
BAILED CREW-3	1	360	Unl	Unl	0	GP NM	3 2	3 2	3 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS + EX										
						MV	2 2	2 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR		FRONT/SIDE-REAR/SIDE				ABOVE					
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HGD	TTA	HDA			TF	HF	TR	HR	TF	HS	TS	HR	TT	HD		
FRONT	01-39	56	—	—	—	—	—	—	—	95	—	01-39	01-39	—	—	KE	LEVEL	85	85	34	20	120	118	78	34	47	28	—	
	38	55	94	—	—	—	—	—	99	00	05	43	10	48	RIISING		107	119	39	20	150	174	90	34	54	28	—		
FRONT/SIDE	01-20	28	48	67	75	—	—	—	95	—	01-20	01-20	01-20	—	LEVEL		74	85	30	20	104	91	70	34	42	28	50	50	
	19	27	47	66	74	94	—	—	99	00	05	24	10	29		LEVEL	128	128	34	20	180	177	117	34	47	28	—		
REAR	—	—	—	01-20	28	48	67	75	95	—	01-20	01-20	01-20	—	CE	RIISING	160	179	39	20	225	261	135	34	54	28	—		
SIDE	—	—	—	19	27	47	66	74	94	99	00	05	24	10		29	FALLING	111	98	30	20	156	137	105	34	42	28	50	50
	—	—	—	—	—	—	—	—	—	01-39	56	95	—	01-39		01-39													
REAR	—	—	—	—	—	—	—	—	—	38	55	94	99	00	05	43	10	48											
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																		SIZE: — 1		GP DEFENSE: 8				CA DEFENSE: 7					

NOTES: Has radio and NBC. Not amphibious. Songster missile may not be fired on the move. Carries an IR searchlight. Path restrictions on turret turns in building and woods hexes. May add heavy reactive armor to TF, TS and HF for 15 points (adds 2 tons to weight and reduces transport value to "0"—"CE" ammunition has no effect at TF, TS & HS locations). Increase gun's ammunition to 10 (1) if no Songsters carried. HMG and Bailed Out are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys the mine plow (OR17.5.3.3).

USSR-1B: T-64B Main Battle Tank (38.5 tons): 75-38-19 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	5	2/3	3/4
SPEEDS:	Snow	5	3/4	3/4
	Mud	3	1	1
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR		IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

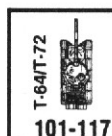
WEAPON INFORMATION						GUNNERY CHARTS																		VEHICLE DAMAGE				ATGM	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F AMMO FIRED	RANGE IN HEXES																FROM HIT				SPEEDS	
								A	1	2	3-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO HIT	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MV 4+			
125mm Slab: 3 (MaGn)	1	2T	7/9	9 (1)	ILS	APFSDS (KE)	AP PY	20 94	20 94	20 94	18 88	16 84	14 80	12 77	10 71	8 63	7 52	5 40	3 28	2 16	1 05	01-05	06-14	14-75	75-00	—	—		
						HEAT (CE)	AP PV	19 95	19 95	19 95	16 95	13 95	11 95	8 95	4 95	1 95	—	—	01-05	06-12	13-56	57-00	—	—	—	—			
						GP	NM MV	30 30	30 15	28 15	26 14	24 13	18 12	18 9	12 6	12 3	6 3	6 3	EF = KNK OUT if GP DEF = 1-6.				—	—					
						GP	NM MV	15 30	15 15	15 15	14 13	12 12	9 9	6 6	3 3	3 3	3 3	3 3					—	—					
Sngstr Class 1 (ATGM)	1	2T	7/9	3 (1)	ILS	HEAT (CE)	AP PY	— 120	10 120	16 120	18 120	18 120	18 120	18 120	18 120	18 120	18 120	18 120	18 120	01-07	08-20	21-60	61-00	24	12				
						GP	NM	— 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25					—	—					
						GP	NM	— 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25					—	—					
HMG Slab: 0 (TTC)	5	360	8/10	Unl	IO	AP (KE)	AP PY	19 4	19 4	19 4	16 4	12 3	— 2	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00	—	—			
						GP	NM MV	8 4	8 4	8 4	5 3	3 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
						AA	—	LL	LM	LH	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	—	—	—	—	—	—	—
						OP	—	10	8	6	6	4	2	+10	1-10	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3 2	3 2	3 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	SMOKE MAKERS: DS = EX				—	—				
						GP	NM MV	2 3	2 3	2 3	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-	39-	56-	—	—	—	—	—	—	95-	—	01-	39-	01-	39-	KE	LEVEL	80	80	28	12	113	112	59	22	39	17	—	—
	38	55	94	—	—	—	—	—	—	99	00	05	43	10	48		RISING	101	112	33	12	142	165	68	23	45	17	—	—
FRONT / SIDE	01-	20-	28-	48-	67-	75-	—	—	—	95-	—	01-	20-	01-	20-		FALLING	70	61	25	12	98	86	53	23	35	17	50	50
	19	27	47	66	74	94	—	—	—	99	00	05	24	10	29		LEVEL	120	120	28	12	170	168	89	22	39	17	—	—
REAR / SIDE	—	—	—	—	01-	20-	28-	48-	67-	75-	95-	—	01-	20-	01-	CE	RISING	152	168	32	12	213	248	102	23	45	17	—	—
	—	—	—	—	19	27	47	66	74	94	99	00	05	24	10		FALLING	105	92	25	12	147	129	80	23	35	17	50	50
REAR	—	—	—	—	—	—	01-	39-	56-	95-	—	01-	39-	01-	39-														
	—	—	—	—	—	—	38	55	94	99	00	05	43	10	48														
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																SIZE: — 1. GP DEFENSE: 8. CA DEFENSE: 7.													

NOTES: Has radio and NBC. Not amphibious. Songster missile may not be fired on the move. Carries an IR searchlight. Path restrictions on turret turns in building and woods hexes. May add heavy reactive armor to TF, TS, and HF for 15 points (adds 2 tons to weight and reduces transport value to "0"—"CE" ammunition has no effect at TF, TS, & HF locations). Increase gun's ammunition to 10 (1 if no Songsters carried. HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys the mine plow (OR17.5.5.3).

USSR-2A: T-72M1 Main Battle Tank (41.0 tons): 73-37-18 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	5	2/3	3/4
SPEEDS:	Snow	5	3/4	3/4
	Mud	3	1	1
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+16
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F AMMO	RANGE IN HEXES												FROM HIT			
								A	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP	
125mm Stab. 3 (MnGn)	1	2T	7/9	10 (1)	1LS	APFSDS (KE)	AP PY	20 94	18 88	16 84	14 80	12 77	10 71	7 63	5 60	2 57	1 55	01-05	06-13	14-74	75-00		
						HEAT (CE)	AP PY	19 95	16 95	13 95	11 95	8 95	4 95	1 95	—	—	01-05	06-13	13-56	57-00			
						GP	NM MV	30 15	28 14	26 13	24 12	18 9	18 9	12 6	12 6	6 3	6 3	EF = KNK OUT if GP DEF = 1-6.					
						AP (KE)	AP PY	19 4	16 3	12 2	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00		
HMG Stab. 0 (TTO)	5	360	8/10	Unl	10	GP	NM MV	8 4	5 3	—	—	—	—	—	—	—	—	—	—	—	—		
						AA	SA OP	10 8	6 6	6 4	2 2	+10	1-10	—	—	—	—	—	—	—	—		
						GP	NM MV	3 2	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS + EX						
BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3 2	—	—	—	—	—	—	—	—							

TARGET INFORMATION

HIT LOCATION CHARTS															ARMOR CHARTS														
ANGLE OF HIT	HIT LOCATION														AMMO USED	ELEVATION	FRONT-REAR		FRONT/SIDE-REAR/SIDE				ABOVE						
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HDB	TTA			HDA	TF	HF	TS	HS	TR	HR	TT	HD				
FRONT	01-39	56-94	—	—	—	—	—	—	95-99	00	01-39	01-39	—	—	—	KE	LEVEL	75	75	25	12	105	105	47	22	35	17	—	—
	38	55	94	—	—	—	—	—	99	00	05	43	10	48			RISING	94	105	29	12	131	155	54	23	41	17	—	—
FRONT/SIDE	01-20	28-48	67-75	—	—	—	—	—	95-99	00	01-20	01-20	—	—	—	CE	FALLING	65	58	23	12	91	81	42	23	32	17	50	50
	19	27	47	66	74	94	—	—	99	00	05	24	10	29			LEVEL	113	113	25	12	158	158	47	22	35	17	—	—
REAR/SIDE	—	—	—	01-20	28-48	67-75	—	—	95-99	00	01-20	01-20	—	—	—		RISING	141	158	29	12	197	233	54	23	41	17	—	—
	—	—	—	19	27	47	66	74	94	99	00	05	24	10	29		FALLING	98	87	23	12	137	122	42	23	32	17	50	50
REAR	—	—	—	—	—	—	01-39	56-95	95-99	00	01-39	01-39	—	—	—														
	—	—	—	—	—	—	38	55	94	99	00	05	43	10	48														
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																SIZE: — 1		GP DEFENSE: 7				CA DEFENSE: 6							

NOTES: Has radio and NBC. Not amphibious. Carries an IR searchlight. Path restrictions on turret turns in building and woods hexes. May add heavy reactive armor to TF, TS and HF for 15 points (add 2 tons to weight and reduces transport value to "0"—"CE" ammunition has no effect at TF, TS, & HF, HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys the mine plow (OR17.5.3.3).

USSR-2B/1: BMP-R Reconnaissance Vehicle (14.0 tons): 45-23-11 points.

USSR-2B/2: BMP-1 Infantry Combat Vehicle (13.9 tons): 47-24-12 points.

Card information is for the BMP-R. See notes for differences in the BMP-1.

BMP-R & BMP-1

BMP
141-157

MOVEMENT INFORMATION

Weather	MF	Road	Path
Normal	6	2/3	3/4
Snow	6	3/4	3/4
Mud	4	1	1

SPEEDS:

TURN COSTS: 0-0-1/2-Tracked

STACKING POINTS: 2

TRANSPORT VALUE: 1L (FC)

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEPT/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS																		VEHICLE DAMAGE				ATGM	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F	RANGE IN HEXES																FROM HIT				SPEEDS	
								A	1	2	3-4	5-6	7-8	9-12	13-16	17-20	21-24	25-30	29-30	NO DAM	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MV 4+				
73mm Slab 0 (MnGa)	2	3T	6/12	10 (9)	IO	HEAT (CE)	AP PY	18 80	18 80	18 80	13 80	13 80	8 80	1 80	1 —	— —	— —	— —	01-14	15-36	37-69	69-00	—	—					
						GP	NM MV	20 10	20 10	20 10	18 10	16 10	14 10	11 7	7 —	— —	— —	EF = KNK OUT if GP DEF = 2.	—	—	—	—	—	—					
Sagger Class 3 (ATGM)	1	3T	6/12	5 (1)	IO	HEAT (CE)	AP PY	— —	— —	— 80	10 80	16 80	18 80	18 80	18 80	18 80	18 80	01-07	08-20	21-60	61-00	20	10						
						GP	NM	— —	— —	— 25	25 25	25 25	25 25	25 25	25 25	25 —	— —	— —	— —	— —	— —	— —	—	—					
Spigot Class 1 (ATGM)	1	3T	6/12	5 (1)	IO	HEAT (CE)	AP PY	10 120	16 120	18 120	18 120	18 120	18 120	18 120	18 —	— —	— —	01-07	08-20	21-60	61-00	24	12						
						GP	NM MV	25 3	25 2	25 3	25 —	25 —	25 —	25 —	25 —	25 —	— —	— —	— —	— —	— —	— —	—	—					
Bailed Crew-3	1	360	Unl	Unl	0	GP	NM MV	3 3	2 2	3 2	— —	— —	— —	— —	— —	— —	— —	SMOKE MAKERS: DS + EX											

TARGET INFORMATION

HIT LOCATION CHARTS															ARMOR CHARTS															
ANGLE OF HIT	HIT LOCATION														AMMO USED	ELEVA- TION	FRONT-REAR			FRONT/SIDE-REAR/SIDE					ABOVE					
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA			HDA	TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD	
FRONT	01-39	56									95-	01-39	01-39			KE	LEVEL	6	10	3	3	9	15	7	5	5	4			
	38	55	94								99	00	05	43	10	48	or	RIISING	7	19	4	3	10	27	7	5	5	5		
FRONT/ SIDE	01-20	28	48	67	75-						95-	01-20	01-20	01-20		CE	FALLING	6	7	3	3	8	10	6	5	4	5	8	8	
	19	27	47	66	74	94					99	00	05	24	10	29														
REAR/ SIDE				01-20	28-	48-	67-	75-			95-	01-20	01-20	01-20																
				19	27	47	66	74	94		99	00	05	24	10	29														
REAR								01-39-	56-		95-	01-39-	01-39-	01-39-																
								38	55	94	99	00	05	43	10	48														
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																	SIZE: -2		GP DEFENSE: 2			CA DEFENSE: 1								

NOTES: BMP-R: Has radio and NBC. Amphibious. Infantry units being transported may be fired if the vehicle is open or buttoned up (2 hexes range). Sagger or Spigot missiles may not be fired on the move. Subject to artillery or bomb missile destruction (OR17.2.6). Carries an IR searchlight. May be equipped with the Sagger (given points) or Spigot (51-26-13 points) missiles. Bailed Crew is small arms. BMP-1: Transport Value = 2L (FC). May be equipped with the Sagger (given points) or Spigot (53-27-13 points). All other data and notes are the same as for the BMP-R.

USSR-3A: MT-LB/2S12 Self-Propelled Mortar (10.0 tons): 38-19-10 points.

191-193

MOVEMENT INFORMATION				
SPEEDS:	Weather	MF	Road	Path
	Normal	5	2/3	3/4
	Snow	4	3/4	3/4
	Mud	3	1	1
TURN COSTS: 0-1/2-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L				

MOVEMENT COSTS									
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE					+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)					4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)					6
CLEAR	1	IMPROVED POSITION	1	WIRE					+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)					P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)					3
a: Per level. b: Use other terrain in hex. c: Eliminates wire.									

FIRING INFORMATION																
WEAPON INFORMATION						GUNNERY CHARTS									VEHICLE DAMAGE FROM HIT	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES								
								1- 4	5- 8	9- 12	13- 16	17- 20	21- 24	25- 28		29- 32	33- 60
120mm (Mrt)	1	120	12/ 12	15 (2)	0	GP	NM SCATRa SCATRb	— — —	23 20 30	23 20 30	23 20 30	23 20 30	23 20 30	23 20 30	23 20 30	EF = KNK OUT if GP DEF = 1-6.
M6 (HDC)	1	360	9/ 12	Unl	0	GP AA OP	NM MV — OP	5 3 —	3 2 8	2 1 6	— — 6	— — 4	— — 2	— — +20	— — 1-6		SMOKE MAKERS: None
BAILED CREW-5	1	360	Unl	Unl	0	GP	NM MV	5 3	— —	— —	— —	— —	— —	— —	— —	
NOTES: a: Direct area effect fire scatter factor. b: Indirect area effect fire scatter factor.																

TARGET INFORMATION																	
HIT LOCATION CHARTS									ARMOR CHARTS								
ANGLE OF HIT	HIT LOCATION								AMMO USED	ELEVATION	FRONT-REAR			F/S-R/S			ABOVE HD
	HF	HF*	HS	HS*	HR	HR*	TK*	GN			HF	HR	HF	HS	HR	HD	
FRONT	01-50	51-94	—	—	—	—	95-99	39-43	KE	LEVEL	4	2	6	3	3	—	—
									or	RISING	5	2	7	3	3	—	—
FRONT/SIDE	01-25	26-47	48-71	72-94	—	—	95-99	20-24	CE	FALLING	4	2	5	3	3	13	—
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	95-99	20-24									
REAR	—	—	—	—	01-50	51-94	95-99	39-43									
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.																	
										SIZE: -2. GP DEFENSE: 2. CA DEFENSE: 1.							

Observer Scatter Modifiers:	
ACRV:	+10
Reconnaissance Platoon CO:	-10
Battalion CO/XO:	+10
Suppressed Observer:	-20
Crack/Poor Observer:	+10/-10
Through Brew-Up Smoke:	-10
Through Other Smoke:	-20

NOTES: Has radio and NBC. Amphibious. May not enter or overrun buildings. Must be open to fire mortar. Must use area effect fire with mortars, and may use GP, Illumination and Smoke ammunition. MG and Bailed Crew are small arms.

USSR-3B: BMP-2 Infantry Combat Vehicle (14.6 tons): 62-31-16 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	6	3/4	3/4
	Mud	4	1	1
TURN COSTS: 0-0-1/2-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L (FC)				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	f	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS																		VEHICLE DAMAGE				ATGM	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES																FROM HIT				SPEEDS	
								1	2	3-4	5-8	9-12	13-16	17-20	21-24	25-32	33-40	NO DAM	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MV 4+						
30mm Stub 0 (Gun)	4	3T	7/12	60 (6)	10	AP (KE)	AP PY	19	19	19	16	13	8	3	1	—	—	01-16	17-41	87-00	—	—	—	—					
						GP (NM)	NM MV	21	21	21	19	17	15	11	8	—	—	EF = KNK OUT II	—	—	—	—							
								10	10	10	9	8	7	5	4	—	—	GP DEF = 1.	—	—	—	—							
						AA	OP	15	13	11	11	8	6	0	1-20	—	—	—	—	—	—	—							
Spndrl Class 1 (ATGM)	1	3T	7/12	5 (1)	10	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	07-20	08-61	21-00	61-00	—	—						
						GP (NM)	NM	—	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	12				
BAILED CREW-3	1	360	Un	Un	0	GP (NM)	NM MV	3	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—						
								2	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
SMOKE MAKERS: DS-4-EX																													

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HDB	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39-56-38	55	94	—	—	—	—	—	—	95-99	00	05	43	10	48	—	—	—	—	—	—	—	—	—	—	—	—	—	
FRONT/SIDE	01-20-19	27	47	66	74	94	—	—	—	95-99	00	05	24	10	29	—	—	—	—	—	—	—	—	—	—	—	—	—	
REAR/SIDE	—	—	—	01-20-19	27	47	66	74	94	95-99	00	05	24	10	29	—	—	—	—	—	—	—	—	—	—	—	—	—	
REAR	—	—	—	—	—	—	01-39-56-38	55	94	95-99	00	05	43	10	48	—	—	—	—	—	—	—	—	—	—	—	—	—	
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																SIZE: — 2		GP DEFENSE: 2				CA DEFENSE: 1							

NOTES: Has radio and NBC. Amphibious. Infantry units being transported may be fired if the vehicle is open or buttoned up (2 hexes range). Spandrel may not be fired on the move. Subject to artillery or bomb missile destruction (OR17.2.6). Carries an IR searchlight. Path restrictions on turret turns in building and woods hexes. 30mm main gun and Bailed Crew are small arms.

USSR-4A/1: BTR-60/70PB Armored Personnel Carrier (10.3 tons): 31-16-8 points.

USSR-4A/2: BTR-80PB Armored Personnel Carrier (10.5 tons): 35-18-9 points.

BTR

141-157

MOVEMENT INFO. (BOTH)				
SPEEDS:	Weather	MF	Road	Path
	Normal	4	1/2	3/4
	Snow	2	3/4	3/4
	Mud	1	1	1
TURN COSTS: 0-1-1 1/2-Wheeled				
STACKING POINTS: 2				
TRANSPORT VALUE: 3LT (FC)				

MOVEMENT COSTS (BOTH)				
BLOCK	P	HASTY ENTRENCHMENT	b SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1 WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4 WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2 WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex.

FIRING INFORMATION (BOTH)

WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES										FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-30	31+	NO DAM	CMP HIT	KNK OUT	BRW UP	
14.5mm Stab. 0 (Gun)	4	3T	7/11	32 (4)	0	AP (KE)	AP PY	19 6	15 5	10 4	3 4	1 3	—	—	—	—	01-18	19-46	47-89	90-00	
						GP	NM MV	18 9	16 8	14 7	12 6	9 4	6 3	6 3	—	—	—	—	—	—	—
						AA	— OP	— 10	— 8	— 6	— 6	— 4	— 2	— +10	— 1-15	—	—	—	—	—	—
BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS			

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HGD	TTA	HDA		LEVEL	TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-38	39-55	56-94	—	—	—	—	—	—	—	95-99	00-05	01-43	01-10	39-48	KE or CE	RISING	6	3	6	2	8	5	8	5	8	3	—	—
FRONT/SIDE	01-19	20-27	28-47	48-66	67-74	75-94	—	—	—	—	95-99	00-05	01-24	01-10	20-29	FALLING	FALLING	4	3	4	2	5	4	5	4	5	3	13	13
REAR/SIDE	—	—	—	01-19	20-27	28-47	48-66	67-74	75-94	—	95-99	00-05	01-24	01-10	20-29														
REAR	—	—	—	—	—	—	01-38	39-55	56-94	—	95-99	00-05	01-43	01-10	39-48														
HF*, HS*, HR* and TK*: Treat as a "miss" if hit down.																SIZE: — 1. GP DEFENSE: 2. CA DEFENSE: 1.													

NOTES: Both: Have radio and NBC. Amphibious. Infantry units being transported may be fired if the vehicle is open or buttoned up (2 hexes range). 14.5mm main gun and Bailed Crew are small arms. BTR-60/70PB: The 14.5mm main gun cannot be used for anti-aircraft fire. There are no smoke makers.

USSR-4B: BMD Airborne Combat Vehicle (6.7 tons): 50-25-13 points.



MOVEMENT INFORMATION

SPEEDS:	Weather	MF	Road	Path
	Normal	8	2/3	3/4
	Snow	8	3/4	3/4
	Mud	6	1	1
TURN COSTS: 0-0-0-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L (FC)				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS													VEHICLE DAMAGE				ATGM		
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F AMMO FIRED	RANGE IN HEXES												FROM HIT				SPEEDS	
								A	1	2	3-4	5-6	7-8	9-12	13-16	17-20	21-24	25-28	29-30	NO DAM	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MV 4+
73mm Stab. 0 (MnGr)	2	3T	6/12	10 (1)	10	HEAT (CE)	AP PY	18 20	18 20	18 80	13 80	13 80	8 80	1 80	1 —	— —	— —	01-14	15-36	37-68	69-90	—	—		
						GP	NM MV	20 10	20 10	20 10	18 9	16 9	14 8	11 7	11 5	7 4	— —	EF = KNK OUT if GP DEF = 2.				—	—		
Sagger Class 3 (ATGM)	1	3T	6/12	5 (1)	10	HEAT (CE)	AP PY	— —	— —	— 80	10 80	16 80	18 80	18 80	18 80	18 80	18 80	01-07	08-20	21-60	61-90	20	10		
						GP	NM	— —	— —	— 25	25 25	25 25	25 25	25 25	25 25	25 25	— —	— —	— —	— —	— —	— —			
Spigot Class 1 (ATGM)	1	3T	6/12	5 (1)	10	HEAT (CE)	AP PY	10 120	16 120	18 120	18 120	18 120	18 120	18 120	— —	— —	— —	01-07	08-20	21-60	61-90	24	12		
						GP	NM	25 25	25 25	25 25	25 25	25 25	25 25	25 25	— —	— —	— —	— —	— —	— —	— —	— —			
MG (HF)	1	60	5/10	Unl	0	GP	NM MV	5 3	5 3	5 3	3 2	2 1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —			
BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	2 1	2 1	— —	— —	— —	— —	— —	— —	— —	SMOKE MAKERS: EX = DS				—	—		

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39	56									95-	01-39	01-39			KE	LEVEL	4	7	3	3	6	11	5	4	4	4		
	38	55	94								99	00	05	43	10			48											
FRONT/ SIDE	01-20	28	48	67	75						95-	01-20	01-20	01-20		or CE	RISING FALLING	5	14	3	3	7	19	6	4	4	4		
	19	27	47	66	74	94					99	00	05	24	10			29											
REAR/ SIDE				01-20	28	48	67	75			95-	01-20	01-20	01-20															
				19	27	47	66	74	94		99	00	05	24	10			29											
REAR							01-39	56			95-	01-39	01-39	01-39															
							38	55	94		99	00	05	43	10			48											
HF*, HS*, HR and TK*: Treat as a "miss" if hull down.																SIZE: -2 GP DEFENSE: 2 CA DEFENSE: 1													

HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.

SIZE: — 2

GP DEFENSE: 2

CA DEFENSE: 1

NOTES: Has radio and NBC. Amphibious. Infantry units being transported may be fired if the vehicle is open. Sagger or Spigot may not be fired on the move. Subject to artillery or bomb missile destruction (OR17.2.6). Carries an IR searchlight. May be equipped with the Sagger (given points) or Spigot (55-28-14) points) missiles. MG and Bailed Crew are small arms.

USSR-5A: BRDM Anti-Tank Vehicle (7.7 tons): 45-23-11 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	6	1/2	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1-1-Wheeled				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L (FC)				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS						VEHICLE DAMAGE				ATGM	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F	RANGE IN HEXES				FROM HIT				SPEEDS	
						AMMO	A	1	2	3-	5-	NO	CMP	KNK	BRW	TAR	MV
						FIRE	C	4	40	DAM	HIT	OUT	UP			1-3	4+
Spndr1	1	120	8/	15	10	HEAT	AP	—	10	16	18	01-	08-	21-	61-		
Class 1			10	(2)		(CE)	PY	—	120	120	120	07	20	60	00	24	12
(ATGM)						GP	NM	—	25	25	25	—	—	—	—		
BAILED	1	360	Uni	Uni	0	GP	NM	3	3	3	—	SMOKE MAKERS:					
CREW-3						MV	2	2	2	—		None					

TARGET INFORMATION

HIT LOCATION CHARTS											ARMOR CHARTS							
ANGLE OF HIT	HIT LOCATION										AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HOG	HDA			HF	HR	HF	HS	HR	
FRONT	01-	51-	—	—	—	—	95-	—	39-	39-	KE or CE	LEVEL	3	2	5	3	3	—
	50	94	—	—	—	—	99	00	43	48		RISING	4	2	6	3	3	—
FRONT/SIDE	01-	26-	48-	72-	—	—	95-	—	20-	20-		FALLING	3	2	4	3	3	6
	25	47	71	94	—	—	99	00	24	24								
REAR/SIDE	—	—	—	—	01-	25-	48-	73-	95-	—								
	—	—	—	—	24	47	72	94	99	00								
REAR	—	—	—	—	01-	51-	95-	—	39-	39-								
	—	—	—	—	50	94	99	00	43	48								

HF*, HS*, HR* and TK*: Treat as "miss" if hull down. SIZE: —2. GP DEFENSE: 2. CA DEFENSE: 1.

NOTES: Has radio and NBC. Amphibious. Infantry units being transported may be fired only if the vehicle is open. Spndr1 ATGM may not be fired on the move. Subject to artillery and bomb missile destruction (OR17.2.6). Bailed Crew is small arms.

USSR-5B: BRDM-2 Reconnaissance Vehicle (7.0 tons): 32-16-8 points.



MOVEMENT INFO.				
	Weather	MF	Road	Path
	Normal	6	1/2	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1-1-Wheeled				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L (FC)				

MOVEMENT COSTS					
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

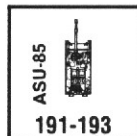
a: Per level. b: Use other terrain in hex.

FIRING INFORMATION																			
WEAPON INFORMATION						GUNNERY CHARTS								VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES								FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-28	NO DAM	CMP HIT	KNK OUT	BRW UP		
14.5mm Stab 0 (Gun)	4	31	7/11	28 (3)	0	AP (KE)	AP PY	19 6	15 5	10 4	3 4	1 3	—	01-18	19-46	47-89	90-00		
						GP	NM MV	18 9	16 8	14 7	12 6	9 4	6 3	—	—	—	—		
BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	—	—	—	—	—	SMOKE MAKERS: None.					

TARGET INFORMATION																														
HIT LOCATION CHARTS																ARMOR CHARTS														
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR		FRONT/SIDE-REAR/SIDE				ABOVE						
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD	
FRONT	01-39-38	39-55	56-94								95-99	01-00	39-05	01-43	39-10	39-48	KE	LEVEL	3	3	3	2	4	5	4	3	4	3	—	—
FRONT/ SIDE	01-19	20-27	28-47	48-66	67-74	75-94					95-99	01-00	20-05	01-24	20-29	or CE	RISING	3	4	3	2	4	6	4	3	4	3	—	—	
																	FALLING	2	3	2	2	3	4	3	3	3	3	6	6	
REAR/ SIDE	—	—	—	01-19	20-27	28-47	48-66	67-74	75-94	95-99	01-00	20-05	01-24	20-29																
REAR	—	—	—	—	—	—	01-38	39-55	94-99	01-00	39-05	01-43	01-24	20-29																
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																SIZE: — 2 GP DEFENSE: 2 CA DEFENSE: 1														

NOTES: Has radio and NBC. Amphibious. Infantry units being transported may be fired only if the vehicle is open. 14.5mm main gun and Bailed Crew are small arms.

USSR-6A: ASU-85 Air Portable Assault Gun (14.0 tons): 44-22-11 points.



MOVEMENT INFO.				
SPEEDS:	Weather	MF	Road	Path
	Normal	3	2/3	3/4
	Snow	3	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-0-0-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L				

MOVEMENT COSTS					
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

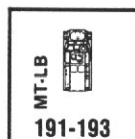
FIRING INFORMATION																							
WEAPON INFORMATION						GUNNERY CHARTS													VEHICLE DAMAGE				
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-40	NO DAM	CMP HIT	KNK OUT	BRW UP			
85mm Stab.0 (MnGn)	2	60	6/9	10 (1)	0	APHE (KE)	AP PY	19 25	15 22	11 20	7 19	3 17	1 16	1 15	—	—	01-08	09-20	52-21	53-00			
						HVAP (KE)	AP PY	19 48	16 43	13 40	8 34	3 31	1 27	—	—	—	01-12	13-30	31-79	80-00			
						HEAT (CE)	AP PY	19 75	15 75	11 75	7 75	4 75	1 75	1 75	—	—	—	01-09	10-23	24-62	63-00		
						GP	NM MV	23 11	21 10	19 9	17 8	13 6	13 6	9 4	9 4	4 2	EF = KNK OUT if GP DEF = 1-3.						
HMG Stab.0 (TT0)	5	360	9/12	Unl	0	AP (KE)	AP PY	19 4	16 3	12 2	—	—	—	—	—	—	01-19	20-46	47-95	96-00			
						GP	NM MV	8 4	5 3	3 2	—	—	—	—	—	—	—	—	—	—			
						AA	— OP	LL 10	LM 8	LH 6	MM 6	MH 4	HH 2	DAM +10	RNG 1-10	CM —	—	—	—	—			
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: EX					

TARGET INFORMATION																												
HIT LOCATION CHARTS												ARMOR CHARTS																
ANGLE OF HIT	HIT LOCATION										AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE							
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*			GN	TTG	HDG	TTA	HDA	TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39	56	—	—	—	—	—	—	—	95	—	01-39	01-39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	38	55	94	—	—	—	—	—	—	99	00	05	43	10	48	—	—	—	—	—	—	—	—	—	—	—	—	—
FRONT/SIDE	01-20	28	48	67	75	—	—	—	—	95	—	01-20	01-20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19	27	47	66	74	94	—	—	—	99	00	05	24	10	29	—	—	—	—	—	—	—	—	—	—	—	—	—
REAR/SIDE	—	—	—	01-20	28	48	67	75	95	—	01-20	01-20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	19	27	47	66	74	94	99	00	05	24	10	29	—	—	—	—	—	—	—	—	—	—	—	—	—
REAR	—	—	—	—	—	—	01-39	56	95	—	01-39	01-39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	38	55	94	99	00	05	43	10	48	—	—	—	—	—	—	—	—	—	—	—	—	—
HF*, HS*, HR* and TK* Treat as a 'miss' if bull down.												SIZE: -2								GP DEFENSE: 3				CA DEFENSE: 2				

NOTES: Has radio but no NBC. Not amphibious. Carries an IR searchlight. HMG and Bailed Crew are small arms.

USSR-6B/1: MT-LB Multi-Purpose Vehicle (9.7 tons): 31-16-8 points.

USSR-6B/2: ACRV Artillery Command Reconnaissance Vehicle (10.2 tons): 33-17-9



MOVEMENT INFO (MT-LB)

	Weather	MF	Road	Path
	Normal	5	2/3	3/4
SPEEDS:	Snow	5	3/4	3/4
	Mud	5	1	1

TURN COSTS: 0-0-1-Tracked
STACKING POINTS: 2
TRANSPORT VALUE: 2LT (FC)

MOVEMENT INFO (ACRV)

	Weather	MF	Road	Path
	Normal	5	2/3	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	3	1	1

TURN COSTS: 0-1/2-1-Tracked
STACKING POINTS: 2
TRANSPORT VALUE: 1L

MOVEMENT COSTS (BOTH)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE			
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT			
									1-4	5-8	6-12	7-16	8-20	9	10	11	12	NO DAM	CMP HIT	KNK OUT	BRW UP			
ACRV	HMG Stab.0 (TTO)	5	360	7/12	Unl	0	AP (KE)	AP PY	19 4	16 3	12 2	—	—	—	—	—	01-19	20-46	47-95	96-00				
							GP	NM MV	8 4	5 3	3 2	—	—	—	—	—	—	—	—					
							AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—			
	BAILED CREW-5	1	360	Unl	Unl	0	GP	NM MV	10 5	8 6	6 6	4 4	2 2	+10	1-10	—	SMOKE MAKERS: None							
MT-LB	MG (TTC)	1	360	7/12	Unl	0	GP	NM MV	5 3	3 2	2 1	—	—	—	—	—	—	—	—					
							AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—			
	BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	10 2	8 1	6 6	4 4	2 2	+20	1-6	—	SMOKE MAKERS: None							

TARGET INFORMATION

HIT LOCATION CHARTS											ARMOR CHARTS							
ANGLE OF HIT	HIT LOCATION										AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE HD
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD	HDA			HF	HR	HF	HS	HR	
FRONT	01-50	51-94	—	—	—	—	95-99	39-43	39-48		KE or CE	LEVEL	4	2	6	3	3	—
	50-94	—	—	—	—	—	99-00	43-38		RISING		5	2	7	3	3	—	
FRONT/SIDE	01-25	26-47	48-71	72-94	—	—	95-99	20-24	20-24		FALLING	4	2	5	3	3	13	
	25-47	71-94	—	—	—	—	99-00	24-24										
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	95-99	20-24	20-24									
	—	—	24-47	72-94	95-99	00-24	24-24											
REAR	—	—	—	—	01-50	51-94	95-99	39-43	39-48									
	—	—	—	—	50-94	99-00	43-38											
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.											MT-LB: SIZE: - 2. GP DEFENSE: 2. CA DEFENSE: 1.							
ACRV: SIZE: - 1. GP DEFENSE: 2. CA DEFENSE: 1.																		

HF*, HS*, HR* and TK*: Treat as "miss" if hull down.

MT-LB: SIZE: -2. GP DEFENSE: 2. CA DEFENSE: 1.

ACRV: SIZE: -1. GP DEFENSE: 2. CA DEFENSE: 1.

NOTES: Both: Has radio and NBC. Amphibious. Infantry units being transported may be fired only if the vehicle is open. HMG, MG, and Bailed Crew are small arms. MT-LB: May serve as an observer unit. MG may be fired while open or buttoned up.

USSR-7A/1: SA-9 Gaskin Anti-Aircraft Vehicle (8.1 tons): 30-15-8 points.

USSR-7A/2: SA-13 Gopher Anti-Aircraft Vehicle (10.5 tons): 35-18-9 points.

SA-9



SA-9

186-187

MOVEMENT INFO. (SA-9)

	Weather	MF	Road	Path
	Normal	6	1/2	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1-1-Wheeled				
STACKING POINTS: 2				
TRANSPORT VALUE: 0				

MOVEMENT COSTS (SA-9)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex.

SA-13



SA-13

186-187

MOVEMENT INFO. (SA-13)

	Weather	MF	Road	Path
	Normal	5	2/3	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	3	1	1
TURN COSTS: 0-1/2-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 0				

MOVEMENT COSTS (SA-13)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS													
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F AMMO FIRED	RANGE IN HEXES											
									A	1-4	5	6	7	8	9	10	11	12		
SA-9	Gaskin (AAM)	1	360	0/12	4 (1)	0	AA (MT)	OP	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM		
	BAILED CREW-3	1	360	0/12	Unl	0	GP	NM	3	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: None	
								MV	2	—	—	—	—	—	—	—	—	—		
SA-13	Gopher (AAM)	1	360	0/12	4 (1)	0	AA (MA)	OP	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM		
	BAILED CREW-3	1	360	0/12	Unl	0	GP	NM	3	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: None	
								MV	2	—	—	—	—	—	—	—	—	—		

TARGET INFORMATION

HIT LOCATION CHARTS (BOTH)										ARMOR CHARTS									
ANGLE OF HIT	HIT LOCATION									VEHICLE	AMMO USED	ELEVATION	FRNT-REAR		F/S-R/S			ABOVE HD	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD/HDA				HF	HR	HF	HS	HR		HD
FRONT	01-50	51-94	—	—	—	—	95-99	39-43	39-43	SA-9	KE	LEVEL	3	2	5	3	3	—	
	—	—	—	—	—	—	—	—	—		or	RISING	4	2	6	3	3	—	
FRONT/SIDE	01-25	26-47	48-71	72-94	—	—	95-99	20-24	20-24		SA-13	CE	FALLING	3	2	4	3	3	6
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	95-99	20-24	20-24	KE		LEVEL	4	2	6	3	3	—	
	—	—	—	—	—	—	—	—	—	or		RISING	5	2	7	3	3	—	
REAR	—	—	—	—	01-50	51-94	95-99	39-43	39-43	CE	FALLING	4	2	5	3	3	13		
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.										BOTH: SIZE: -1. GP DEFENSE: 2. CA DEFENSE: 1.									

NOTES: Both: Has radio and NBC. Amphibious. Subject to artillery or bomb missile destruction (OR17.2.6). Bailed Crew is small arms. Both missiles are ineffective vs. ground targets.

USSR-7B/1: Soviet Heavy Truck Utility Vehicle (10.0 tons): 22-xx-6 points.
 USSR-7B/2: Soviet Medium Truck Utility Vehicle (6.0 tons): 21-xx-5 points.
 USSR-7B/3: Soviet Light Truck Utility Vehicle (2.0 tons): 20-xx-5 points.

ALL TRUCKS



901-903

MOVEMENT INFO (ALL)

	Weather	MF	Road	Path
	Normal	4	1/2	3/4
SPEEDS:	Snow	2	3/4	3/4
(All)	Mud	1	1	1

TURN COSTS: Heavy: 0-2-2-Wheeled
 Med.: 0-1-2-Wheeled
 Light: 0-1-1-Wheeled

STACKING POINTS (All): 2

TRANSPORT VALUE: Heavy: 6LT;

Medium: 4LT; Light: 2LT

MOVEMENT COSTS (ALL)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex.

FIRING INFORMATION (ALL)

WEAPON INFORMATION						GUNNERY CHARTS							
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE	F AMMO A C F	RANGE IN HEXES					
								1	2	3	4	5 +	
BAILED CREW-2	1	360	Unl	Unl	0	GP	MN MV	2 1	2 1	2 1	2 1	— —	SMOKE MAKERS: None
Trucks are otherwise unarmed													

Trucks are otherwise unarmed.

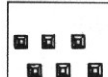
TARGET INFORMATION (ALL)

HIT LOCATION CHARTS										ARMOR CHARTS								
ANGLE OF HIT	HIT LOCATION									AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HDB			HDA	HF	HR	HF	HS		HR	HD
FRONT	01-	56-					95-		39-	39-	KE or CE	LEVEL	0	0	0	0	0	—
	55	94	—	—	—	—	99	00	43	48		RISING	0	0	0	0	0	—
FRONT/ SIDE	01-	28-	48-	75-			95-		20-	20-		FALLING	0	0	0	0	0	0
	27	47	74	94	—	—	99	00	24	24								
REAR/ SIDE			01-	28-	48-	75-	95-		20-	20-								
	—	—	27	47	74	94	99	00	24	24								
REAR					01-	56-	95-		39-	39-								
	—	—	—	—	55	94	99	00	43	48								
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.										SIZE: Heavy = 0; Medium = -1; Light = -2. GP and CA DEFENSE (ALL): 1								

NOTES: All have radio but no NBC. Not amphibious. May not enter or overrun buildings. Compartment damage always knocks out a truck. Always considered to be open. Bailed Crew is small arms.

TERRAIN MARKERS AND EXTRA EQUIPMENT:

Blocks:



6 GP DEF: 10 pts/marker.
 7 GP DEF: 15 pts/marker.
 8 GP DEF: 20 pts/marker.
 Place in any road/path hex.

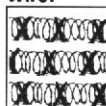
Ditch:



10 pts/marker
 Place in any but building, water, or bridge hex.

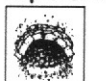
Radio Jamming: 25 pts/each.

Wire:



1 GP DEF: 5 pts/marker.
 2 GP DEF: 10 pts/marker.
 3 GP DEF: 15 pts/marker.
 Place in any but water hex.

Improved Position: 20 pts/marker.




Place in any but water or bridge hex.

Hasty Anti-Personnel or Anti-Vehicular Mines (3 GP DEF): 5 pts/hex.

Deliberate Anti-Personnel or Anti-Vehicular Mines (6 GP DEF): 10 pts/hex.

Place in any but building, ditch, improved position, water, or bridge hex.

USSR-8A: ZSU-23(4) "Shilka" Anti-Aircraft Vehicle (14.0 tons): 47-24-12 points.


<div>  </div>	MOVEMENT INFORMATION				MOVEMENT COSTS			
	Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b SMOKE +1
	Normal	4	2/3	3/4	BRIDGE	+1	HILL HEXSIDE +1a	STREAM (FORD) 4
	SPEEDS: Snow	4	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P STREAM (NON-FORD) P
	Mud	3	1	1	CLEAR	1	IMPROVED POSITION	1 WIRE +1c
TURN COSTS: 0-0-0-Tracked					DEPR HEXSIDE	+1a	ROUGH	4 WOODS (HEAVY) P
STACKING POINTS: 2					DEST/DITCH/FIRE	P	SCRUB	2 WOODS (LIGHT) 3
TRANSPORT VALUE: 1L					a: Per level. b: Use other terrain in hex. c: Eliminates wire.			

FIRING INFORMATION													
WEAPON INFORMATION						GUNNERY CHARTS							
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES					
								1-4	5-8	9-12	13-16	17-20	21-24
23mm Stab. 0 (Gun)	5	3T	7/12	60 (6)	OR	AP (KE)	AP PY	19 6	15 5	10 4	3 4	1 3	—
						GP	NM MV	38 19	38 19	38 19	29 15	29 15	19 10
						AA	—	LL 60	LM 50	LH 42	MM 42	MH 33	HH 24
							OP RD	90 75	63 63	50 50	36 36	0 0	1-30 50
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—
										SMOKE MAKERS: DS			

TARGET INFORMATION													
HIT LOCATION CHARTS											ARMOR CHARTS		
ANGLE OF HIT	HIT LOCATION										AMMO USED	ELEVATION	FRONT-REAR
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*			
FRONT	01-39	58	—	—	—	—	—	—	—	95	01-39	01-39	KE LEVEL
FRONT/SIDE	19-27	47	66	74	94	—	—	—	—	99	00-05	24-10	or RISING
REAR/SIDE	—	—	—	01-20	28	48	67	75	95	—	01-20	01-20	CE FALLING
REAR	—	—	—	19-27	47	66	74	94	99	00-05	24-10	29	
	—	—	—	—	—	01-39	56	95	—	01-39	01-39	39	
	—	—	—	—	—	38	55	94	99	00-05	43-10	48	
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.											SIZE: — 1 GP DEFENSE: 2 CA DEFENSE: 1		

NOTES: Has Radio and NBC. Not Amphibious. Subject to artillery or bomb radar destruction (OR17.2.6). 23mm and Bailed Crew are small arms.

USSR-8B: ZU-23 Twin Anti-Aircraft Gun (1.0 ton): 28 points.

 ZU-23 181-182	MOVEMENT INFORMATION	
	SPEED:	Towed
	STACKING POINTS:	2
	LOAD/UNLOAD COSTS:	3

FIRING INFORMATION																					
WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES										FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	27-29	29+	NO DAM	CMP HIT	KNK OUT	BRW UP	
23mm Stab. 0 (Gun)	5	60	8/12	a	0	AP (KE)	AP PY	19	15	10	3	1	—	—	—	—	—	01-17	18-43	44-89	90-00
						GP	NM MV	26	26	26	26	20	20	20	13	—	—	—	—	—	
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	
						OP	30	26	21	21	17	12	0	1-25	—	—	—	—	—	—	
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4	—	—	—	—	—	—	—	—	SMOKE MAKERS: None				

NOTES: a: Unlimited if gun remains with towing vehicle or dump—reduced to 30 otherwise.

TARGET INFORMATION (GP DEFENSE FOR ALL)																	
	BLOCK	BUILDINGS			BRIDGE /CLEAR	DITCH	DEPRES- SION	DE- STROYED	FIRE	HEAVY WOODS	IMPRVD PSITON	ROUGH	SCRUB	STREAM	WIRE	WOODS	WRECK
		BRICK	STONE	WOOD													
FC	P	7	9	6	3	P	4	5	P	7	8	5	4	P	P	6	+1
NM	P	5	7	4	1	P	2	3	P	5	6	3	2	1	P	4	+1
MV	P	3	5	2	1	P	1	1	P	3	4	1	1	1	P	2	+1

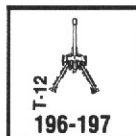
NOTES: This is a *large* towed unit. Not amphibious. May not fire while being transported. 23mm and Bailed Crew are small arms.

USSR-9A/1: T-12 100mm Anti-Tank Gun (3.3 tons): 25 points.

USSR-9A/2: SD-44 85mm Anti-Tank Gun (2.3 tons): 26 points.

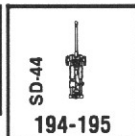
T-12

SD-44



MOVEMENT INFO (T-12)					
SPEED: Towed					
STACKING POINTS: 2					
LOAD/UNLOAD COSTS: 4					

MOVEMENT INFO (SD-44)					
SPEED: Towed (1)					
STACKING POINTS: 2					
LOAD/UNLOAD COST: 4					



FIRING INFORMATION

GUN NAME	WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE			
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT			
									1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP		
T-12	100mm Stab.0 (MnGn)	2	60	8/10	a	0	APFSDS (KE)	AP PY	20 90	17 85	15 80	13 76	11 73	9 66	5 59	2 55	1 53	1 50	01-08	09-21	22-76	77-00		
							HEAT (CE)	AP PY	19 80	15 80	12 80	8 80	5 80	1 80	1 80	—	—	—	01-07	08-19	20-60	61-00		
	BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: None					
SD-44	85mm Stab.0 (MnGn)	2	60	7/12	a	0	HVAP (KE)	AP PY	19 48	16 43	13 40	8 34	3 31	1 27	—	—	—	—	01-12	13-30	31-93	94-00		
							HEAT (CE)	AP PY	19 75	15 75	11 75	8 75	4 75	1 75	1 75	—	—	—	01-09	10-23	24-88	89-00		
							GP	NM MV	17 17	17 17	17 17	13 13	13 9	9 4	4 2	—	EF = KNK OUT if GP DEF = 1-3.							
	BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	SMOKE MAKERS: None						

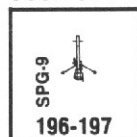
NOTES: a: Unlimited if gun remains with towing vehicle or dump-reduced to 6 otherwise.

TARGET INFORMATION (GP DEFENSE FOR BOTH)

	BLOCK	BUILDINGS			BRIDGE /CLEAR	DITCH	DEPRES-SION	DE-STROYED	FIRE	HEAVY WOODS	IMPRVD PSITON	ROUGH	SCRUB	STREAM	WIRE	WOODS	WRECK	
		BRICK	STONE	WOOD														
FC	P	7	9	6	3	P	4	5	P	7	8	5	4	P	P	6	+1	FC
NM	P	5	7	4	1	P	2	3	P	5	6	3	2	1	P	4	+1	NM
MV	P	3	5	2	1	P	1	1	P	3	4	1	1	1	P	2	+1	MV

NOTES: Both: These are large towed units. Have radio. Not amphibious. May not fire while being transported. Bailed Crew is small arms.

USSR-9B: SPG-9 73mm Recoilless Anti-Tank Gun (.2 tons): 24 points.



MOVEMENT INFORMATION	
SPEED:	Towed (1)
STACKING POINTS:	1
LOAD/UNLOAD COSTS:	2

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS										VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES								FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-32	NO DAM	CMP HIT	KNK OUT	BRW UP	
73mm Stab. 0 (MnGn)	1	60	8/11	a	0	HEAT (CE)	AP PY	18 80	13 80	8 80	1 80	—	—	01-14	15-36	37-68	69-00		
						GP	AP PY	14 7	14 7	14 7	14 7	11 5	11 5	7 4	EF = KNK OUT if GP DEF = 1-2.				
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	SMOKE MAKERS: None					

NOTES: a: Unlimited if gun remains with towing vehicle or dump—reduced to 6 otherwise.

TARGET INFORMATION (GP DEFENSE FOR ALL)

	BLOCK	BUILDINGS			BRIDGE /CLEAR	DITCH	DEPRES-SION	DE-STROYED	FIRE	HEAVY WOODS	IMPRVD PSITON	ROUGH	SCRUB	STREAM	WIRE	WOODS	WRECK	
		BRICK	STONE	WOOD														
FC	+1	8	10	7	4	P	5	5	P	8	9	6	5	P	P	7	+1	FC
NM	+1	6	8	5	2	P	3	4	P	6	7	4	3	1	P	5	+1	NM
MV	+1	4	6	3	1	P	1	2	P	4	5	2	1	1	P	3	+1	MV

NOTES: This is a *small* towed unit. Has radio. Not amphibious. May not fire while being transported. Bailed Crew are small arms.

USSR-10A/1: Mil Mi-24 "Hind-D" Attack Helicopter: 150 base points (with HMG chin gun).
 USSR-10A/2: Mil Mi-24 "Hind-E" Attack Helicopter: 170 base points (with 23mm chin gun).

All Mi-24s



GENERAL INFORMATION (BOTH)

SPEEDS: Low Altitude: 19

Nape of Earth: 10

TRANSPORT VALUE: 2L (FC) a

CARRIES CHAFF/IRCM: Yes

DEFENSE VALUE: 55

STACKING POINTS: 2 b

a: Reduce the transport value to "0" with any wing armament. b: Only when landed.

FIRING INFORMATION (BOTH)

WEAPON INFORMATION						GUNNERY CHARTS																		VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES																FROM HIT			
								1	2	3-4	5	6	7-8	9-10	11-12	13-15	16-20	21-30	31-35	36-40	NO DAM	CMP HIT	KNK OUT	BRW UP			
HMG a (Gun)	5	120	Uni	50	OT	AP (KE)	AP PYNOE PYLOW	19 4 8	19 4 8	19 4 8	16 3 6	16 3 6	16 3 6	12 2 4	12 2 4	—	—	—	—	—	—	01-19	20-46	47-95	96-00		
						GP	NM/MV	40	40	32	24	24	16	8	8	—	—	—	—	—	—	—	—	—	—	—	—
23mm (Gun) b	5	60	Uni	25	OT	AP (KE)	AP PYNOE PYLOW	18 6 12	18 6 12	18 6 12	18 6 12	13 5 10	13 5 10	13 5 10	5 4 8	5 4 8	1 3 6	—	—	—	—	—	01-17	18-43	44-89	90-00	
						GP	NM/MV	30	30	30	30	30	30	30	30	30	30	23	—	—	—	—	—	—	—	—	—
Swatter Class 3 (ATGM)	1	60	Uni	c	d	HEAT (CE)	AP PY	—	—	—	10	10	10	100	100	100	100	100	100	100	100	—	01-04	05-11	12-56	57-00	
						GP	NM/MV	—	—	—	—	29	29	29	29	29	29	29	29	29	29	29	29	29	—	—	—
Sagger Class 3 (ATGM)	1	60	Uni	c	d	HEAT (CE)	AP PY	—	—	—	10	10	16	18	18	18	18	18	18	18	18	—	01-07	08-20	21-60	61-00	
						GP	NM/MV	—	—	—	—	25	25	25	25	25	25	25	25	25	25	25	25	25	—	—	—
Spiral Class 1 (ATGM)	1	60	Uni	c	d	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	18	18	18	18	—	01-07	08-20	21-60	61-00	
						GP	NM/MV	—	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	—	—	—
Rocket	1	60	Uni	c	d	GP	NM/MV SCATR	—	—	—	15	15	15	15	15	15	15	—	—	—	—	—	—	—	—		

Notes: a: Carried only on the Hind-D. This is a four-barrelled heavy machinegun. b: Carried only on the Hind-E. c: See "Possible Maximum Armaments", below. d: Same as for the helicopter's chin gun.

Notes: a: Carried only on the Hind-D. This is a four-barrelled heavy machinegun. b: Carried only on the Hind-E. c: See "Possible Maximum Armaments" below. d: Same as for the helicopter's chin gun.

POSSIBLE MAXIMUM ARMAMENTS & POINTS

Hind-D	Hind-E	ARMAMENT POINT VALUES (ADD TO BASE POINTS)
HMG chin gun; and	23mm chin gun; and	Per Rocket—10 points.
4 Swatter & 16 Rockets; or	6 Spiral & 16 Rockets; or	Per Sagger—5 points.
4 Sagger & 16 Rockets; or	4 Swatter & 16 Rockets; or	Per Spiral—10 points.
24 Rockets.	4 Sagger & 16 Rockets; or	Per Swatter—8 points.
	24 Rockets.	

NOTES: All: All have radios and a 120 degree sighting arc. Only base points are counted if a helicopter is destroyed. Sagger, Spiral and Swatter are wire-guided ATGMs (OR20.2.3.3.2). Rockets are effective only in their impact hex. All helicopters are restricted to low altitude in "Fog" or "Blowing Snow" conditions. 23mm, HMG are small arms. May not expend over 1/4 (round up) movement factors in movement during an Air Phase when landing or taking off (NOE altitude and clear or scrub hexes only).

USSR-10B/1: Mil Mi-2 "Hoplite" Light Helicopter: 65 base points (with 1 MG/side).
 USSR-10B/2: Mil Mi-4 "Hound" Medium Helicopter: 55 base points (with HMG chin gun).
 USSR-10B/3: Mil Mi-8 "Hip" E/F Medium Helicopter: 110 base points (with HMG chin gun).

GENERAL INFORMATION (Mi-2)					
SPEEDS: Low Altitude: 14					
Nape of Earth: 6					
TRANSPORT VALUE: 2L (FC) a					
CARRIES CHAFF/IRCM: No					
DEFENSE VALUE: 80					
STACKING POINTS: 2 d					

Mi-2/Mi-4



GENERAL INFORMATION (Mi-4)					
SPEEDS: Low Altitude: 11					
Nape of Earth: 3					
TRANSPORT VALUE: 3LT (FC) b					
CARRIES CHAFF/IRCM: No					
DEFENSE VALUE: 80					
STACKING POINTS: 2 d					

Mi-8



GENERAL INFORMATION (Mi-8)					
SPEEDS: Low Altitude: 15					
Nape of Earth: 6					
TRANSPORT VALUE: 6LT (FC) ac					
CHAFF/IRCM: Yes					
DEFENSE VALUE: 65					
STACKING POINTS: 2 d					

a: Reduce the transport value to "0" with any wing armament. b: Limited to one towed unit. c: Limited to two towed units.
 d: Only when landed.

FIRING INFORMATION (ALL)

WEAPON INFORMATION						GUNNERY CHARTS																VEHICLE DAMAGE						
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES																FROM HIT				
								1	2	3-4	5	6	7-8	9-10	11-12	13-15	16-20	21-30	31-35	NO DAM	CMP HIT	KNK OUT	BRW UP					
HMG a (Gun)	5	120	Unl	50	10	AP (KE)	AP PYNOE PYLOW	19 4 8	19 4 8	19 4 8	16 3 6	16 3 6	16 3 6	12 2 4	12 2 4	—	—	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00
						GP	NM/MV	8	8	8	5	5	5	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—
MG b	1	Sid	Unl	10	10	GP	NM/MV	5	5	5	3	3	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Swatter Class 3 (ATGM)	1	60	Unl	c	d	HEAT (CE)	AP PY	—	—	—	10 100	10 100	16 100	18 100	18 100	18 100	18 100	18 100	18 100	18 100	18 100	18 100	01-04	05-11	12-56	57-00		
						GP	NM/MV	—	—	—	29	29	29	29	29	29	29	29	29	29	29	29	29	29	—	—	—	—
Sagger Class 3 (ATGM)	1	60	Unl	c	d	HEAT (CE)	AP PY	—	—	—	10 80	10 80	16 80	18 80	18 80	18 80	18 80	18 80	18 80	18 80	18 80	01-07	08-20	21-60	61-00			
						GP	NM/MV	—	—	—	25	25	25	25	25	25	25	25	25	25	25	25	25	—	—	—	—	—
Rocket	1	60	Unl	c	d	GP	NM/MV SCATR	—	—	—	15 20	15 20	15 20	15 20	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40	15 40
NOTES: a: This is a chin-mounted single-barrelled heavy machinegun, carried only on the Mi-4 Hound and Mi-8 Hip E/F. b: This is for one machinegun on each side that fire separately carried only on the Mi-2 Hoplite. Rate of fire and ammunition are per side. c: See "Possible Maximum Armaments", below. f: Same as for the helicopter's gun.																												

NOTES: a: This is a chin-mounted single-barrelled heavy machinegun, carried only on the Mi-4 Hound and Mi-8 Hip E/F. b: This is for one machinegun on each side that fire separately carried only on the Mi-2 Hoplite. Rate of fire and ammunition are per side. c: See "Possible Maximum Armaments", below. f: Same as for the helicopter's gun.

POSSIBLE MAXIMUM ARMAMENTS & POINTS

Mi-2 Hoplite	Mi-4 Hound	Mi-8 Hip E/F	ARMAMENT POINT VALUES (ADD TO BASE POINTS)
1/side MGs; and	HMG chin gun only	HMG chin gun; and	Per Rocket—10 points.
8 Rockets (Wing); or		4 Swatter & 24 rockets (Wing); or	Per Sagger—5 points.
4 Sagger (Wing).		4 Sagger & 24 rockets (Wing); or	Per Swatter—8 points.
		24 rockets (Wing).	

NOTES: All: All have radios and a 120 degree sighting arc. Only base points are counted if a helicopter is destroyed. Sagger and Swatter are wire-guided ATGMs (OR20.2.3.3.2). Rockets are effective only in their impact hex. All helicopters are restricted to low altitude in "Fog" or "Blowing Snow" conditions. HMG and MG are small arms. May not expend over 1/4 (round up) movement factors in movement during an Air Phase when landing or taking off (NOE altitude and clear or scrub hexes only). Mi-2: Can serve as an observer unit (like a company CO).

USSR-11A/1: MiG-27 "Flogger D" Aircraft: 245 base points (with 23mm gun).
 USSR-11A/2: Su-17 "Fitter D" Aircraft: 220 base points (with 30mm gun).
 USSR-11A/3: Su-24 "Fencer" Aircraft: 340 base points (with 23mm gun).
 USSR-11A/4: Su-25 "Frogfoot" Aircraft: 240 base points (with 23mm gun).

AIRCRAFT



201

or



202








GENERAL INFORMATION

	MIg-27	Su-17	Su-24	Su-25
CREW SIZE:	1	1	2	1
CONDITION LEVELS:	2	3	1	3
MAXIMUM WEAPON LOADS:	4	3	6	4
PRECISION MUNITIONS:	Yes	Yes	Yes	Yes
CARRIES ECM POD:	Yes	Yes	Yes ^a	Yes
DEFENSE VALUE:	50	55	40	45 b

NOTES:

- a: Internal—not part of weapon load.
 b: May not make high speed attacks.

FIRING INFORMATION (ALL)

WEAPON INFORMATION						GUNNERY CHARTS							VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES					FROM HIT					
								0	1-4	5	6-10	11-15	NO DAM	CMP HIT	KNK OUT	BRW UP		
30mm (Gun) a	5	60	Unl	10	LO	AP	AP PY	—	15	15	11	8	01-16	17-41	42-86	87-00	HEXES EFFECTED (>= impact hex/ft. dir.) 	
						GP	MV	—	29	29	29	29	—	—	—	—		
23mm (Gun) b	5	60	Unl	b	LO	AP	AP PY	—	20	20	15	10	01-17	18-43	44-89	90-00		
						GP	MV	—	38	38	38	38	—	—	—	—		
23mm (Gun) c	5	60	Unl	15	LO	AP	AP PY	—	20	20	15	10	01-17	18-43	44-89	90-00		
						GP	MV	—	38	38	38	38	—	—	—	—		
Rocket	1	60	Unl	d	e	GP	MV SCATR	—	—	30	30	30	EF = KNK OUT if GP DEF = 1-8.					
										409	409	509						
Iron Bombs	1	60	Unl	d	e	GP	MV SCATR	50	LL	LM	MH	HH	EF = BREW UP if GP DEF = Any.					
								509	+20	+10	-10	-20						
Cluster Bomb	1	60	Unl	d	e	GP	MV SCATR	25	LL	LM	MH	HH	EF = BREW UP if GP DEF = Any. h					
								309	+20	+10	-10	-20						
Napalm Bomb	1	60	Unl	d	e	GP	MV SCATR	50	LL	LM	MH	HH	EF = BREW UP if GP DEF = Any. f					
								509	+20	+10	-10	-20						
ARM Msl	1	360	Unl	d	e	GP	MV SCATR	40	LL	LM	LH	MH	EF = KNK OUT if GP DEF = Any.					
								301	0	j	k	m						
Mine Cnstr	1	60	Unl	d	e	GP	MV SCATR	—	LL	LM	MH	HH	Usual mine effects.					
								409	+20	+10	-10	-20	Usual mine effects.					
Smoke Bomb	1	60	Unl	d	e	SMOKE	MV SCATR	—	LL	LM	MH	HH	Usual smoke effects.					
								409	+20	+10	-10	-20						

HEXES EFFECTED

(▶ = impact hex/ftt, dir.)

NOTES: a: On the Su-17. b: On the MiG-27 and Su-25. Ammunition is 15 on the MiG-27 and 20 on the Su-25. c: On the Su-24 and also in a gun pod which can be carried by any of these aircraft. d: 1 weapon = 1 load. e: Same as for the aircraft's guns. f: GP Modifiers: "+30" vs. dismounted leg, towed and soft vehicles (all armor basis = 0). "+20" vs. open vehicles or those with 0 overhead (HD or TT) armor. g: Other Scatter Modifiers: "+10" if the aircraft has 2 crew and "-20" if the aircraft is evasive maneuvering. h: GP Modifier: "+10" vs. any targets. i: Effects only the vehicle using radar. "+10" scatter modifier if the aircraft has 2 crew. "+20" GP modifier vs. the vehicle. j: Scatter Modifiers: "+10" if low speed, "-10" if low altitude. k: Scatter Modifiers: "+20" if low speed/high altitude, "-20" if high speed/low altitude. m: Scatter Modifiers: "+10" if high altitude, "-10" if high speed.

POSSIBLE LOADS AND THEIR POINT VALUES (ADD TO BASE POINTS)

Per ARM Missile—45 points.	Per Iron Bomb a—30 points.	Per Rocket—20 points.
Per Cluster Bomb a—50 points.	Per Mine Canister—30 points.	Per Smoke Bomb—10 points.
Per ECM Pod—60 points.	Per Napalm Bomb—50 points.	Per 23mm Gun Pod b—20 points.
Per Fuel Tank—30 points.		

a: +20 points for a PGM version (" +30" extra Scatter Modifier, Range = 5/10/15 @ L/M/H Alts.) b: Gun pods = 2 weapon loads each.

NOTES: All have radios. Guns and rockets may be fired only from low altitude. Only base points are counted if an aircraft is destroyed. 23mm and 30mm are small arms. Only MiG-27 and Su-24 can carry ARM.

USSR-11B: Soviet Leg Units & Equipment (1 ton/Squad; 1/2 ton/Team/Half-Squad):

SQUAD



HALF-SQUAD



MOVEMENT INFORMATION

	Squad	1/2 Squad	Team
SPEEDS	2(1)	2(1)	1
STACKING POINTS	2	1	1
LOAD/UNLOAD	1	1	2

TEAM



or



FIRING INFORMATION

UNIT INFORMATION							GUNNERY CHARTS															VEHICLE DAMAGE				ATGM SPEEDS	
TYPE OF UNIT	UNIT SIZE	PT	MAX ROF	TRN	DEP EL	TOT AMMO	ST	TYPE	F A C	1	2	3	4	5	6	7	8	9-10	11-12	13-20	21-30	NO DAM	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MY 4+
Nvy Mot Inf (Guns)	SQUAD 30	1	360	Unl	Unl	0	GP	NM	39 31	22	13	11	7	7	7	7	3	—	—	—	—	—	—	—	—	—	—
	1/2SQ 21	1	360	Unl	Unl	0	GP	NM	25 21	17	13	11	7	7	7	7	3	—	—	—	—	—	—	—	—	—	—
Lt Mot Inf (Guns)	SQUAD 27	1	360	Unl	Unl	0	GP	NM	34 24	15	6	5	4	4	4	4	2	—	—	—	—	—	—	—	—	—	—
	1/2SQ 20	1	360	Unl	Unl	0	GP	NM	20 15	11	6	5	4	4	4	4	2	—	—	—	—	—	—	—	—	—	—
Standard Inf (Guns)	SQUAD 25	1	360	Unl	Unl	0	GP	NM	28 19	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/2SQ 18	1	360	Unl	Unl	0	GP	NM	14 10	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Infantry (Guns)	TEAM 15	1	360	Unl	Unl	0	GP	NM	7 5	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MG (Gun)	a	2	1	360	Unl	Unl	0	GP	NM	9 8	7	6	5	5	4	3	2	1	—	—	—	—	—	—	—	—	—
AT-3 Sagger Class 4 (ATGM)	a	14	1	120	Unl	Unl	0	HEAT (CE)	AP	—	—	—	—	7	10	13	16	17	18	18	18	01-07	08-20	21-60	61-00	20	10
AT-4 Spigot Class 2 (ATGM)	a	25	1	120	Unl	Unl	0	HEAT (CE)	AP	10	16	17	18	18	18	18	18	18	18	18	—	01-07	08-20	21-60	61-00	24	12
RPG-7 V/D Stab. 0 (Rct Lncr)	b	9	1	60	Unl	Unl	0	HEAT (CE)	AP	20	12	7	3	1	—	—	—	—	—	—	—	01-13	14-31	32-66	67-00	—	—
RPG-18 Stab. 0 (Rct Lncr)	b	10	1	60	Unl	Unl	0	HEAT (CE)	AP	20	13	8	4	1	—	—	—	—	—	—	—	01-14	15-34	35-67	68-00	—	—
AGS-17 Stab. 0 (Grn Lncr)	a	8	1	60	Unl	Unl	0	HEAT (CE)	AP	20	15	10	5	1	1	1	1	1	1	—	—	01-20	21-51	52-76	77-00	—	—
Flamethrower	d	10	1	60	Unl	Unl	0	GP	NM	15	15	15	15	15	15	15	15	15	15	—	—	—	—	—	—	—	—
Causes a modifier for close assaults and hand-to-hand combats.																											
Any Infantry (Guns)	SQUAD c	1	360	Unl	Unl	0	AA	—	LL	LM	LH	MM	MH	HN	DAM	RNG	CM	—	—	—	—	—	—	—	—	—	—
Any (Guns)	1/2SQ c	1	360	Unl	Unl	0	OP	15	12	9	9	6	3	2	2	1-6	—	—	—	—	—	—	—	—	—	—	—
SA-7B (AAM)	b	5	1	60	Unl	Unl	0	OP	10	8	6	6	4	2	2	1-6	—	—	—	—	—	—	—	—	—	—	—
SA-14 (AAM)	b	7	1	60	Unl	Unl	0	OP	10	8	6	6	4	2	2	1-6	—	—	—	—	—	—	—	—	—	—	—
NOTES: a: Must be placed with a team. b: Place with a team, squad or half-squad. c: See points for type of unit elsewhere. d: Placed with Assault Squads only.																											

TARGET INFORMATION (GP DEFENSE FOR ALL)

BLOCK	BUILDINGS			BRIDGE /CLEAR	DITCH	DEPRES-SION	DE-STROYED	FIRE	HEAVY WOODS	IMPRVD PSITON	ROUGH	SCRUB	STREAM	WIRE	WOODS	WRECK	
FC	+1	8	10	7	4	5/8	5	6	P	8	9	6	5	P	7	+1	FC
NM	+1	6	8	5	2	4/6	3	4	P	6	7	4	3	1	P	5	NM
MV	+1	4	6	3	1	2/4	1	2	P	4	5	2	1	1	P	3	MV

NOTES: All have radios. An AT-3, AT-4, or AGS-17 may not be fired when moved. A squad may be made "Assault" or "Squad Plus" for an additional 15 points, and "Special forces" for an additional 30 points. The AT-3, AT-4, RPG-7 V/D, RPG-18, SA-7B, and SA-14 may not be fired from the upper floors of buildings. MG, AGS-17, AT-3, and AT-4 may not be fired while being transported. RPG-7 V/D, RPG-18, Flamethrower, SA-7B, and SA-14 may be fired while being transported only if on a non-FC vehicle or on an open FC vehicle. SA-7B and SA-14 are ineffective vs. ground targets. All guns and AGS-17 are small arms.



USSR-12A: WARSAW PACT (SOVIET) Artillery:

POINT INFORMATION						
TYPE			BATTERY SIZE			
			LIGHT	MEDIUM	HEAVY	SUPER HEAVY
Attached			75	150	225	300
Organic			50	100	150	200
Unattached			25	50	75	100
F	M	HE	10	20	30	40
I	I	ICM	—	—	40	60
R	S	ILLUM	10	10	10	10
E	S	SMOKE	10	10	10	10
C	B	Sound	100	100	100	100
T	T	Flash	200	200	200	200
R	Y	Radar	300	300	300	300

ARTILLERY DELAY	
TYPE	DELAY
Attached	—
Organic	01-35
Unattached	01-60

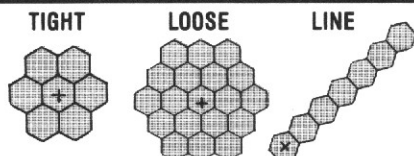
SCATTER FACTORS		
FIRE TYPE	OBSERVED	UNOBSERVED
Designated	20	40
Planned	20	—
Called	30	60
Continue (Same)	10	20
Continue (1st)	20	40
Continue (2nd)	30	60
SHEAF Change	20	40

Observer Scatter Modifiers:

ACRV: +10. Crack/Poor Observer: +10/-10.
 Reconnaissance Platoon CO: -10. Through Brew-Up Smoke: -10.
 Battalion CO/XO: +10. Through Other Smoke: -20.
 Suppressed Observer: -20.

GENERAL ARTILLERY INFORMATION		
BATTERY SIZE	GP FACTOR	EF = KNK OUT
Light	20	GP DEF = 1-4
Medium	30	GP DEF = 1-6
Heavy	40	GP DEF = 1-8
Super Heavy	50	GP DEF = Any

FIRE SHEAF PATTERNS		
TYPE	AREA	GP FACTOR
Tight	Impact + Adjacent	Full
Loose	Impact + 2 Adjacent	1/2
Line	Impact + 6 in Direction	Full



FIRE MISSION EFFECTS		
FIRE MISSION	VS. VEHICLE	VS. LEG/TOWED
HE a	-20	Normal
ICM b	-30	+20
ILLUM c	N/A	N/A
SMOKE d	N/A	N/A

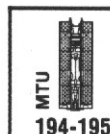
Notes:

- May fire in a tight, line or loose SHEAF.
- Must fire in a loose SHEAF. No effect if the target is a building or improved position hex or a unit inside same.
- Fired in a tight SHEAF. Area = Impact hex + 5.
- Fired in loose or line SHEAF.

COUNTER BATTERY TABLE					
TYPE	CONDITIONS	LOCATION ATTEMPT	EFFECTS (ALL)		
			DIS	1/4 LOSS	1/2 LOSS
Sound	Day/Dusk/Moonlit/Night	01-20	01-10	11-25	26-50
	Fog/Blowing Snow	01-10			
Flash	Day	01-30			
	Fog/Blowing Snow	01-10			
	Dusk/Night/Moonlight	01-60			
Radar	Any Conditions	01-40			

NOTES: All artillery batteries have radios.
 Soviet artillery doctrine has 2/3 (round fractions up) planned fire missions.

USSR-12B: MTU-20 AVLB Vehicle Launched Bridge (37.0 tons): 32-16-8 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	4	2/3	3/4
SPEEDS:	Snow	3	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1/2-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 0				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

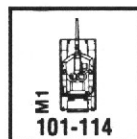
WEAPON INFORMATION						GUNNERY CHARTS							
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES					
								1	2	3-4	5-8		
BAILED CREW-2	1	360	Uni	Uni	0	GP	MN	2	—	—	—	SMOKE MAKERS: None	
							MV	1	—	—	—		
Otherwise unarmed.													

TARGET INFORMATION

HIT LOCATION CHARTS											ARMOR CHARTS								
ANGLE OF HIT	HIT LOCATION										AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HOG	HDA			HF	HR	HF	HS	HR		HD
FRONT	01-56	56-94	—	—	—	—	95-99	00	39-43	39-48	KE or CE	LEVEL	40	12	57	20	17	—	
	—	—	—	—	—	—	—	—	—	—		RISING	53	12	74	20	17	—	
FRONT/SIDE	01-27	28-47	48-74	75-94	—	—	95-99	00	20-24	20-24	CE	FALLING	32	12	45	20	17	38	
	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	
REAR/SIDE	—	—	01-27	28-47	48-74	75-94	95-99	00	20-24	20-24									
REAR	—	—	—	—	01-55	56-94	95-99	00	39-43	39-48									
	—	—	—	—	—	—	—	—	—	—									
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.											SIZE: +1. GP DEFENSE: 6. CA DEFENSE: 5.								

NOTES: Has radio, but no NBC. Not amphibious. May not enter or overrun building hexes. Bailed Crew is small arms. See option 23.0.

USA-1A: M1 "Abrams" Main Battle Tank (54.5 tons): 95-48-24 points.



MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	6	3/4	3/4
	Mud	5	1	1
TURN COSTS: 0-0-0-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP		
105mm Stab. 1 (MnGn)	2	2T	8/ 10	14 (2)	LOT	APFSDS (KE)	AP PY	20 90	17 85	15 80	13 76	11 73	9 70	7 67	5 64	3 61	1 59	01-08	09-19	20-75	76-00		
						HEAT (CE)	AP PY	19 85	17 85	14 85	11 85	8 85	6 85	3 85	1 85	1 85	—	01-07	08-17	18-59	60-00		
						HEP (CE)	AP PY	19 85	15 85	11 85	7 85	3 85	1 85	1 85	—	—	—	01-06	07-15	16-75	76-00		
						GP	NM MV	27 13	25 12	23 11	21 10	16 8	16 8	11 8	11 5	5 5	3 3	EF = KNK OUT if GP DEF = 1-5.					
HMG Stab. 0 (TTO)	5	360	9/ 12	Uni	OT	AP (KE)	AP PY	19 4	16 3	12 2	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00		
						GP	NM MV	8 4	5 3	3 2	—	—	—	—	—	—	—	—	—	—	—	—	
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—	
BAILED CREW-4	1	360	Uni	Uni	O	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS + EX					

TARGET INFORMATION

HIT LOCATION CHARTS															ARMOR CHARTS																
ANGLE OF HIT	HIT LOCATION														AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE						
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA			HDA	TF	HF	TR	HR	TS	HS	TR	HR	TT	HD				
FRONT	01-39-38	56-55	—94	—	—	—	—	—	—	95-99	00	01-05	39-43	01-10	39-48	KE	LEVEL	90	90	40	24	126	126	63	62	56	34	—	—		
																	RISING	86	96	46	24	135	135	67	63	64	34	—	—		
FRONT/SIDE	01-19	20-27	48-47	67-66	75-74	—	—	—	—	95-99	00	01-05	20-24	01-10	20-29		FALLING	85	85	36	24	120	120	60	63	50	34	60	60		
																	LEVEL	180	180	40	24	252	252	126	124	56	34	—	—		
REAR/SIDE	—	—	—	01-19	20-27	48-47	67-66	75-74	95-99	00	01-05	20-24	01-10	20-29	CE	RISING	192	192	46	24	270	270	134	126	64	34	—	—			
																FALLING	170	170	36	24	240	240	120	126	50	34	60	60			
REAR	—	—	—	—	—	—	—	—	01-39-38	56-55	95-99	00	01-05	39-43		01-10	39-48														
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.															SIZE: 0. GP DEFENSE: 8. DA DEFENSE: 7.																

NOTES: Has radio and NBC. Not amphibious. Path restrictions on turret turns in building and woods hexes. The 105mm main gun may fire canister and smoke. HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys mine plow (OR17.5.3.3).

USA-1B: M1A1 "Abrams" Main Battle Tank (55.9 tons): 100-50-25 points.

M1 101-114	MOVEMENT INFORMATION				MOVEMENT COSTS			
	Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b
	Normal	6	2/3	3/4	BRIDGE	+1	HILL HEXSIDE	+1a
	Snow	6	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3lv1)	P
SPEEDS:				Mud	5	1	1	1
TURN COSTS: 0-0-0-Tracked				CLEAR	1	IMPROVED POSITION	1	WIRE
STACKING POINTS: 2				DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)
TRANSPORT VALUE: 2L				DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)
				a: Per level. b: Use other terrain in hex. c: Eliminates wire.				

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE				
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT				
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP			
120mm Stab. 1 (MnGn)	1	2T	8/10	10 (2)	LOT	APFSDS (KE)	AP	20	18	16	14	12	10	7	5	2	1	01-06	07-15	16-75	76-00			
						HEAT-MP (CE)	AP	19	17	15	12	10	7	3	1	1	—	01-05	06-14	15-57	58-00			
						GP	NM	29	27	25	23	17	17	12	12	6	6	EF = KNK OUT if GP DEF = 1-6.						
						MV	15	14	13	12	9	9	6	6	3	3								
HMG Stab. 0 (TTO)	5	360	9/12	Unl	OT	AP (KE)	AP	19	16	12	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00			
						GP	NM	8	5	3	—	—	—	—	—	—	—	—	—	—	—			
						AA	—	LL	LM	LH	NM	MH	HH	DAM	RNG	CM	—	—	—	—	—			
						OP	10	8	6	6	4	2	+10	1-10	—	—	—	—	—	—	—			
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM	4	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS + EX							
						MV	2	—	—	—	—	—	—	—	—	—								

TARGET INFORMATION

HIT LOCATION CHARTS														ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION													AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HGG			TTA	HDA	TF	HF	TS	HS	TR	HR	TT	HD		
FRONT	01-39-38	56-55	—94	—	—	—	—	—	—	95-99	01-00	39-05	01-43	39-48	KE	LEVEL	95	90	40	24	132	126	63	62	56	34	
																RISING	101	96	46	24	142	135	67	63	64	34	
FRONT/SIDE	01-19	20-27	28-47	48-66	67-74	75-94	—	—	—	95-99	01-00	20-05	20-24	20-29		FALLING	90-190	85-180	36-40	24-24	126-264	120-252	60-126	63-56	50-34	60-60	
																LEVEL	190	180	40	24	264	252	126	124	56	34	
REAR/SIDE	—	—	—	01-19	20-27	28-47	48-66	67-74	75-94	95-99	01-00	20-05	20-24	20-29	CE	RISING	202	192	46	24	284	270	134	126	64	34	
																FALLING	180	170	36	24	252	240	120	126	50	34	
REAR	—	—	—	—	—	—	01-38	39-55	56-94	95-99	01-00	20-05	20-43	20-48													
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.														SIZE: 0.	GP DEFENSE: 8.				CA DEFENSE: 7.								

NOTES: Has radio and NBC. Not amphibious. Path restrictions on turret turns in building and woods hexes. HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys mine plow (OR17.5.3.3).

USA-2A/4: M3A2 "Bradley" Cavalry Fighting Vehicle (27.0 tons): 75-38-19 points.

NOTES: All: Has radio and NBC. Amphibious. ITOW may not be fired on the move. 25mm and Bailed Crew are small arms. **M2A1 & M2A2:** Infantry units being transported may be fired if the vehicle is open or buttoned up (2 hexes range). **M3A1 & M3A2:** Infantry units being transported may be fired only if the vehicle is open. **M2A2 & M3A2:** May add light reactive armor to TF, TS, HF and HS for 10 points (adds 1 ton to weight—add “80” to armor basis at TF, TS & HS locations when hit with “CF” ammunition).



USA-2B: NATO (United States) Artillery:

POINT INFORMATION					
TYPE		BATTERY SIZE			
		LIGHT	MEDIUM	HEAVY	SUPER HEAVY
Attached		75	150	225	300
Organic		50	100	150	200
Unattached		25	50	75	100
F M I I R S E S	CLGP	—	—	50	—
	FASCAM	—	—	30	30
	HE	10	20	30	40
	ICMDP	—	—	50	70
	ILLUM	10	10	10	10
C B T T R Y	SMOKE	10	10	10	10
	Sound	100	100	100	100
	Flash	200	200	200	200
Radar		300	300	300	300

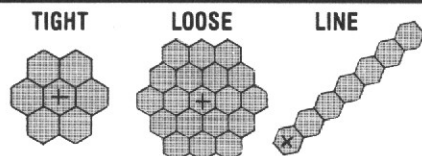
ARTILLERY DELAY	
TYPE	DELAY
Attached	—
Organic	01-25
Unattached	01-50

SCATTER FACTORS		
FIRE TYPE	OBSERVED	UNOBSERVED
Designated	20	40
Planned	20	—
Called	30	60
Continue (Same)	10	20
Continue (1st)	20	40
Continue (2nd)	30	60
SHEAF Change	20	40

Observer Scatter Modifiers:	
FISTV: +10.	Crack/Poor Observer: +10/-10.
Platoon CO: -10.	Through Brew-Up Smoke: -10.
Battalion CO/XO/SP: +10.	Through Other Smoke: -20.
Suppressed Observer: -20.	

GENERAL ARTILLERY INFORMATION		
BATTERY SIZE	GP FACTOR	EF = KNK OUT
Light	20	GP DEF = 1-4
Medium	30	GP DEF = 1-6
Heavy	40	GP DEF = 1-8
Super Heavy	50	GP DEF = Any

FIRE SHEAF PATTERNS		
TYPE	AREA	GP FACTOR
Tight	Impact + Adjacent	Full
Loose	Impact + 2 Adjacent	1/2
Line	Impact + 6 in Direction	Full



FIRE MISSION EFFECTS		
FIRE MISSION	VS. VEHICLE	VS. LEG/TOWED
CLGP a	Indiv. Veh.	N/A
FASCAM b	Mines	Mines
HE c	-20	Normal
ICMDP d	Normal	+20
ILLUM e	N/A	N/A
SMOKE f	N/A	N/A

Notes:

- Fired at a specific vehicle. "01-90" ("01-70" if observer suppressed) to brew up vehicle. No effect if inside a building.
- Must fire in a loose SHEAF.
- May fire in a tight, line or loose SHEAF.
- Must fire in a loose SHEAF. No effect if the target is a building or improved position hex or a unit inside same.
- Fired in a tight SHEAF. Area = Impact hex + 5.
- Fired in loose or line SHEAF.

COUNTER BATTERY TABLE						
TYPE	CONDITIONS	LOCATION ATTEMPT	EFFECTS (ALL)			
			DIS	1/4 LOSS	1/2 LOSS	KNK OUT
Sound	Day/Dusk/Moonlit/Night	01-20	01 — 10	11 — 25	26 — 50	51 — 100
	Fog/Blowing Snow	01-10				
Flash	Day	01-30				
	Fog/Blowing Snow	01-10				
	Dusk/Night/Moonlight	01-60				
Radar	Any Conditions	01-40				

NOTES: All artillery batteries have radios.

USA-3A/1: M60A3 Main Battle Tank (52.0 tons): 74-37-19 points.

USA-3A/2: M60 AVLB Vehicle Launched Bridge (51.5 tons): 32-16-8 points.

M60A3 &
M60AVLB



MOVEMENT INFO. (BOTH)

	Weather	MF	Road	Path
	Normal	4	2/3	3/4
SPEEDS:	Snow	3	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1/2-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE (M60A3): 2L				
TRANSPORT VALUE (AVLB): 0				

MOVEMENT COSTS (BOTH)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE				
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT				
									1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	DAM NO	CMP HIT	KNK OUT	BRW UP			
M60A3	105mm Stab. 3 (MnGr)	2	2T	8/10	16 (2)	LST	APFSDS (KE)	AP PY	20 90	17 85	15 80	13 76	11 73	9 70	7 67	5 64	3 61	1 59	01-08	09-19	20-75	76-00			
							HEAT (CE)	AP PY	19 85	17 85	14 85	11 85	8 85	6 85	3 85	1 85	1 85	— 85	— 85	— 85	01-07	08-17	18-59	60-00	
							HEP (CE)	AP PY	19 85	15 85	11 85	7 85	3 85	1 85	1 85	— 85	— 85	— 85	— 85	— 85	01-06	07-15	16-75	76-00	
							GP	NM MV	27 13	25 12	23 11	21 10	16 8	16 8	11 5	11 5	5 3	5 3	EF = KNK OUT if GP DEF = 1-5.						
							AP (KE)	AP PY	19 4	16 3	12 2	— 3	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	01-19	20-46	47-95	96-00	
	GP	NM MV	8 4	5 3	3 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2						
	AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—	—	—						
	BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	— 2	SMOKE MAKERS: DS					
	M60AVLB *	BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	— 1	— 1	— 1	— 1	— 1	— 1	— 1	— 1	— 1	— 1	SMOKE MAKERS: None				

* Otherwise unarmed.

TARGET INFORMATION


HIT LOCATION CHARTS (BOTH)																ARMOR CHARTS															
ANGLE OF HIT	HIT LOCATION															VEH	AMMO USED	ELEVATION	FRONT-REAR				F/S-R/S				ABOVE				
	TFb	HF	HFa	TSb	HS	HSa	TRb	HR	HRa	TKa	GN	TTb	HdG	TFa	HdA				TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	ND	
FRONT	01-39	56-94	---	---	---	---	---	---	---	95-99	00	05	43	10	48	M60A3	KE	LEVEL	52	46	10	9	72	65	39	21	14	12	---		
	38	55	94	---	---	---	---	---	---	99	00	05	43	10	48		or	RISING	65	60	10	9	91	85	42	22	14	12	---		
FRONT/SIDE	01-19	20-27	28-47	66-74	75-94	---	---	---	---	95-99	00	05	24	10	20-29	M60AVLB	KE	FALLING	45	37	9	9	63	52	37	22	13	12	31	31	
	19	27	47	66	74	94	---	---	---	99	00	05	24	10	29		CE	LEVEL	---	46	---	9	---	65	---	21	---	12	---		
REAR/SIDE	---	---	---	01-19	20-27	28-47	66-74	75-94	---	95-99	00	05	24	10	20-29		or	RISING	---	60	---	9	---	85	---	22	---	12	---		
	---	---	---	19	27	47	66	74	94	99	00	05	24	10	29		CE	FALLING	---	37	---	9	---	52	---	22	---	12	---		
REAR	---	---	---	---	---	---	01-39	56-95	95-99	00	01-05	20-24	01-39	01-39																	
	---	---	---	---	---	---	38	55	94	99	00	05	43	10	48																
a. Treat as a "miss" if hit down.																b. Treat as corresponding bullet hit on M60AVLB.															
BOTH:																SIZE: +1		GP DEFENSE: 7				CA DEFENSE: 6									


a: Treat as a "miss" if hull down. b: Treat as corresponding hull hit on M60AVLB. BOTH: SIZE: +1. GP DEFENSE: 7. CA DEFENSE: 6.

NOTES: Both: Has radio and NBC. Not amphibious. HMG and Bailed Crew are small arms. M60A3: The 105mm main gun may fire canister and smoke. Carries an IR/WL searchlight. Path restrictions on turret turns in building and woods hexes. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys mine plow (OR17.5.3.3). M60AVLB: Unarmed. May not enter or overrun buildings. See option 22.0.

USA-3B/1: M113A2 Armored Personnel Carrier (11.2 tons): 35-18-8 points.

USA-3B/2: M998 "Hummer" Utility Vehicle (2.3 tons): 29-15-7 points.

M113A2		MOVEMENT INFO. (M113A2)				MOVEMENT COSTS (M113A2)					
		Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b SMOKE	+1	
		Normal	6	2/3	3/4	BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
		SPEEDS: Snow	6	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
		Mud	4	1	1	CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
M113		TURN COSTS: 0-0-1/2-Tracked				DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
		STACKING POINTS: 2				DEPR DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3
		TRANSPORT VALUE: 2L (FC)				a: Per level. b: Use other terrain in hex. c: Eliminates wire.					
141-156											

<div>M998</div> <div></div> <div>171-172</div>		MOVEMENT INFORMATION				MOVEMENT COSTS				
		Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b SMOKE	+1
		Normal	7	1/2	3/4	BRIDGE	+1	HILL HEXSIDE	+2a STREAM (FORD)	4
		SPEEDS:	Snow	5	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P STREAM (NON-FORD)	P
		Mud	3	1	1	CLEAR	1	IMPROVED POSITION	1 WIRE	P
		TURN COSTS: 0-1-1-Wheeled				DEPR HEXSIDE	+2a	ROUGH	4 WOODS (HEAVY)	P
		STACKING POINTS: 2				DEST/DITCH/FIRE	P	SCRUB	2 WOODS (LIGHT)	3
		TRANSPORT VALUE: 1L (FC)				a: Per level. b: Use other terrain in hex.				

FIRING INFORMATION (BOTH)																				
WEAPON INFORMATION						GUNNERY CHARTS											VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES								FROM HIT				
								1-4	5-6	7	8	9	10	11	12	13+	NO DAM	CMP HIT	KNK OUT	BRW UP
HMG Slab: 0 (HDO)	5	360	9/12	Unl	0	AP (KE)	AP PY	19 4	16 3	16 3	16 3	12 2	12 2	12 2	12 2	—	01-19	20-46	47-95	96-00
						GP	NM MV	8 4	5 3	5 3	5 3	3 2	3 2	3 2	3 2	—	—	—	—	—
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—
BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS (M113 only)			
							—	—	—	—	—	—	—	—	—	—	—	—	—	—

TARGET INFORMATION																				
HIT LOCATION CHARTS (BOTH)											ARMOR CHARTS									
ANGLE OF HIT	HIT LOCATION										VEHICLE	AMMO USED	ELEVATION	FRNT-REAR		F/S-R/S			ABOVE	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HDB	HDA				HF	HR	HF	HS	HR	HD	
FRONT	01-51	—	—	—	—	—	95-99	00	39-43	39-48	M113A2	KE	LEVEL	5	2	7	3	3	—	—
	50	94	—	—	—	—	99	00	43	48		or	RISING	6	2	8	3	3	—	—
FRONT/SIDE	01-25	48-71	72-94	—	—	—	95-99	00	20-24	20-24	M998	KE	LEVEL	1	1	1	1	1	—	—
	25	47	71	94	—	—	99	00	24	24		or	RISING	1	1	1	1	1	—	—
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	95-99	00	20-24	20-24	M113	CE	FALLING	1	1	1	1	1	0	0
	—	—	—	—	—	—	99	00	43	48		or	FALLING	1	1	1	1	1	—	—
REAR	—	—	—	—	01-50	51-94	95-99	00	39-43	39-48	M113: SIZE: —2 GP DEFENSE: 2 CA DEFENSE: 1.									
	—	—	—	—	—	—	99	00	43	48	M998: SIZE: —3 GP DEFENSE: 1 CA DEFENSE: 1.									

NOTES: Both: Infantry units being transported may be fired only if the vehicle is open. HMG and Bailed Crew are small arms. M113A2: Has radio and NBC. Amphibious. M998 "Hummer": Has radio but no NBC. Not amphibious.

USA-4A/1: M901 Anti-Tank Vehicle (13.0 tons): 62-31-16 points.

USA-4A/2: M981 FISTV Fire Support Team Vehicle (13.0 tons): 49-25-12 points.

Card information is for the M901. See notes for differences in the M981 FISTV.

M901 & M981
FISTV

M113

141-156

MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	5	2/3	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE				ATGM SPEEDS	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES										FROM HIT				TAR 1-3	MV 4+
								1	2	3-4	5-8	9-12	13-16	17-20	21-24	25-40	NO DAM	CMP HIT	KNK OUT	BRW UP			
ITOW Class 1 (ATGM)	1	360	7/10	15 (2)	OT	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	01-07	08-20	21-60	61-00	34	17
						GP	NM	—	25	25	25	25	25	25	25	25	25	—	—	—	—	—	—
MG (HDO)	1	360	9/12	Unl	OT	GP	NM MV	5 3	5 3	5 3	2 1	—	—	—	—	—	—	—	—	—	—	—	
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—	
						OP		10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	
BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3 2	3 2	3 2	—	—	—	—	—	—	SMOKE MAKERS: DS						

TARGET INFORMATION

HIT LOCATION CHARTS												ARMOR CHARTS							
ANGLE OF HIT	HIT LOCATION											AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HOG	HDA				HF	HR	HF	HS	HR	
FRONT	01-50	51-94	—	—	—	—	95-99	39-00	39-48	—		KE	LEVEL	5	2	7	3	3	—
												or	RISING	6	2	8	3	3	—
FRONT/SIDE	01-25	26-47	48-71	72-94	—	—	95-99	20-00	20-24	—		CE	FALLING	5	2	6	3	3	8
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	95-99	20-00	20-24	—									
REAR	—	—	—	—	01-50	51-94	95-99	39-00	39-48	—									
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.												SIZE: — 2. GP DEFENSE: 2. CA DEFENSE: 1.							

NOTES: M901: Has radio and NBC. Amphibious. ITOW may not be fired on the move. MG and Bailed Crew are small arms. M981 FISTV: Armed only with the MG, but has "DOT" sights. May serve as an observer unit. All other data and notes are the same as for the M901.

USA-4B: M150 Anti-Tank Vehicle (11.8 tons): 45-23-11 points.

M113
141-156

MOVEMENT INFORMATION

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	6	3/4	3/4
	Mud	4	1	1
TURN COSTS:	0-0-1/2-Tracked			
STACKING POINTS:	2			
TRANSPORT VALUE:	1L			

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE				ATGM SPEEDS			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT				TAR 1-3	MV 4+
								1-	2-	3-4	5-8	9	13	16	17	20	21	24	25	40	NO DAM	CMP HIT	KNK OUT			BRW UP
TOW Class 2 (ATGM)	1	120	7/10	15 (2)	0	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	01-07	08-20	21-60	61-00	26	13		
						GP	NM	—	25	25	25	25	25	25	25	25	25	—	—	—	—				
MG (HDO)	1	360	9/12	Uni	0	GP	NM MV	5 3	5 3	5 3	3 2	2	—	—	—	—	—	—	—	—	—	—	—		
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—			
BAILED CREW-3	1	360	Uni	Uni	0	GP	NM MV	3 2	3 2	3 2	—	—	—	—	—	—	—	SMOKE MAKERS: DS				—	—		
						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			

TARGET INFORMATION

HIT LOCATION CHARTS										ARMOR CHARTS							
ANGLE OF HIT	HIT LOCATION									AMMO USED	ELEVATION	FRNT-REAR		F/S-R/S			ABOVE HD
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD			HDA	HF	HR	HF	HS		HR
FRONT	01-51	—	—	—	—	—	95-	—	39-39	KE or CE	LEVEL	5	2	7	3	3	—
	50-94	—	—	—	—	—	99	00	43-48			RISING	6	2	8	3	3
FRONT/ SIDE	01-26	48-72	—	—	—	—	95-	20-	20-	FALLING	5	2	6	3	3	8	
	25-47	71-94	—	—	—	99	00-	24	24								
REAR/ SIDE	—	—	01-25	48-73	95-	—	20-	20-	—	—	—	—	—	—	—	—	
	—	—	24-47	72-94	99	00	24	24									
REAR	—	—	—	—	01-51	95-	39-39	—	—	—	—	—	—	—	—	—	
	—	—	—	—	50-94	99	00										43-48
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.										SIZE: —2		GP DEFENSE: 2		CA DEFENSE: 1			

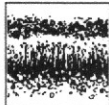
NOTES: Has radio but no NBC. Amphibious. TOW may not be fired on the move and vehicle must be open to fire TOW. Subject to artillery or bomb missile destruction (OR17.2.6). May not enter or overrun buildings. MG and Bailed Crew are small arms.

TERRAIN MARKERS AND EXTRA EQUIPMENT:

Blocks: 6 GP DEF: 10 pts/marker.
7 GP DEF: 15 pts/marker.
8 GP DEF: 20 pts/marker.
Place in any road/path hex.

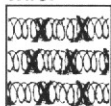


Ditch: 10 pts/marker
Place in any but building, water, or bridge hex.



Radio Jamming: 25 pts/each.

Wire: 1 GP DEF: 5 pts/marker.
2 GP DEF: 10 pts/marker.
3 GP DEF: 15 pts/marker.
Place in any but water hex.



Improved Position: 20 pts/marker.
Place in any but water or bridge hex.



Hasty Anti-Personnel or Anti-Vehicular Mines (3 GP DEF): 5 pts/hex.
Deliberate Anti-Personnel or Anti-Vehicular Mines (6 GP DEF): 10 pts/hex.
Place in any but building, ditch, improved position, water, or bridge hex.

USA-5A/1: M730A1 "Chaparral" Anti-Aircraft Vehicle (12.9 tons): 33-17-8 points.

USA-5A/2: NATO Heavy Truck Utility Vehicle (10.0 tons): 22-xx-6 points.

USA-5A/3: NATO Medium Truck Utility Vehicle (6.0 tons): 21-xx-5 points.

USA-5A/4: NATO Light Truck Utility Vehicle (2.0 tons): 20-xx-5 points.

730A1



M730

171-172

MOVEMENT INFO. (M730A1)

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	4	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 0				

MOVEMENT COSTS (M730A1)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1b
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

MOVEMENT INFO. (Trucks)

	Weather	MF	Road	Path
	Normal	4	1/2	3/4
SPEEDS:	Snow	2	3/4	3/4
(All)	Mud	1	1	1
TURN COSTS: Heavy: 0-2-2-Wheeled				
Med.: 0-1-2-Wheeled				
Light: 0-1-2-Wheeled				
STACKING POINTS (All): 2				
TRANSPORT VALUE: Heavy: 6LT;				
Medium: 4LT; Light: 2LT				

MOVEMENT COSTS (Trucks)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex.

ALL TRUCKS



Truck

901-903

FIRING INFORMATION

VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS														
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												
									1	2	3	4	5	6	7	8	9+				
M730A1	Sidewr (AAM)	1	360	3/12	4 (1)	0	AA (MA)	— OP	LL 70	LM 63	LH 60	MM 60	MH 56	HH 53	DAM —30	RNG 10-40	CM 40				
	BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3 2	3 2	3 2	3 2	—	—	—	—	—	SMOKE MAKERS: None			
TRUCKS* (All)	BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	2 1	2 1	2 1	—	—	—	—	—	SMOKE MAKERS: None			
*: Trucks are otherwise unarmed																					

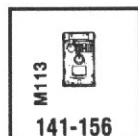
*: Trucks are otherwise unarmed

TARGET INFORMATION

HIT LOCATION CHARTS (80TH)										ARMOR CHARTS									
ANGLE OF HIT	HIT LOCATION									VEHICLE	AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD				HPA	HF	HR	HF	HS		HR	HD
FRONT	01-51	—	—	—	—	—	95-	—	39-39	M730A1	KE	LEVEL	5	2	7	3	3	—	
	50-94	—	—	—	—	—	99	00	43-48		or	RISING	6	2	8	3	3	—	
FRONT/SIDE	01-26	48-72	—	—	—	—	95-	—	20-20		CE	FALLING	5	2	6	3	3	8	
	25-47	71-94	—	—	—	—	99	00-	24-24		KE	LEVEL	0	0	0	0	0	—	
REAR/SIDE	—	—	01-25	48-73	95-	—	95-	—	20-20	TRUCKS (All)	or	RISING	0	0	0	0	0	—	
	—	—	24-47	72-94	99-	00-	99	00	24-24		CE	FALLING	0	0	0	0	0	0	
REAR	—	—	—	—	01-51	95-	39-39	—	—		M730:	SIZE: 0		GP DEFENSE: 2			CA DEFENSE: 1		
	—	—	—	—	50-94	99-	00	43-48	—		TRUCKS:	SIZES: Heavy=0		Medium=-1			Light=-2		
HF*, HS*, HR* and TK*: Treat as "miss" if hit down.										GP DEFENSE (ALL): 1 CA DEFENSE (ALL): 1									

NOTES: All: Has radio but no NBC. Not amphibious. May not enter or overrun buildings. Bailed Crew are small arms. M730A1: Subject to artillery or bomb missile destruction (OR17.2.6). Sidewinders are ineffective vs. ground targets. Trucks: Compartment damage always knocks out a truck. Always considered to be open.

USA-5B: M163A1 Anti-Aircraft Vehicle (12.3 tons): 46-23-12 points.



MOVEMENT INFORMATION				
	Weather	MF	Road	Path
SPEEDS:	Normal	6	2/3	3/4
	Snow	5	3/4	3/4
	Mud	4	1	1
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L				

MOVEMENT COSTS					
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS										VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29+	NO DAM	CMP HIT	KNK OUT	BRW UP
20mm Slab 0 (Gun)	5	3T	7/12	50 (5)	OR	AP (KE)	AP PY	19 6	15 5	10 4	3 3	1 3	—	—	—	01-18	19-44	45-89	90-00
						GP	NM MV	39 20	39 20	39 20	39 20	29 15	29 15	20 10	20 10	—	—	—	—
						AA	—	LL 60	LM 50	LH 42	MM 42	MH 33	HH 24	DAM 0	RNG 1-30	CM	—	—	—
						OP RD	75 63	53 53	41 41	31 31	0 0	1-30	1-30	60	60	—	—	—	—
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	—	—

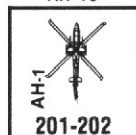
TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVA- TION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS*	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39- 36-55	56- 94	—	—	—	—	—	—	—	95- 99	00	01-05	39-43	01-10	39-48	KE or CE	LEVEL	3	5	2	2	4	7	3	3	3	3	—	—
FRONT/ SIDE	01-19	20-27	28-47	67-66	75-74	94	—	—	—	95-99	00	01-05	20-24	01-10	20-29		RISING	3	6	2	2	5	8	3	3	3	3	—	—
	—	—	—	01-19	20-27	28-47	67-66	75-74	94	95-99	00	01-05	20-24	01-10	20-29		FALLING	3	5	2	2	4	6	3	3	3	3	0	8
REAR/ SIDE	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
REAR	—	—	—	—	—	—	—	—	—	01-39- 38-55	94-99	00	01-05	39-43	01-10	39-48	—	—	—	—	—	—	—	—	—	—	—	—	
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																		SIZE: — 1	GP DEFENSE: 2	CA DEFENSE: 1									

NOTES: Has radio but no NBC. Amphibious. May only be fired if the vehicle is open. Subject to artillery or bomb radar destruction (OR17.2.6). 20mm and Bailed Crew are small arms.

USA-6A/1: AH-1S "TOWCobra" Attack Helicopter: 160 base points (with 20mm chin gun).
 USA-6A/2: AH-64A "Apache" Attack Helicopter: 210 base points (with 30mm chin gun).

AH-1S



GENERAL INFORMATION (AH-1S)

SPEEDS: Low Altitude: 17
Rate of Earth: 12
TRANSPORT VALUE: 0
CARRIES CHAFF/IRCM: Yes
DEFENSE VALUE: 60
STACKING POINTS: 2*

GENERAL INFORMATION (AH-64A)

SPEEDS: Low Altitude: 20
Rate of Earth: 14
TRANSPORT VALUE: 0
CARRIES CHAFF/IRCM: Yes
DEFENSE VALUE: 50
STACKING POINTS: 2*

AH-64A



*Only when landed.

FIRING INFORMATION (BOTH)

WEAPON INFORMATION						GUNNERY CHARTS																VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES																FROM HIT			
								1	2	3-4	5	6	7-8	9-10	11-12	16-20	21-40	41-60	NO DAM	CMP HIT	KNK OUT	BRW UP					
20mm (Gun)	5	120	Unl	30	OT	AP (KE)	AP	18	18	18	18	13	13	13	5	1	—	—	01-18	19-44	45-89	90-00					
						PYNOE	6	6	6	6	5	5	5	4	3	—	—	—	—	—	—						
						PYLOW	12	12	12	12	10	10	10	8	6	—	—	—	—	—	—						
a						GP	NM/MV	26	26	26	26	26	26	26	26	20	—	—	—	—	—						
30mm (Gun)	5	120	Unl	45	DOT	AP (KE)	AP	19	19	19	19	16	16	16	12	8	—	—	01-16	17-41	42-86	87-00					
						PYNOE	13	13	13	13	12	12	12	11	10	—	—	—	—	—	—						
						PYLOW	26	26	26	26	24	24	24	22	20	—	—	—	—	—	—						
b						GP	NM/MV	39	39	39	39	39	39	39	39	29	—	—	—	—	—						
MiniGn	1a	60	Unl	10c	d	GP	NM/MV	50	50	40	30	30	20	10	—	—	—	—	—	—	—	—					
HELLFIR Class 1 (ATGM)	1	60	Unl	c	d	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	18	01-03	04-07	08-53	54-00					
						GP	NM/MV	—	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35		
ITOW Class 1 (ATGM)	1	60	Unl	c	d	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	18	01-07	08-20	21-60	61-00					
						GP	NM/MV	—	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		
Rocket	1	60	Unl	c	d	GP	NM/MV SCATR	—	—	—	15	15	15	15	15	15	15	15	EF = KNK OUT if GP DEF = 1-4.								

NOTES: a: Carried only on the AH-1S. b: Carried only on the AH-64A. c: See "Possible Maximum Armaments" below. d: Same as for the helicopter's chin gun. e: This is a pair of miniguns, one on each wing, that fire together.


NOTES: a: Carried only on the AH-1S. b: Carried only on the AH-64A. c: See "Possible Maximum Armaments", below. d: Same as for the helicopter's chin gun. e: This is a pair of miniguns, one on each wing, that fire together.


POSSIBLE MAXIMUM ARMAMENTS & POINTS


AH-1S	AH-64A	ARMAMENT POINT VALUES (ADD TO BASE POINTS)
20mm chin gun; and	30mm chin gun; and	Per Rocket—10 points.
8 ITOW & 2 Rockets; or	16 HELLFIRE; or	Per HELLFIRE—15 points.
8 HELLFIRE & 2 Rockets; or	8 HELLFIRE & 6 Rockets; or	Per ITOW—10 points.
8 Rockets; or	8 ITOW & 6 Rockets; or	For Pair Miniguns (1/wing)—35 points.
Pair Miniguns & 6 Rockets	12 Rockets	

NOTES: All: All have radios and a 120 degree sighting arc. Only base points are counted if a helicopter is destroyed. ITOW is a wire-guided ATGM (OR20.2.3.3.2), and HELLFIRE is a laser homing ATGM (OR20.2.3.3.3). Rockets are effective only in their impact hex. All helicopters are restricted to low altitude in "Fog" or "Blowing Snow" conditions. 20mm, 30mm, and miniguns are small arms. Note that another unit with a laser designator ("D" sight) is required to fire HELLFIRE from an AH-1S.

USA-6B/1: OH-58D (AHIP) "Kiowa" Light Helicopter: 95 base points (unarmed).
 USA-6B/2: UH-1H "Iroquois" Transport Helicopter: 70 base points (with 1 MG/side).
 USA-6B/3: UH-60A "Blackhawk" Tactical Transport Helicopter: 120 base points (unarmed).

OH-58D		GENERAL INFORMATION (OH-58D)	
 OH-58D 211-212		SPEEDS: Low Altitude: 13 Nap of Earth: 8	
		TRANSPORT VALUE: 1L (FC) a	
		CARRIES CHAFF/IRCM: No	
		DEFENSE VALUE: 80	
		STACKING POINTS: 2 b	

UH-1H		GENERAL INFORMATION (UH-1H)	
 UH-1H 221-224		SPEEDS: Low Altitude: 12 Nap of Earth: 6	
		TRANSPORT VALUE: 2L (FC)	
		CARRIES CHAFF/IRCM: No	
		DEFENSE VALUE: 75	
		STACKING POINTS: 2 b	

UH-60A		GENERAL INFORMATION (UH-60A)	
 UH-60A 221-224		SPEEDS: Low Altitude: 18 Nap of Earth: 11	
		TRANSPORT VALUE: 3L (FC) a	
		CHAFF/IRCM: Yes	
		DEFENSE VALUE: 65	
		STACKING POINTS: 2 b	

a: Reduce the transport value to "0" with any wing armament. b: Only when landed.

FIRING INFORMATION (ALL)																					
WEAPON INFORMATION						GUNNERY CHARTS										VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES										FROM HIT			
								1	2	3-4	5	6	7-8	9-10	11-15	16-40	NO DAM	CMP HIT	KNK OUT	BRW UP	
MiniGn	1a	60	Unl	10	DOT	GP	NM/MV	50	50	40	30	30	20	10	—	—	—	—	—		
MiniGn	1b	Sid	Unl	10	IO	GP	NM/MV	25	25	20	15	15	10	5	—	—	—	—	—		
MG c	1	Sid	Unl	10	IO	GP	NM/MV	5	5	5	3	3	3	2	—	—	—	—	—		
HELFI Class 1 (ATGM)	1	60	Unl	d	e	HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	01-03	04-07	08-53	54-00	
						GP	NM/MV	—	35	35	35	35	35	35	35	35	—	—	—	—	
Rocket	1	60	Unl	d	e	GP	NM/MV SCATR	—	—	—	15	15	15	15	15	—	EF = KNK OUT if GP DEF = 1-4.				
NOTES: a: This is a pair of miniguns, one on each wing, that fire together, carried only on OH-58D wings. b: This is for one minigun on each side that fire separately, carried only on the UH-60A. c: One on each side on the UH-1H. Also one on each side on the UH-60A, if side miniguns are not carried. Rate of fire and ammunition are per side. d: See "Possible Maximum Armaments", below. e: Same as for the helicopter's gun.																					

POSSIBLE MAXIMUM ARMAMENTS & POINTS			
OH-58D	UH-1H	UH-60A	ARMAMENT POINT VALUES (ADD TO BASE POINTS)
6 Rockets (Wing); or	1/Side MGs only.	16 Hellfire (Wing); or	Per HELLFIRE—15 points.
Miniguns (Wing Pair); or		12 Rockets (Wing) and	Per Pair Miniguns (1/side or 1/wing)—35 points.
4 Hellfire (Wing)		1/Side MGs; or	Per Rocket—10 points.
		1/Side Miniguns.	Per 1/side MGs—5 points.

NOTES: All: All have radios and a 120 degree sighting arc. Only base points are counted if a helicopter is destroyed. HELLFIRE is a laser homing ATGM (OR20.2.3.3.3). Rockets are effective only in their impact hex. All helicopters are restricted to low altitude in "Fog" or "Blowing Snow" conditions. Machineguns and miniguns are small arms. May not expend over 1/4 (round up) movement factors in movement during an Air Phase when landing or taking off (NOE altitude and clear or scrub hexes only). OH-58D: Can serve as an observer unit (like a company CO). Carries "DT" sights even if carrying no miniguns. UH-60A: Carries "I" sights even if carrying no machineguns or miniguns.

USA-7A/1: A-10A "Thunderbolt II" Aircraft: 285 base points (with 30mm gun).

USA-7A/2: F-111F "Aardvark" Aircraft: 355 base points (unarmed).

USA-7A/3: F-16A/C "Fighting Falcon" Aircraft: 305 base points (with 20mm gun).

USA-7A/4: F-4E/G "Phantom II" Aircraft: 235 base points (with 20mm gun).

AIRCRAFT



211

or



212




GENERAL INFORMATION

	A-10A	F-111F	F-16A	F-4E
CREW SIZE:	1	2	1	2
CONDITION LEVELS:	3	1	2	3
MAXIMUM WEAPON LOADS:	6	10	5	6
PRECISION MUNITIONS:	Yes	Yes	Yes	Yes
CARRIES ECM POD:	Yes	Yes	Yes	Yes
DEFENSE VALUE:	30b	25	50	55

NOTES:

- a: Internal—not part of weapon load.
b: May not make high speed attacks.

FIRING INFORMATION (ALL)

WEAPON INFORMATION						GUNNERY CHARTS							VEHICLE DAMAGE				
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES					FROM HIT				
								0	1-4	5	6-10	11-15	NO DAM	CMP HIT	KNK OUT	BRW UP	
30mm (Gun)	5	60	Uni	50a	LO	AP (KE)	AP PY	—	20	20	15	10	01-15	16-41	42-86	87-00	
						GP	MV	—	39	39	39	39	—	—	—	—	
20mm (Gun)	5	60	Uni	15b	LO	AP (KE)	AP PY	—	20	20	15	10	01-18	19-44	45-89	90-00	
						GP	MV	—	33	33	33	33	—	—	—	—	
Rocket	1	60	Uni	c	d	GP	MV SCATR	—	—	30	30	30	50f	EF = KNK OUT if GP DEF = 1-8.			
Iron Bombs	1	—	Uni	c	d	GP	MV SCATR	50	LL	LM	MH	HH	50f	EF = BREW UP if GP DEF = Any.			
Cluster Bomb	1	—	Uni	c	d	GP	MV SCATR	25	LL	LM	MH	HH	30f	EF = BREW UP if GP DEF = Any. g			
Napalm Bomb	1	—	Uni	c	d	GP	MV SCATR	50	LL	LM	MH	HH	50f	EF = BREW UP if GP DEF = Any. e			
ARM Msl	1	360	Uni	c	d	GP	MV SCATR	40	LL	LM	LH	MH	20h	EF = KNK OUT if GP DEF = Any.			
Mine Cnstr	1	—	Uni	c	d	GP	MV SCATR	—	LL	LM	MH	HH	40f	Usual mine effects.			
Smoke Bomb	1	—	Uni	c	d	SMOKE	MV SCATR	—	LL	LM	MH	HH	40f	Usual smoke effects.			

NOTES: a: On the A-10A. Only 20 in a gun pod which can be carried by the F-16 and the F-4. b: On the F-16, 20 on the F-4 and 20 in a gun pod which can be carried by any of these aircraft. c: 1 weapon = 1 load. d: Same as for the aircraft's guns. e: GP Modifiers: "+30" vs. dismounted leg, towed and soft vehicles (all armor basis = 0). "+20" vs. open vehicles or those with 0 overhead (HD or TT) armor. f: Other Scatter Modifiers: "+10" if the aircraft has 2 crew and "-20" if the aircraft is evasive maneuvering. g: GP Modifier: "+10" vs. any targets. h: Effects only the vehicle using radar. "+10" scatter modifier if the aircraft has 2 crew. "+20" GP modifier vs. the vehicle. i: Scatter Modifiers: "+10" if low speed, "-10" if low altitude. j: Scatter Modifiers: "+20" if low speed/high altitude, "-20" if high speed/low altitude. k: Scatter Modifiers: "+10" if high altitude, "-10" if high speed.

POSSIBLE LOADS AND THEIR POINT VALUES (ADD TO BASE POINTS)

Per ARM Missile—50 points.	Per Iron Bomb a—30 points.	Per Rocket—20 points.
Per Cluster Bomb a—50 points.	Per LANTIRN Pod—70 points.	Per Smoke Bomb—10 points.
Per ECM Pod—60 points.	Per Mine Canister—30 points.	Per 30mm Gun Pod b—50 points.
Per Fuel Tank—30 points.	Per Napalm Bomb—50 points.	Per 20mm Gun Pod b—20 points.

a: +20 points for a PGM version (" +30" extra Scatter Modifier, Range = 5/10/15 @ L/M/H Alts.) b: Gun pods = 2 weapon loads each.

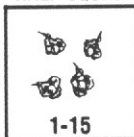
NOTES: All have radios. Guns and rockets may be fired only from low altitude. Only base points are counted if an aircraft is destroyed. 20mm and 30mm are small arms. Only F-4 and F-16 can carry ARM.

USA-7B: U.S.A. Leg Units & Equipment (1 ton/Squad: 1/2 ton/Team or Half-Squad):

SQUAD



HALF-SQUAD



MOVEMENT INFORMATION

	Squad	1/2 Squad	Team
SPEEDS	2(1)	2(1)	1
STACKING POINTS	2	1	1
LOAD/UNLOAD	1	1	2

TEAM



FIRING INFORMATION

UNIT INFORMATION								GUNNERY CHARTS												VEHICLE DAMAGE				ATGM SPEEDS					
TYPE OF UNIT	UNIT SIZE	PT	MAX ROF	TRN	DEP EL	TOT AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT				TAR	MV		
										1	2	3	4	5	6-8	9-10	11	12	NO DAM	CMP HIT	KNK OUT	BRW UP	1-3	4+					
Hvy Mech Inf (Guns)	SQUAD	32	1	360	Unl	Unl	IO	GP	NM MV	39 20	32 16	25 13	18 11	11 6	7 4	3 2	—	—	—	—	—	—	—	—	—	—	—	—	
	1/2SQ	23	1	360	Unl	Unl	IO	GP	NM MV	25 13	21 11	18 9	14 7	11 6	7 4	3 2	—	—	—	—	—	—	—	—	—	—	—	—	
Lt Mech Inf (Guns)	SQUAD	30	1	360	Unl	Unl	IO	GP	NM MV	34 17	26 10	19 6	12 3	5 2	4 1	2	—	—	—	—	—	—	—	—	—	—	—	—	
	1/2SQ	22	1	360	Unl	Unl	IO	GP	NM MV	20 10	16 8	12 6	10 5	5 3	4 2	2 1	—	—	—	—	—	—	—	—	—	—	—	—	
Standard Inf (Guns)	SQUAD	26	1	360	Unl	Unl	IO	GP	NM MV	28 14	21 11	14 7	7 4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	1/2SQ	20	1	360	Unl	Unl	IO	GP	NM MV	14 11	11 6	7 4	4 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Any Infantry (Guns)	TEAM	17	1	360	Unl	Unl	O	GP	NM MV	7 4	5 3	4 2	2 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
MG (Gun)	a	2	1	360	Unl	Unl	O	GP	NM	9	8	7	6	5	4	2	1	1	—	—	—	—	—	—	—	—	—	—	
Dragon Class 2 (ATGM)	b	17	1	120	Unl	Unl	IO	HEAT (CE)	AP PY	10 120	16 120	17 120	18 120	18 120	18 120	—	—	01-07	08-20	21-60	61-00	14	7	—	—	—	—	—	
								GP	NM	25 25	25 25	25 25	25 25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
M72A2 LAW Stab. 0 (Rctr Lnchr)	b	6	1	60	Unl	Unl	IO	HEAT (CE)	AP PY	20 61	10 61	3 61	1 31	—	—	—	—	01-15	16-39	40-70	71-00	—	—	—	—	—	—	—	
								GP	NM MV	13 7	13 7	13 7	13 7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AT-4 Stab. 0 (Rctr Lnchr)	b	9	1	60	Unl	Unl	IO	HEAT (CE)	AP PY	20 75	12 75	7 75	3 75	1 75	—	—	—	01-13	14-31	32-66	67-00	—	—	—	—	—	—	—	
								GP	NM MV	16 8	16 8	16 8	16 8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flamethrower	d	10	1	60	Unl	Unl	O	Causes a modifier for close assaults and hand-to-hand combats.																					
								AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CW	—	—	—	—	—	—	—	—	—	—	
Any Infantry (Guns)	SQUAD	c	1	360	Unl	Unl	IO	OP	15	12	9	9	6	3	+20	1-6	—	—	—	—	—	—	—	—	—	—	—	—	
	1/2SQ	c	1	360	Unl	Unl	IO	OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	—	—	—	—	—	
Any (Guns)	TEAM	c	1	360	Unl	Unl	O	OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	—	—	—	—	—	
3DEYE (AAM)	b	3	1	60	Unl	Unl	IO	(MT)	OP	40	36	34	34	32	30	+10	2-30	80	—	—	—	—	—	—	—	—	—	—	
STINGER (AAM)	b	11	1	60	Unl	Unl	IO	(MA)	OP	70	63	60	60	56	53	0	2-50	40	—	—	—	—	—	—	—	—	—	—	
NOTES: a: Must be placed with a team. b: Place with a team, squad or half-squad. c: See notes for type of unit elsewhere. d: Placed with Assault Squads only.																													

NOTES: a. Must be placed with a team. b. Place with a team, squad or half-squad. c. See points for type of unit elsewhere. d. Placed with Assault Squads only.

TARGET INFORMATION (GP DEFENSE FOR ALL)

	BLOCK	BUILDINGS			BRIDGE /CLEAR	DITCH	DEPRES- SION	DE- STROYED	FIRE	HEAVY WOODS	IMPRVD PSITON	ROUGH	SCRUB	STREAM	WIRE	WOODS	WRECK	
		BRICK	STONE	WOOD														
FC	+1	8	10	7	4	6/8	5	6	P	8	9	6	5	P	P	7	+1	FC
NM	+1	6	8	5	2	4/6	3	4	P	6	7	4	3	1	P	5	+1	NM
MV	+1	4	6	3	1	2/4	1	2	P	4	5	2	1	1	P	3	+1	MV

NOTES: All have radios. A Dragon may not be fired when moved. A squad may be made "Assault" or "Squad Plus" for an additional 15 points, and "Special Forces" for an additional 30 points. Any unit with an officer can also carry a GLLO ("D" sight) for an additional 25 points. The Dragon, LAW, AT-4, Redeye, and Stinger may not be fired from the upper floors of buildings. MG and Dragon may not be fired while being transported. LAW, AT-4, Flamethrower, Redeye, and Stinger may be fired while being transported only if on a non-FC vehicle or on an open FC vehicle. Redeye and Stinger are ineffective vs. ground targets. All guns are small arms.

USA-8A: M1A2 "Abrams" Main Battle Tank (57.2 tons): 110-55-28 points.

MOVEMENT INFORMATION				
SPEEDS:	Weather	MF	Road	Path
	Normal	6	2/3	3/4
	Snow	6	3/4	3/4
	Mud	5	1	1

TURN COSTS: 0-0-1/2-Tracked

STACKING POINTS: 2

TRANSPORT VALUE: 2L

MOVEMENT COSTS									
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1				
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4				
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P				
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c				
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P				
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3				

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION																					
WEAPON INFORMATION						GUNNERY CHARTS													VEHICLE DAMAGE		
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES										FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP
120mm Stab. 1 (MnGn)	1	27	8/10	10 (2)	COT	APFSDS (KE)	AP PY	20 100	18 95	16 90	14 86	12 83	10 76	8 68	5 64	2 61	1 59	01-06	07-15	16-75	76-00
						HEAT-MP (CE)	AP PY	19 95	17 95	15 95	12 95	10 95	7 95	3 95	1 95	1 —	01-05	06-14	15-57	58-00	
						GP	NM MV	29 15	27 14	25 13	23 12	17 9	12 9	6 6	6 6	3 3	6 3	EF = KNK OUT if GP DEF = 1-6.			
HMG Stab. 0 (TTO)	5	360	9/12	Unl	OT	AP (KE)	AP PY	19 4	16 3	12 2	—	—	—	—	—	—	—	01-19	20-46	47-95	96-00
						GP	NM MV	8 4	5 3	3 2	—	—	—	—	—	—	—	—	—	—	—
						AA	— OP	LL 10	LM 8	LH 6	LN 6	MN 4	MH 4	HH 2	DAM +10	RNG 1-10	CM —	—	—	—	—
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS + EX			

TARGET INFORMATION																												
HIT LOCATION CHARTS													ARMOR CHARTS															
ANGLE OF HIT	HIT LOCATION												AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE					
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG			HDG	TTA	HDA	TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39	56-94	—	—	—	—	—	—	—	95-00	01-39	01-39	125-175	125-175	175-242	175-242	85-175	85-175	56-34	—	—	—	—	—	—	—	—	
	38	55	94	—	—	—	—	—	—	99	00	05	43	10	48		134	134	46	24	187	187	91	86	64	34	—	—
FRONT/SIDE	01-19	20-27	28-47	48-66	67-74	75-94	—	—	—	95-00	01-20	01-20	119-166	119-166	166-242	166-242	81-166	81-166	50-34	60-60	—	—	—	—	—	—	—	
	19	27	47	66	74	94	—	—	—	99	00	05	24	10	29		250	250	40	24	350	350	170	170	56	34	—	—
REAR/SIDE	—	—	—	—	—	—	—	—	—	95-00	01-20	01-20	202-250	202-250	250-324	250-324	170-250	170-250	56-34	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	99	00	05	24	10	29		180	180	36	24	252	252	162	172	50	34	60	60
REAR	—	—	—	—	—	—	—	—	—	95-00	01-39	01-39	180-242	180-242	242-324	242-324	162-242	162-242	50-34	60-60	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	99	00	05	43	10	48													
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.													SIZE: 0. GP DEFENSE: 8. CA DEFENSE: 7.															

NOTES: Has radio and NBC. Not amphibious. Path restrictions on turret turns in building and woods hexes. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25 destroys the mine plow (OR17.5.3.3). HMG and Bailed Crew are small areas.

USA-8B/1: M106A1 Self-Propelled Mortar Vehicle (12.0 tons): 42-21-11 points.

USA-8B/2: M125A1 Self-Propelled Mortar Vehicle (11.3 tons): 40-20-10 points.

M106A1 &
M125A1

M113



141-156

MOVEMENT INFO. (BOTH)

SPEEDS:	Weather	MF	Road	Path
	Normal	6	2/3	3/4
	Snow	5	3/4	3/4
	Mud	4	1	1
TURN COSTS (M106): 0-0-1-Tracked				
TURN COSTS (M125): 0-0-1/2-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L				

MOVEMENT COSTS (BOTH)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION (BOTH)

WEAPON INFORMATION						GUNNERY CHARTS																VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES														FROM HIT			
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
107mm (Mrt)	1	60	12/12	22 (3)	0	GP	NM SCATRa SCATRb	—	—	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
81mm (Mrt)	1	360	12/12	30 (3)	0	GP	NM SCATRa SCATRb	—	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
HMB Stab. 0 (HDO)	5	360	9/12	Unl	0	AP (KE) GP AA	AP PY MV — OP	19 4 3 10	16 3 2 8	12 2 3 6	— 2 3 4	— 3 4 5	— 4 5 6	— 5 6 7	— 6 7 8	— 7 8 9	— 8 9 10	— 9 10 11	— 10 11 12	— 11 12 13	— 12 13 14	— 13 14 15	— 14 15 16	— 15 16 17	— 16 17 18
BAILED CREW-6	1	360	Unl	Unl	0	GP	NM MV	6 3	6 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3	— 3

NOTES: a: Direct area effect fire scatter factor. b: Indirect area effect fire scatter factor.

TARGET INFORMATION (BOTH)

HIT LOCATION CHARTS											ARMOR CHARTS							
ANGLE OF HIT	HIT LOCATION										AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE HD
	HF	HS	HR	TK	GN	HG	HDA	HE	HE	HE			HF	HR	HF	HS	HR	
FRONT	01-50	51-94	—	—	—	95-99	00	43	48	—	KE or CE	LEVEL	5	2	7	3	3	—
FRONT/SIDE	01-25	26-47	48-71	72-94	—	95-99	00	24	24	—	—	—	—	—	—	—	—	—
REAR/SIDE	—	—	24	47	72	94	99	00	24	24	—	—	—	—	—	—	—	—
REAR	—	—	—	—	01-50	51-94	95-99	00	43	48	—	—	—	—	—	—	—	—

HF*, HS*, HR* and TK*: Treat as "miss" if hull down. SIZE: -2. GP DEFENSE: 2. CA DEFENSE: 1.

Observer Scatter Modifiers:

FISTV: +10.
Platoon CO: -10.
Battalion CO/XO/SP: +10.
Suppressed Observer: -20.
Crack/Poor Observer: +10/-10.
Through Brew-Up Smoke: -10.
Through Other Smoke: -20

NOTES: Both: Has radio and NBC. Amphibious. May not enter or overrun buildings. Must be open to fire mortar. Must use area effect fire with mortars. and may use GP, Illumination and Smoke ammunition. HMB and Bailed Crew are small arms. M106A1: Is armed with the 107mm mortar and an HMB. M125A1: Is armed with the 81mm mortar and an HMB.

FRG-1A: Leopard 1A4 Main Battle Tank (42.6 tons): 78-39-20 points.

Leopard 1A4



101-113

MOVEMENT INFORMATION

	Weather	MF	Road	Path
SPEEDS:	Normal	6	2/3	3/4
	Snow	5	3/4	3/4
	Mud	3	1	1
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
105mm Stab. 3 (MnGn)	2	2T	8/ 10	14 (2)	LST	APFSDS (KE)	AP PY	20 90	17 85	15 80	13 76	11 73	9 70	7 67	5 64	3 61	1 59	01-08	09-19	20-75	76-00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
						HEAT (CE)	AP PY	19 85	17 85	14 85	11 85	8 85	6 85	3 85	1 85	1 85	—	01-07	08-17	18-59	60-00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
						HESH (CE)	AP PY	19 85	15 85	11 85	7 85	3 85	1 85	1 85	—	—	—	01-06	07-15	16-75	76-00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
						GP	NM MV	27 13	25 12	23 11	21 10	16 8	16 8	11 5	11 5	5 3	5 3	EF = KNK OUT if GP DEF = 1-5.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
						GP	NM MV	5 3	3 2	2 —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
MG (TTO)	1	360	9/ 12	Unl	OT	AA	— OP	LL 10	LM 8	LH 6	MM 6	MH 4	HH 2	DAM +20	RNG 1-6	CM —	—	—	—	—																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
						GP	NM MV	4 2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR		FRONT/SIDE-REAR/SIDE				ABOVE					
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39	56-94	—	—	—	—	—	—	—	—	95-99	01-05	39-43	01-10	39-48	KE or CE	LEVEL	58	28	19	5	81	40	39	7	26	7	—	—
FRONT/ SIDE	01-19	20-27	28-47	48-66	67-74	75-94	—	—	—	—	95-99	01-05	20-24	01-10	20-29		RISING	58	37	20	5	81	52	42	7	28	7	—	—
REAR/ SIDE	—	—	—	01-19	20-27	28-47	48-66	67-74	75-94	—	95-99	01-05	20-24	01-10	20-29	FALLING	58	23	18	5	81	32	37	7	25	7	25	13	
REAR	—	—	—	—	—	—	01-39	56-94	95-99	—	95-99	01-05	39-43	01-10	39-48														
HF*, HS*, HR* and TK*: Treat as "miss" if full down.																SIZE: 0. GP DEFENSE: 7. CA DEFENSE: 6.													

HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.

SIZE: 0. GP DEFENSE: 7. CA DEFENSE: 6.

NOTES: Has radio and NBC. Not amphibious. Path restrictions on turret turns in building and woods hexes. The 105mm main gun may fire canister and smoke. HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys mine plow (OR17.5.3.3).

FRG-1B: Leopard 2 Main Battle Tank (55.2 tons): 99-50-25 points.

Leopard 2



101-113

MOVEMENT INFORMATION

Weather	MF	Road	Path
Normal	6	2/3	3/4
Snow	6	3/4	3/4
Mud	5	1	1

TURN COSTS: 0-0-0-Tracked

STACKING POINTS: 2

TRANSPORT VALUE: 2L

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS													VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES													FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP			
120mm Slab. 1 (MnGr)	1	2T	8/10	10 (2)	LOT	APFSDS (KE)	AP PY	20	18	16	14	12	10	7	5	2	1	01-06	07-15	16-75	76-00			
						HEAT-MP (CE)	AP PY	19	17	15	12	10	7	3	1	1	—	01-05	06-14	15-57	58-00			
						GP	NM MV	29	27	25	23	17	17	12	12	6	6	EF = KNK OUT if GP DEF = 1-6.						
								15	14	13	12	9	9	6	6	3	3							
MG (TTO)	1	360	9/12	Unl	OT	GP	NM MV	5	3	2	—	—	—	—	—	—	—	—	—	—	—			
						AA	— OP	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—		
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS						

TARGET INFORMATION

HIT LOCATION CHARTS														ARMOR CHARTS														
ANGLE OF HIT	HIT LOCATION													AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE				
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG			TTA	HDA	TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39-38	39-58-55	58-94	—	—	—	—	—	—	—	95-99	00	01-05	01-48	KE	LEVEL	85	85	40	20	119	120	62	62	56	28	—	—
FRONT/SIDE	01-19	20-27	28-47	48-66	67-74	75-94	—	—	—	—	95-99	00	05-24	01-29		RISING	86	91	40	20	120	128	63	63	57	28	—	—
	REAR/SIDE	—	—	—	01-19	20-27	28-47	48-66	67-74	75-94	94-99	95-99	00	05-24		01-29	FALLING	65	81	40	20	120	114	63	63	57	28	60	60
REAR		—	—	—	—	—	—	01-39-38	39-58-55	58-94	94-99	95-99	00	05-43	01-48	CE	LEVEL	170	170	40	20	238	240	124	124	56	28	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	RISING		172	182	40	20	240	256	126	126	57	28	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	FALLING	172	182	40	20	240	228	126	126	57	28	60	60	
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down														SIZE: 0 GP DEFENSE: 8 CA DEFENSE: 7														

NOTES: Has radio and NBC. Not amphibious. Path restrictions on turret turns in building and woods hexes. MG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys the mine plow (OR17.5.3.3).

FRG-2A/1: Marder A1 Infantry Fighting Vehicle (31.1 tons): 59-30-15 points.

FRG-2A/2: Marder A3 Infantry Fighting Vehicle (32.7 tons): 70-35-18 points.

Marder
A1 & A3



141-151

MOVEMENT INFO. (BOTH)

	Weather	MF		Road	Path
		A1	A3		
	Normal	7	6	2/3	3/4
SPEEDS:	Snow	6	5	3/4	3/4
	Mud	4	3	1	1

TURN COSTS (A1): 0-0-1-Tracked

TURN COSTS (A3): 0-1/2-1-Tracked

STACKING POINTS: 2

TRANSPORT VALUE: 2L (FC)

MOVEMENT COSTS (BOTH)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE				ATGM SPEEDS			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT				TAR 1-3	MV 4+
								1	2	3-4	5-8	9-12	13-16	17-20	21-24	25-28	NO DAM	CMP HIT	KNK OUT	BRW UP					
20mm Stab. 0 (Gun)	4	3T	9/12	92 (10)	10	APDS (KE)	AP PY	19	19	19	17	13	7	1	—	—	01-18	19-44	45-89	90-00	—	—			
						GP	NM MV	19	19	19	17	15	13	10	10	7	—	—	—	—	—	—			
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—			
							OP	—	15	13	11	8	6	2	1-20	—	—	—	—	—	—	—	—		
Milan Class 1 (ATGM)	1	3T	9/12	5 (1)	10	HEAT (CE)	AP PY	10	16	18	18	18	18	18	—	—	01-13	14-30	31-65	66-00	26	13			
						GP	NM	18	18	18	18	18	18	18	—	—	—	—	—	—			—		
MG (HRC)	1	6DR	8/10	Unl	0	GP	NM MV	5	5	5	3	2	—	—	—	—	—	—	—	—	—	—			
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—			
							OP	—	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—		
BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3	3	3	—	—	—	—	—	—	\$MOKE MAKERS: DS					—	—		

\$MOKE MAKERS:
DS

TARGET INFORMATION

HIT LOCATION CHARTS (BOTH)														ARMOR CHARTS															
ANGLE OF HIT	HIT LOCATION													VEH	AMMO USED	ELEVATION	FRONT-REAR				F/S-R/S				ABOVE				
	TF	HF	HF*	TS	HS*	TR	HR	HR*	TK*	GN	TTG	HDB	TTA				HDA	TF	HF	TR	HR	TF	HF	TS	TR	HR	TT	HD	
FRONT	01-39-38	56-55	—94	—	—	—	—	—	—99	95-00	01-05	39-43	01-10	39-48	A1	KE	LEVEL	5	7	2	2	6	10	3	3	3	—	13	
														or		RISING	5	9	2	2	7	13	3	4	3	3	—		
FRONT/SIDE	01-19	20-27	28-47	48-66	67-74	75-94	—	—	—95-99	00	01-05	20-24	01-10	20-29		CE	FALLING	4	5	2	2	6	8	3	3	3	3		13
														or		LEVEL	7	7	3	2	9	10	4	4	4	3	—		
REAR/SIDE	—	—	—	01-19	20-27	28-47	48-66	67-74	75-94	95-99	00	01-05	20-24	01-10	A3	KE	LEVEL	7	9	3	2	10	13	4	5	4	3	13	
														or		RISING	7	9	3	2	10	13	4	5	4	3	—		
REAR	—	—	—	—	—	—	01-38	39-55	56-94	95-99	00	01-05	39-43	01-10	CE	FALLING	6	6	3	2	8	8	4	4	4	3	13		
HF*, HS*, HR* and TK*: Treat as a miss if null down.														BOTH: SIZE: — 1 GP DEFENSE: 2 CA DEFENSE: 1															

HF*, HS*, HR* and TK*: Treat as a 'miss' if hull down.

BOTH: SIZE: —1 GP DEFENSE: 2 CA DEFENSE: 1

NOTES: Both: Has radio and NBC. Not amphibious. Infantry units being transported may be fired if the vehicle is open or buttoned up (2 hexes range). Milan may not be fired on the move. Subject to artillery or bomb missile destruction (OR17.2.6). 20mm, MG, and Bailed Crew are small arms. Marder A1: Carries a IR/WL searchlight. Marder A3: Does not have the searchlight or the (HRC) MG, but has "OT" sights for the 20mm main gun and the Milan ATGM.

FRG-2B/1: M113GA1 Armored Personnel Carrier (11.2 tons): 36-18-9 points.
 FRG-2B/2: BEOBPZ (M113GA2) Artillery Control Vehicle (11.2 tons): 42-21-11 points.
 Card M113 information is for the M113GA1. See notes for BEOBPZ differences.
 FRG-2B/3: TPZ-1 "Fuchs" Armored Personnel Carrier (17.0 tons): 34-17-9 points.

M113GA1 & BEOBPZ

M113



146-151

MOVEMENT INFO. (M113)

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	6	3/4	3/4
	Mud	4	1	1
TURN COSTS:	0-0-1/2-Tracked			
STACKING POINTS:	2			
TRANSPORT VALUE:	2L (FC)			

MOVEMENT COSTS (M113)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

TPZ-1

TPZ



141-145

MOVEMENT INFO. (TPZ-1)

	Weather	MF	Road	Path
	Normal	7	1/2	3/4
SPEEDS:	Snow	6	3/4	3/4
	Mud	4	1	1
TURN COSTS:	0-1/2-1-Wheeled			
STACKING POINTS:	2			
TRANSPORT VALUE:	2L (FC)			

MOVEMENT COSTS (TPZ-1)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex.

FIRING INFORMATION (ALL)

WEAPON INFORMATION						GUNNERY CHARTS														
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												
								1-4	5-6	7	8	9	10	11	12	13+				
MG (HDO)	1	360	9/12	Unl	0	GP	NM MV	5 3	3 2	3 2	3 2	2 1	2 1	2 1	2 1	—				
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM				
						OP	10	8	6	6	4	2	+20	1-6	—					
BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	3 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS		

TARGET INFORMATION

HIT LOCATION CHARTS (ALL)											ARMOR CHARTS									
ANGLE OF HIT	HIT LOCATION										VEHICLE	AMMO USED	ELEVATION	FRNT-REAR		F/S-R/S			ABOVE	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD	HDA				HF	HR	HF	HS	HR		HD
FRONT	01-50	51-94	---	---	---	---	95-99	00	43	48	M113GA1 and BEOBPZ	KE or CE	LEVEL	5	2	7	3	3	---	
	---	---	---	---	---	---	---	---	---	---			RISING	6	2	8	3	3	---	
FRONT/SIDE	01-25	26-47	48-71	72-94	---	---	95-99	00-24	24	24	TPZ-1	KE or CE	LEVEL	8	4	11	5	5	---	
	---	---	---	---	---	---	---	---	---	---			RISING	10	4	14	5	5	---	
REAR/SIDE	---	---	24	47	72	94	99	00	24	24			FALLING	7	2	10	5	5	13	
	---	---	---	---	---	---	---	---	---	---										
REAR	---	---	---	---	01-50	51-95	99	00	43	48										
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.											M113:	SIZE: -2	GP DEFENSE: 2		CA DEFENSE: 1					
											TPZ-1:	SIZE: -1	GP DEFENSE: 2		CA DEFENSE: 1					

NOTES: M113GA1 & TPZ-1 "Fuchs": Has radio and NBC. Amphibious. Infantry units being transported may be fired only if the vehicle is open. MG and Bailed Crew are small arms. BEOBPZ: Transport Value = 1L. May serve as an observer unit. All other data and notes are the same as for the M113GA1.

FRG-3A/1: Jaguar 1 Tank Destroyer (25.4 tons): 60-30-15 points.

FRG-3A/2: Jaguar 2 Tank Destroyer (25.4 tons): 70-35-18 points.

Jaguar	MOVEMENT INFO. (BOTH)				MOVEMENT COSTS (BOTH)			
	Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b SMOKE
	Normal	6	2/3	3/4	BRIDGE	+1	HILL HEXSIDE	+1a STREAM (FORD)
	SPEEDS:	Snow	6	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3Lv1)
TURN COSTS: 0-0-0-Tracked					CLEAR	1	IMPROVED POSITION	1 WIRE
STACKING POINTS: 2					DEPR HEXSIDE	+1a	ROUGH	4 WOODS (HEAVY)
TRANSPORT VALUE: 2L					DEST/DITCH/FIRE	P	SCRUB	2 WOODS (LIGHT)
					a: Per level. b: Use other terrain in hex. c: Eliminates wire.			

FIRING INFORMATION																										
VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE				ATGM			
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A	RANGE IN HEXES										FROM HIT				SPEEDS			
									1	2	3-4	5-8	9-12	13-16	17-20	21-24	25-40	NO DAM	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MY 4+			
Jaguar 1	HOT Class 1 (ATGM)	1	120	7/10	22 (2)	IO	HEAT (CE)	AP	—	10	16	18	18	18	18	18	18	01-06	07-15	16-58	61-59	36	18			
	MG (HDO)	1	360	9/12	Unl	IO	GP	NM	5	5	5	3	2	—	—	—	—	—	—	—	—	—	—			
							AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—	—		
							OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	—	—	—	
MG (HFC)	1	60	5/10	Unl	IO	GP	NM	5	5	5	3	2	—	—	—	—	—	—	—	—	—	—				
Jaguar 2	BAILED CREW-4	1	360	Unl	Unl	O	GP	NM	4	4	4	—	—	—	—	—	—	SMOKE MAKERS: DS					—	—		
	ITOW Class 1 (ATGM)	1	120	7/10	22 (2)	OT	HEAT (CE)	AP	—	10	16	18	18	18	18	18	18	01-06	07-15	16-60	61-00	34	17			
							GP	NM	—	25	25	25	25	25	25	25	25	25	—	—	—	—	—	—	—	—
							GP	NM	5	5	5	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—
MG (HDO)	1	360	9/12	Unl	OT	AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—	—	—				
						OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	—	—	—	—	
						GP	NM	5	5	5	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	
MG (HFC)	1	60	5/10	Unl	OT	GP	NM	3	3	3	2	1	—	—	—	—	—	—	—	—	—	—				
Jaguar 2	BAILED CREW-4	1	360	Unl	Unl	O	GP	NM	4	4	4	—	—	—	—	—	—	SMOKE MAKERS: DS					—	—		

TARGET INFORMATION																
HIT LOCATION CHARTS										ARMOR CHARTS						
ANGLE OF HIT	HIT LOCATION									AMMO USED	ELEVATION	FRONT-REAR			F/S-R/S	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD	HDA		HF	HR	HF	HS	HR
FRONT	01-50	51-94	—	—	—	—	—	95-99	00	43-48	KE	LEVEL	28	3	39	18
FRONT/SIDE	01-25	26-47	48-71	72-94	—	—	—	95-99	00	20-24	or	RISING	32	4	45	20
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	—	95-99	00	20-24	CE	FALLING	25	3	35	16
REAR	—	—	—	—	01-50	51-94	—	95-99	00	39-43						
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.																
SIZE: — 2 GP DEFENSE: 4 CA DEFENSE: 3																

NOTES: Both: Has radio and NBC. Not amphibious. ATGMs may not be fired on the move. Subject to artillery missile destruction (OR17.2.6). MGs and Bailed Crew are small arms.



FRG-3B: NATO (West Germany) Artillery:

POINT INFORMATION				
TYPE	BATTERY SIZE			
	LIGHT	MEDIUM	HEAVY	SUPER HEAVY
Attached	75	150	225	300
Organic	50	100	150	200
Unattached	25	50	75	100
F M FASCAM	—	—	30	30
I I HE	10	20	30	40
R S ICM DP	—	—	50	70
E S ILLUM	10	10	10	10
	SMOKE	10	10	10
C B Sound	100	100	100	100
T T Flash	200	200	200	200
R Y Radar	300	300	300	300

ARTILLERY DELAY	
TYPE	DELAY
Attached	—
Organic	01-25
Unattached	01-50

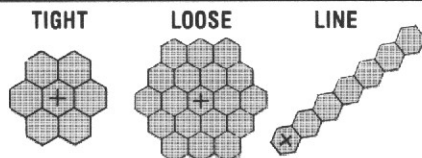
SCATTER FACTORS		
FIRE TYPE	OBSERVED	UNOBSERVED
Designated	20	40
Planned	20	—
Called	30	60
Continue (Same)	10	20
Continue (1st)	20	40
Continue (2nd)	30	60
SHEAF Change	20	40

Observer Scatter Modifiers:

BEOBPZ: +10. Crack/Poor Observer: +10/-10.
 Platoon CO: -10. Through Brew-Up Smoke: -10.
 Battalion CO/XO/SP: +10. Through Other Smoke: -20.
 Suppressed Observer: -20.

GENERAL ARTILLERY INFORMATION		
BATTERY SIZE	GP FACTOR	EF = KNK OUT
Light	20	GP DEF = 1-4
Medium	30	GP DEF = 1-6
Heavy	40	GP DEF = 1-8
Super Heavy	50	GP DEF = Any

FIRE SHEAF PATTERNS		
TYPE	AREA	GP FACTOR
Tight	Impact + Adjacent	Full
Loose	Impact + 2 Adjacent	1/2
Line	Impact + 6 in Direction	Full



FIRE MISSION EFFECTS		
FIRE MISSION	VS. VEHICLE	VS. LEG/TOWED
FASCAM a	Mines	Mines
HE b	-20	Normal
ICM DP c	Normal	+20
ILLUM d	N/A	N/A
SMOKE e	N/A	N/A

Notes:

- Must fire in a loose SHEAF.
- May fire in a tight, line or loose SHEAF.
- Must fire in a loose SHEAF. No effect if the target is a building or improved position hex or a unit inside same.
- Fired in a tight SHEAF. Area = Impact hex + 5.
- Fired in loose or line SHEAF.

COUNTER BATTERY TABLE					
TYPE	CONDITIONS	LOCATION ATTEMPT	EFFECTS (ALL)		
			DIS	1/4 LOSS	1/2 LOSS
Sound	Day/Dusk/Moonlit/Night	01-20	01-10	11-25	26-50
	Fog/Blowing Snow	01-10			
Flash	Day	01-30			
	Fog/Blowing Snow	01-10			
	Dusk/Night/Moonlight	01-60			
Radar	Any Conditions	01-40			

NOTES: All artillery batteries have radios.

FRG-4A: Luchs-2 Reconnaissance Vehicle (19.5 tons): 48-24-12 points.

Luchs 161-164	MOVEMENT INFORMATION				MOVEMENT COSTS			
	Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b SMOKE
	Normal	5	1/2	3/4	BRIDGE	+1	HILL HEXSIDE	+2a
	Snow	4	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P
SPEEDS:					CLEAR	1	IMPROVED POSITION	1
					DEPR HEXSIDE	+2a	ROUGH	4
					DEST/DITCH/FIRE	P	SCRUB	2
TURN COSTS: 0-1-1-Wheeled							WOODS (HEAVY)	P
STACKING POINTS: 2							WOODS (LIGHT)	3
TRANSPORT VALUE: 2L					a: Per level. b: Use other terrain in hex.			

FIRING INFORMATION																				
WEAPON INFORMATION						GUNNERY CHARTS											VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES								FROM HIT				
								1-4	5-8	9-12	13-16	17-20	21-24	25-26	27-28	29+	NO DAM	CMP HIT	KNK OUT	BRW UP
20mm Stub 0 (Gun)	4	3T	9/12	28 (3)	OT	AP (KE)	AP PY	19 10	17 9	13 8	7 7	1 5	— —	— —	— —	— —	01-18	19-44	45-89	90-00
						GP	NM MV	13 7	13 7	13 7	13 7	10 5	10 5	7 4	7 4	— —	— —	— —	— —	
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—
						OP	15	13	11	11	8	6	0	1-20	—	—	—	—	—	—
MG (TTO)	1	360	9/12	Uni	OT	GP	NM MV	5 3	3 2	2 1	— —	— —	— —	— —	— —	— —	— —	— —	— —	
						AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—	—	—	—
						OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—
BAILED CREW-4	1	360	Uni	Uni	0	GP	NM MV	4 2	— —	— —	— —	— —	— —	— —	— —	SMOKE MAKERS: DS				

TARGET INFORMATION															
HIT LOCATION CHARTS										ARMOR CHARTS					
ANGLE OF HIT	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA
FRONT	01-39	56	—	—	—	—	—	—	—	95	—	01-39	01-39	—	—
FRONT/SIDE	01-20	28	48	67	75	—	—	—	—	95	—	01-20	01-20	—	—
REAR/SIDE	01-20	28	48	67	75	—	—	—	—	95	—	01-20	01-20	—	—
REAR	01-39	56	—	—	—	—	—	—	—	95	—	01-39	01-39	—	—
HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.										SIZE: 0					
										OP DEFENSE: 2					
										CA DEFENSE: 1					

NOTES: Has radio and NBC. Amphibious. Has dual controls—may move in reverse at full speed (reverse moves do not expend double movement factors). 20mm, MG, and Bailed Crew are small arms.

FRG-4B: West German Leg Units & Equipment (1 ton/Squad: 1/2 ton/Team/Half-Squad):

SQUAD



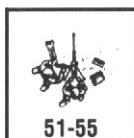
HALF-SQUAD



MOVEMENT INFORMATION

	Squad	1/2 Squad	Team
SPEEDS	2(1)	2(1)	1
STACKING POINTS	2	1	1
LOAD/UNLOAD	1	1	2

TEAM



or



FIRING INFORMATION

UNIT INFORMATION								GUNNERY CHARTS													VEHICLE DAMAGE				ATGM SPEEDS				
TYPE OF UNIT	UNIT SIZE	PT	MAX ROF	TRN	DEP EL	TOT AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES															FROM HIT			TAR	MV
										1	2	3	4	5	6-8	9-10	11	12	13-20	NO DAM	CMP HIT	KNK OUT	BRW UP	1-3	4+				
Hvy PzGr Inf (Guns)	SQUAD	33	1	360	Unl	Unl	IO	GP	NM MV	39 33	27 14	21 11	15 8	7 4	3 2	—	—	—	—	—	—	—	—	—	—	—			
	1/2SQ	24	1	360	Unl	Unl	IO	GP	NM MV	25 22	19 11	15 8	12 6	7 4	3 2	—	—	—	—	—	—	—	—	—	—	—			
Lt PzGr Inf (Guns)	SQUAD	31	1	360	Unl	Unl	IO	GP	NM MV	34 28	22 11	16 8	10 5	4 2	2 1	—	—	—	—	—	—	—	—	—	—	—			
	1/2SQ	22	1	360	Unl	Unl	IO	GP	NM MV	20 17	14 9	11 7	8 6	4 4	2 1	—	—	—	—	—	—	—	—	—	—	—			
Standard Inf (Guns)	SQUAD	28	1	360	Unl	Unl	IO	GP	NM MV	28 24	17 11	11 9	6 6	3 3	—	—	—	—	—	—	—	—	—	—	—	—			
	1/2SQ	20	1	360	Unl	Unl	IO	GP	NM MV	14 11	9 6	6 3	3 2	—	—	—	—	—	—	—	—	—	—	—	—	—			
Any Infantry (Guns)	TEAM	17	1	360	Unl	Unl	O	GP	NM MV	7 4	6 3	4 2	3 2	1 1	—	—	—	—	—	—	—	—	—	—	—	—			
MG (Gun)	a	2	1	360	Unl	Unl	O	GP	NM	9	8	7	6	5	4	2	1	—	—	—	—	—	—	—	—	—			
Milan Class 2 (ATGM)	b	26	1	120	Unl	Unl	OT	HEAT (CE)	AP PY	10 130	16 130	17 130	18 130	18 130	18 130	18 130	18 130	18 130	18 130	01-13	14-30	31-65	66-100	26	13				
								GP	NM	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	—	—	—	—	—
PZF-44 Stab. 0 (Rct Lnchr)	b	9	1	80	Unl	Unl	IO	HEAT (CE)	AP PY	20 74	13 74	8 4	4 1	—	—	—	—	—	—	01-15	16-39	39-70	70-100	—	—				
								GP	NM MV	13 7	13 7	13 7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZF-3 Stab. 0 (Rct Lnchr)	b	16	1	60	Unl	Unl	IO	HEAT (CE)	AP PY	20 120	13 120	8 120	4 120	1 120	—	—	—	—	—	01-09	10-23	24-62	63-100	—	—				
								GP	NM MV	22 11	22 11	22 11	22 11	22 11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flamethrower	d	10	1	60	Unl	Unl	O	Causes a modifier for close assaults and hand-to-hand combats.																			—	—	
								AA	—	LL	LM	LN	MM	MH	NH	DAM	RNG	CM	—	—	—	—	—	—	—	—			
Any Infantry (Guns)	SQUAD	c	1	360	Unl	Unl	IO	OP	15	12	9	9	6	3	+20	1-6	—	—	—	—	—	—	—	—	—	—			
	1/2SQ	c	1	360	Unl	Unl	IO	OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	—	—	—			
Any (Guns)	TEAM	c	1	360	Unl	Unl	O	OP	10	8	6	6	4	2	+20	1-6	—	—	—	—	—	—	—	—	—	—			
REDEYE (AAM)	b	3	1	60	Unl	Unl	IO	(MT) OP	40	36	34	34	32	30	+10	2-30	80	—	—	—	—	—	—	—	—	—			
NOTES: a: Must be placed with a team. b: Place with a team, squad or half-squad. c: See points for type of unit elsewhere. d: Placed with Assault Squads only.																													

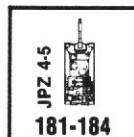
NOTES: a: Must be placed with a team. b: Place with a team, squad or half-squad. c: See points for type of unit elsewhere. d: Placed with Assault Squads only.

TARGET INFORMATION (GP DEFENSE FOR ALL)

	BLOCK	BUILDINGS			BRIDGE /CLEAR	DITCH	DEPRES- SION	DE- STROYED	FIRE	HEAVY WOODS	IMPRVD PSITON	ROUGH	SCRUB	STREAM	WIRE	WOODS	WRECK	
		BRICK	STONE	WOOD														
FC	+1	8	10	7	4	6/8	5	6	P	8	9	6	5	P	P	7	+1	FC
NM	+1	6	8	5	2	4/6	3	4	P	6	7	4	3	1	P	5	+1	NM
MV	+1	4	6	3	1	2/4	1	2	P	4	5	2	1	1	P	3	+1	MV

NOTES: All have radios. A Milan may not be fired when moved. A squad may be made "Assault" or "Squad Plus" for an additional 15 points, and "Special Forces" for an additional 30 points. The Milan and Redeye may not be fired from the upper floors of buildings. MG and Milan may be fired while being transported. Flamethrower, PZF-3, PZF-44, and Redeye may be fired while being transported only if on a non-FC vehicle or on an open FC vehicle. Redeye is ineffective vs. ground targets. All guns are small arms.

FRG-5A: JPZ4-5 Tank Destroyer (30.3 tons): 51-26-13 points.



MOVEMENT INFORMATION				
	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	5	3/4	3/4
	Mud	4	1	1
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 2L				

MOVEMENT COSTS				
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)
CLEAR	1	IMPROVED POSITION	1	WIRE
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)
a: Per level. b: Use other terrain in hex. c: Eliminates wire.				

FIRING INFORMATION


WEAPON INFORMATION						GUNNERY CHARTS												VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES									FROM HIT				
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	NO DAM	CMP HIT	KNK OUT	BRW UP	
90mm Stab. 0 (MnGm)	3	60	8/ 10	13 (2)	10	HEAT (CE)	AP PY	19 75	15 75	12 75	8 75	5 75	1 75	1 75	—	—	01-08	09-22	23-61	62-00	
						HEP (CE)	AP PY	19 75	15 75	11 75	7 75	3 75	1 75	1 75	—	—	01-07	08-19	20-76	77-00	
						GP	NM MV	25 13	23 12	21 11	19 10	14 7	14 7	10 5	10 5	5 3	EF = KNK OUT if GP DEF = 1-4.				
MG (TTO)	1	360	9/ 12	Unl	10	GP	NM MV	5 3	3 2	2 1	—	—	—	—	—	—	—	—	—	—	
						AA	— OP	— 10	— 8	— 6	— 6	— 4	— 2	— +20	— 1-6	—	—	—	—	—	—
BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS				

TARGET INFORMATION

HIT LOCATION CHARTS															ARMOR CHARTS														
ANGLE OF HIT	HIT LOCATION														AMMO USED	ELEVA- TION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE				
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA			HDA	TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
FRONT	01-39	56-38	55	94	—	—	—	—	—	95-39	00	05	43	10	48	—	—	—	—	20	20	9	9	5	5	—	—		
FRONT/ SIDE	01-20	28-19	27	47	66	74	94	—	—	95-00	05	24	10	29	—	—	—	—	—	16	16	4	4	23	23	10	10	5	5
REAR/ SIDE	—	—	—	—	01-20	28-19	27	47	66	74	94	95-00	05	24	10	29	—	—	—	13	13	3	3	18	18	8	8	4	4
REAR	—	—	—	—	—	—	—	01-39	56-38	55	94	95-00	05	43	10	48	—	—	—	—	—	—	—	—	—	—	—	—	
MF*, HS*, HR* and TK*: Treat as a "miss" if hull down.																	SIZE: -2		GP DEFENSE: 3				CA DEFENSE: 2						

NOTES: Has radio and NBC. Not amphibious. Carries an IR searchlight. MG and Bailed Crew are small arms.

FRG-5B: M48A2GA2 Tank Destroyer (47.8 tons): 58-29-15 points.

 <p>M48 171-172 181-182</p>	MOVEMENT INFORMATION				MOVEMENT COSTS			
	Weather	MF	Road	Path	BLOCK	P	HASTY ENTRENCHMENT	b
	Normal	4	2/3	3/4	BRIDGE	+1	HILL HEXSIDE	+1a
	SPEEDS:	Snow	3	3/4	3/4	BUILDINGS	+1	HILL HEXSIDE (3Lv1)
	Mud	2	1	1	CLEAR	1	IMPROVED POSITION	1
TURN COSTS: 0-0-1-Tracked					DEPR HEXSIDE	+1a	ROUGH	4
STACKING POINTS: 2					DEST/DITCH/FIRE	P	SCRUB	2
TRANSPORT VALUE: 2L					WOODS (HEAVY)			
					WOODS (LIGHT)			
					a: Per level. b: Use other terrain in hex. c: Eliminates wire.			

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT			
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP		
105mm Slab. 4 (MnGr)	2	2T	8/10	11 (2)	IS	APFSDS (KE)	AP PY	20	17	15	13	11	9	7	5	3	1	01-08	09-19	20-75	76-00		
						HEAT (CE)	AP PY	19	17	14	11	8	6	3	1	1	—	01-07	08-17	18-59	60-00		
						HESH (CE)	AP PY	19	15	11	7	3	1	1	—	—	—	01-06	07-15	16-75	76-00		
						GP	NM MV	27	25	23	21	16	11	11	11	5	5	EF = KNK OUT if GP DEF = 1-5.					
						GP	NM MV	13	12	11	10	8	5	5	3	3	—	—	—	—			
MG (TTO)	1	360	9/12	Uni	IO	GP	NM MV	5	3	2	—	—	—	—	—	—	—	—	—	—	—		
						AA	— OP	LL	LM	LH	MM	NH	HH	DAM	RNG	CM	—	—	—	—	—		
BAILED CREW-4	1	360	Uni	Uni	0	GP	NM MV	4	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS						

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS													
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR				FRONT/SIDE-REAR/SIDE				ABOVE			
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TS	HS	TR	HR	TT	HD				
FRONT	01-39-38	56-55	54	—	—	—	—	—	—	95-99	00-00	01-05	39-43	10-48	—	KE	LEVEL	31	48	11	9	43	68	25	21	16	12	—	—
FRONT/ SIDE	01-20-19	27-28	47-48	66-67	74-75	94	—	—	—	95-99	00-00	01-05	20-24	10-29	20-29	CE	RISING	35	83	12	9	50	88	27	22	16	12	—	—
	—	—	—	01-19	20-27	28-47	66-67	74-75	94-99	00-00	01-05	20-24	10-29	20-29															
REAR/ SIDE	—	—	—	—	—	—	01-19	20-27	28-47	66-67	74-94	95-99	00-05	24	10	29	FALLING	28	39	11	9	39	54	24	22	15	12	31	31
REAR	—	—	—	—	—	—	—	—	—	01-38	56-55	95-99	00-05	39-43	10-48	—													
HF*, HS*, HR* and TK*: Treat as a "miss" if hit down.																SIZE: +1		GP DEFENSE: 6				CA DEFENSE: 5							

NOTES: Has radio and NBC. Not amphibious. 105mm main gun may fire canister and smoke. Path restrictions on turret turns in building and woods hexes. Carries an IR/WL searchlight. MG and Bailed Crew are small arms.

FRG-6A: FLAKPZ1 "Gepard" Anti-Aircraft Vehicle (49.6 tons): 55-28-14 points.

Gepard

171-172

MOVEMENT INFORMATION

	Weather	MF	Road	Path
SPEEDS:	Normal	6	2/3	3/4
	Snow	4	3/4	3/4
	Mud	2	1	1
TURN COSTS: 0-1-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L				

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1e
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS													VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES										FROM HIT				
								1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33+	NO DAM	CMP HIT	KNK OUT	BRW UP		
35mm Slab. 0 (Gun)	5	3T	7/12	30 (3)	OR	APDS (KE)	AP PY	19 21	17 19	14 18	10 15	6 14	1 12	—	—	—	01-16	17-40	41-94	95-00		
						GP	NM MV	39 20	39 20	39 20	39 20	29 15	29 15	20 10	20 10	—	—	—	—			
						AA	—	LL 60	LM 54	LH 48	MM 48	MH 48	HH 42	DAM 36	RNG -10	CM -40	—	—	—	—		
						OP RD	90	81	72	72	63	54	-10	1-40	40	—	—	—	—			
BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3 2	—	—	—	—	—	—	—	—	—	SMOKE MAKERS: DS				

TARGET INFORMATION

HIT LOCATION CHARTS																ARMOR CHARTS														
ANGLE OF HIT	HIT LOCATION															AMMO USED	ELEVATION	FRONT-REAR			FRONT/SIDE-REAR/SIDE				ABOVE					
	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HOG	TTA	HDA			TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD	
FRONT	01-39	58-									95-	01-39	01-39-				KE or CE	LEVEL	7	28	8	5	10	40	9	7	12	7		
	38	55	94								99	00	05	43	10	48		RIISING	8	37	10	5	11	52	9	7	14	7		
FRONT/SIDE	01-20-	28-	48-	67-	75-						95-	01-20-	01-20-					FALLING	7	23	8	5	9	32	8	7	11	7	19	13
	19	27	47	66	74	94					99	00	05	24	10	29														
REAR/SIDE				01-20-	28-	48-	67-	75-	95-		01-20-	01-20-																		
				19	27	47	66	74	94	99	00	05	24	10	29															
REAR							01-39-	56-	95-		01-39-	01-39-																		
							38	55	94	99	00	05	43	10	48															
HF*, HS*, HR* and TK*: Treat as a "miss" if full down.																SIZE: 0. GP DEFENSE: 3. CA DEFENSE: 2.														

HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.

SIZE: 0.

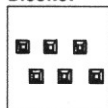
GP DEFENSE: 3.

CA DEFENSE: 2.

NOTES: Has radio and NBC. Not amphibious. Subject to artillery or bomb radar destruction (OR17.2.6). Path restrictions on turret turns in building and woods hexes. 35mm and Bailed Crew are small arms.

TERRAIN MARKERS AND EXTRA EQUIPMENT:

Blocks:



6 GP DEF: 10 pts/marker.
7 GP DEF: 15 pts/marker.
8 GP DEF: 20 pts/marker.
Place in any road/path hex.

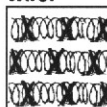
Ditch:



10 pts/marker
Place in any but building, water, or bridge hex.

Radio Jamming: 25 pts/each.

Wire:



1 GP DEF: 5 pts/marker.
2 GP DEF: 10 pts/marker.
3 GP DEF: 15 pts/marker.
Place in any but water hex.

Improved Position: 20 pts/marker.



Place in any but water or bridge hex.

Hasty Anti-Personnel or Anti-Vehicular Mines (3 GP DEF): 5 pts/hex.
Deliberate Anti-Personnel or Anti-Vehicular Mines (6 GP DEF): 10 pts/hex.
Place in any but building, ditch, improved position, water, or bridge hex.

- FRG-6B/1: Roland 2 Anti-Aircraft Vehicle (32.5 tons): 37-19-9 points.
 FRG-6B/2: NATO Heavy Truck Utility Vehicle (10.0 tons): 22-xx-6 points.
 FRG-6B/3: NATO Medium Truck Utility Vehicle (6.0 tons): 21-xx-5 points.
 FRG-6B/4: NATO Light Truck Utility Vehicle (2.0 tons): 20-xx-5 points.

Roland 2

Roland

 183-184

MOVEMENT INFO. (Roland)				
Weather	MF	Road	Path	
Normal	7	2/3	3/4	
Snow	4	3/4	3/4	
Mud	2	1	1	
SPEEDS:				
TURN COSTS: 0-1-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 0				

MOVEMENT COSTS (Roland)				
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE +1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD) 4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD) P
CLEAR	1	IMPROVED POSITION	1	WIRE +1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY) P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT) 3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

ALL TRUCKS

Truck

 901-903

MOVEMENT INFO. (Trucks)				
Weather	MF	Road	Path	
Normal	4	1/2	3/4	
Snow	2	3/4	3/4	
Mud	1	1	1	
SPEEDS:				
(All)				
TURN COSTS: Heavy: 0-2-2-Wheeled				
Med.: 0-1-2-Wheeled				
Light: 0-1-2 Wheeled				
STACKING POINTS (All): 2				
TRANSPORT VALUE: Heavy: 6LT;				
Medium: 4LT; Light: 2LT				

MOVEMENT COSTS (Trucks)				
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE +1
BRIDGE	+1	HILL HEXSIDE	+2a	STREAM (FORD) 4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD) P
CLEAR	1	IMPROVED POSITION	1	WIRE P
DEPR HEXSIDE	+2a	ROUGH	4	WOODS (HEAVY) P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT) 3

a: Per level. b: Use other terrain in hex.

SPECIAL NOTE: Use the United States truck units for German trucks.

FIRING INFORMATION

VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS														
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												
									1	2	3	4	5	6	7	8	9+				
Roland	Rind 2 (AAM)	1	360	3/12	10 (1)	R	AA (MA)	— RD	LL 70	LM 63	LH 60	MM 60	MH 56	HH 53	DAM —20	RNG 5-63	CM 40				
	BAILED CREW-3	1	360	Unl	Unl	0	GP	NM MV	3 2	3 2	3 2	3 2	—	—	—	—	—	SMOKE MAKERS: None			
TRUCKS* (All)	BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	2 1	2 1	2 1	—	—	—	—	—	SMOKE MAKERS: None			

*: Trucks are otherwise unarmed.

TARGET INFORMATION

HIT LOCATION CHARTS (BOTH)										ARMOR CHARTS									
ANGLE OF HIT	HIT LOCATION									VEHICLE	AMMO USED	ELEVATION	FRONT-REAR		F/S-R/S			ABOVE	
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HOG/HDA				HF	HR	HF	HS	HR		HD
FRONT	01-51	—	—	—	—	—	95-	39-39	—	Roland	KE	LEVEL	13	2	20	3	3	—	
	50-94	—	—	—	—	—	99	00	43-48		or	RISING	25	2	35	4	3	—	
FRONT/SIDE	01-25	26-47	48-71	72-94	—	—	95-99	00-24	24-24		CE	FALLING	9	2	13	3	3	13	
REAR/SIDE	—	—	01-24	25-47	48-72	73-94	95-99	00-24	24-24	TRUCKS (All)	KE	LEVEL	0	0	0	0	0	—	
	—	—	—	—	—	—	—	—	—		or	RISING	0	0	0	0	0	—	
REAR	—	—	—	—	01-50	51-95	99-00	39-43	39-48	Roland:	SIZE: 0	GP DEFENSE: 2	CA DEFENSE: 1						
	—	—	—	—	—	—	—	—	—	TRUCKS:	SIZES: Heavy = 0; Medium = -1; Light = -2								
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.										GP DEFENSE (ALL): 1. CA DEFENSE (ALL): 1.									

NOTES: All: Not amphibious. May not enter or overrun buildings. Bailed Crews are small arms. Roland 2: Has radio and NBC. Subject to artillery or bomb missile destruction (OR17.2.6). Roland ineffective vs. ground targets. Trucks: Have radio but no NBC. Compartment damage always knocks out a truck. Always considered to be open.

FRG-7A/1: BO-105 PAH-1 Attack Helicopter: 125 base points (unarmed).
 FRG-7A/2: UH-1D "Iroquois" Transport Helicopter: 65 base points (with 1 MG/side).
 FRG-7A/3: CH-53DG "Sea Stallion" Heavy Assault Helicopter: 97 base points (with 1 MG/side).
 FRG-7A/4: SA-313C "Alouette II" Light Observation Helicopter: 55 base points (unarmed).

BO-105 PAH-1



GENERAL INFO. (BO-105 PAH-1)	
SPEEDS: Low Altitude: 17	Nape of Earth: 12
TRANSPORT VALUE: 1L a	
CARRIES CHAFF/IRCM: Yes	
DEFENSE VALUE: 70	
STACKING POINTS: 2 c	

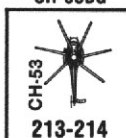
GENERAL INFO. (UH-1D)

SPEEDS: Low Altitude: 9	Nape of Earth: 5
TRANSPORT VALUE: 2L	
CARRIES CHAFF/IRCM: No	
DEFENSE VALUE: 75	
STACKING POINTS: 2 c	

UH-1D



CH-53DG



GENERAL INFO. (CH-53DG)	
SPEEDS: Low Altitude: 19	Nape of Earth: 8
TRANSPORT VALUE: 12LT	
CARRIES CHAFF/IRCM: No	
DEFENSE VALUE: 75	
STACKING POINTS: 2 c	

GENERAL INFO. (SA-313C)

SPEEDS: Low Altitude: 11	Nape of Earth: 6
TRANSPORT VALUE: 1L	
CARRIES CHAFF/IRCM: No	
DEFENSE VALUE: 80	
STACKING POINTS: 2 c	

SA-313c



a: Reduce the transport value to "0" with any wing armament. b: Limited to two or less towed units in a single load. c: Only when landed.

FIRING INFORMATION (BOTH)

WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE					
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES														FROM HIT			
								1	2	3-4	5	6	7-8	9-10	11-15	16-20	21-40	NO DAM	CMP HIT	KNK OUT	BRW UP				
MiniGn	1a	60	Unl	10	OT	GP	NM/MV	50	50	40	30	30	20	10	—	—	—	—	—	—	—	—	—	—	—
20mm (Gun)	5a	60	Unl	30	OT	AP (KE)	AP	19	19	19	19	15	15	15	9	1	—	01-	19-	45-	90-				
						PYNOE	10	10	10	10	8	8	8	7	5	—	18	44	89	00					
						PYLOW	20	20	20	20	16	16	16	14	10	—	—	—	—	—	—	—	—		
MG	1b	Sid	Unl	10	OT	GP	NM/MV	33	33	33	33	33	33	33	33	25	—	—	—	—	—	—	—	—	
						HEAT (CE)	AP PY	—	10	16	18	18	18	18	18	18	18	01-	07-	16-	59-				
						GP	NM/MV	—	160	160	160	160	160	160	160	160	160	06	15	58	00				
HOT Class 1 (ATGM)	1	60	Unl	c	OT	GP	NM/MV	—	27	27	27	27	27	27	27	27	27	—	—	—	—	—	—	—	
Rocket	1	60	Unl	c	OT	GP	NM/MV	—	—	—	15	15	15	15	15	—	—	EF = KNK OUT if GP DEF = 1-4.							
						SCATR	—	—	—	20	20	20	20	40	—	—									
NOTES: a: This is for a pair of these weapons, one on each wing, that fire together, either of which can be carried only on BD-105 PAH-1 wings. b: One on each side that fire separately on the UH-1D and CH-53DG. c: See "Possible Maximum Armaments" below.																									

NOTES: a: This is for a pair of these weapons, one on each wing, that fire together, either of which can be carried only on BO-105 PAH-1 wings. b: One on each side that fire separately on the UH-1D and CH-53DG. c: See "Possible Maximum Armaments", below.

POSSIBLE MAXIMUM ARMAMENTS & POINTS

BO-105 PAH-1	UH-1D & CH-53DG	SA-313C	ARMAMENT POINT VALUES (ADD TO BASE POINTS)
5 Rockets (Wing); or	1/2 Side MGs only	No armament	Per HOT—10 points.
Miniguns (Wing Pair); or			Per Pair Miniguns (1/wing)—35 points.
6 HOT (Wing); or			Per Rocket—10 points.
20mm guns (Wing Pair).			Per pair 20mm cannon (1/wing)—50 points.

NOTES: All: All have radios and a 120 degree sighting arc. Only base points are counted if a helicopter is destroyed. HOT is a wire-guided ATGM (OR20.2.3.3.2). Rockets are effective only in their impact hex. All helicopters are restricted to low altitude in "Fog" or "Blowing Snow" conditions. 20mm, Minigun, and MG are small arms. May not expend over 1/4 (round up) movement factors in movement during an Air Phase when landing or taking off (NOE altitude and clear or scrub hexes only). SA-313C: Has an image intensifier ("D" and "I" sights), and may serve as an observer unit (like a company CO).

FRG-7B/1: Tornado IDS Aircraft: 285 base points (with two 27mm guns).
 FRG-7B/2: Alpha Jet Aircraft: 190 base points (with 27mm gun).
 FRG-7B/3: F-104G "Starfighter" Aircraft: 205 base points (with 20mm gun).
 FRG-7B/4: F-4F "Phantom II" Aircraft: 235 base points (with 20mm gun).

AIRCRAFT



201

or



202

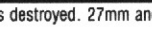
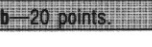
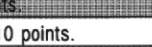
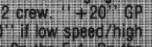
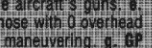
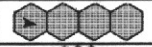
GENERAL INFORMATION

	Tornado	Alpha	F-104G	F-4F
CREW SIZE:	2	1	1	2
CONDITION LEVELS:	1	4	3	3
MAXIMUM WEAPON LOADS:	7	2	1	6
PRECISION MUNITIONS:	Yes	Yes	Yes	Yes
CARRIES ECM POD:	Yes	Yes	Yes	Yes
DEFENSE:	40	60	60	55

FIRING INFORMATION (ALL)

WEAPON INFORMATION						GUNNERY CHARTS							VEHICLE DAMAGE			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES					FROM HIT			
								0	1-4	5	6-10	11-15	NO DAM	CMP HIT	KNK OUT	BRW UP
27mm a (Gun)	5	60	Unl	10	0	AP (KE)	AP PY	—	18	18	14	9	01-17	18-42	43-88	89-00
						GP	MV	—	40	40	40	40	—	—	—	—
27mm b (Gun)	5	60	Unl	10	0	AP (KE)	AP PY	—	14	14	10	7	01-17	18-42	43-88	89-00
						GP	MV	—	20	20	20	20	—	—	—	—
20mm (Gun)	5	60	Unl	20m	0	AP (KE)	AP PY	—	20	20	15	10	01-18	19-44	45-89	90-00
						GP	MV	—	33	33	33	33	—	—	—	—
Rocket	1	60	Unl	c	d	GP	MV SCATR	—	—	30	30	30	EF = KNK OUT if GP DEF = 1-8.			
Iron Bombs	1	—	Unl	c	d	GP	MV SCATR	50	LL	LM	MH	HH	EF = BREW UP if GP DEF = Any.			
Cister Bomb	1	—	Unl	c	d	GP	MV SCATR	25	LL	LM	MH	HH	EF = BREW UP if GP DEF = Any.			
Napalm Bomb	1	—	Unl	c	d	GP	MV SCATR	50	LL	LM	MH	HH	EF = BREW UP if GP DEF = Any.			
ARM Msl	1	360	Unl	c	d	GP	MV SCATR	40	LL	LM	MH	HH	EF = KNK OUT if GP DEF = Any.			
Mine Cnstr	1	—	Unl	c	d	GP	MV SCATR	—	0	LM	MH	HH	Usual mine effects.			
Smoke Bomb	1	—	Unl	c	d	SMOKE	MV SCATR	—	LL	LM	MH	HH	Usual smoke effects.			

HEXES EFFECTED
 (▶ = impact hex/fit. dir.)



NOTES: a. Pair of guns on the Tornado IDS. b. Single gun on the Alpha Jet. c. 1 weapon = 1 load. d. Same as for the aircraft's guns. e. GP Modifiers: "+30" vs. dismounted leg. towed and soft vehicles (all armor basis = 0). "+20" vs. open vehicles or those with 0 overhead (HD or TT) armor. f. Other Scatter Modifiers: "+10" if the aircraft has 2 crew and "-20" if the aircraft is evasive maneuvering. g. GP Modifier: "+10" vs. any targets. h. Effects only the vehicle using radar. "+10" scatter modifier if the aircraft has 2 crew. "+20" GP modifier vs. the vehicle. i. Scatter Modifiers: "+10" if low speed, "-10" if low altitude. j. Scatter Modifiers: "+20" if low speed/high altitude, "-20" if high speed/low altitude. k. Scatter Modifiers: "+10" if high altitude, "-10" if high speed. m. On the F-4. On the F-104, this is 15 ammo. This can also be a gun pod with 20 ammo which can be carried by any of these aircraft.

POSSIBLE LOADS AND THEIR POINT VALUES (ADD TO BASE POINTS)

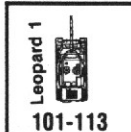
Per ARM Missile—50 points.	Per Iron Bomb a—30 points.	Per Rocket—20 points.
Per Cluster Bomb a—50 points.	Per All-Weather Pod—70 points.	Per Smoke Bomb—10 points.
Per ECM Pod—60 points.	Per Mine Canister—30 points.	Per 20mm Gun Pod b—20 points.
Per Fuel Tank—30 points.	Per Napalm Bomb—50 points.	

a: +20 points for a PGM version (" +30" extra Scatter Modifier. Range = 5/10/15 @ L/M/H Alts.) b: Gun pods = 2 weapon loads each.

NOTES: All have radios. Guns and rockets may be fired only from low altitude. Only base points are counted if an aircraft is destroyed. 27mm and 20mm are small arms. Only Tornado can carry ARM.

FRG-8A/1: Leopard 1A1 Main Battle Tank (42.2 tons): 62-31-16 points.
 FRG-8A/2: Biber AVLVB Vehicle Launched Bridge (45.3 tons): 33-17-8 points.

Leopard 1A1 &
Biber



MOVEMENT INFO. (BOTH)

	Weather	MF	Road	Path
	Normal	6	2/3	3/4
SPEEDS:	Snow	5	3/4	3/4
	Mud	3	1	1
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE (Leopard): 2L				
TRANSPORT VALUE (Biber): 0				

MOVEMENT COSTS (BOTH)

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

VEHICLE	WEAPON INFORMATION						GUNNERY CHARTS														VEHICLE DAMAGE					
	WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES												FROM HIT					
									1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP				
Leopard	105mm Stab. 3 (MnGn)	2	2T	6/10	14 (2)	IS	APFSDS (KE)	AP PY	20 90	17 85	15 80	13 76	11 73	9 70	7 67	5 64	3 61	1 59	01-08	09-19	20-75	76-00				
							HEAT (CE)	AP PY	19 85	17 85	14 85	11 85	8 85	6 85	3 85	1 85	1 85	— 85	— 85	— 85	01-07	08-17	18-59	60-00		
							HESH (CE)	AP PY	19 85	15 85	11 85	7 85	3 85	1 85	1 85	— 85	— 85	— 85	— 85	— 85	01-06	07-15	16-75	76-00		
							GP	NM MV	27 13	25 12	23 11	21 10	16 8	11 8	11 8	5 5	5 5	3 3	3 3	EF = KNK OUT if GP DEF = 1-5.	—	—	—	—		
							MG (TTO)	1	360	9/12	Unl	IO	GP	NM MV	5 3	3 2	2 1	—	—	—	—	—	—	—	—	—
	AA	—	LL	LM	LN	MM	NN						NN	DAM	RNG	CN	—	—	—	—	—	—				
	BAILED CREW-4	1	360	Unl	Unl	0	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
								GP	NM MV	4 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Biber *	BAILED CREW-2	1	360	Unl	Unl	0	GP	NM MV	2 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
									GP	NM MV	2 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

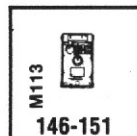
*Otherwise unarmed.

TARGET INFORMATION

HIT LOCATION CHARTS (BOTH)															ARMOR CHARTS															
ANGLE OF HIT	HIT LOCATION														VEH	AMMO USED	ELEVATION	FRONT-REAR				F/S-R/S				ABOVE				
	TFb	HF	HFa	TSb	HS	TSa	HR	HRa	TKa	GN	TTGb	HGb	TTAb	HDA				TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	ND	
FRONT	01-39	56-							95-	01-	39-	01-	39-		Leopard	KE	LEVEL	38	28	13	5	53	40	33	7	19	7			
	38	55	94						99	00	05	43	10	48		or	RISING	42	37	14	5	59	52	35	7	20	7			
FRONT/SIDE	01-20	28-48	67-75-						95-	01-	20-	01-	20-	01-		Biber	KE	FALLING	35	23	13	5	49	32	31	7	18	7	13	13
REAR/SIDE	19	27	47	66	74	94			99	00	05	24	10	29	or		LEVEL		28		5		40		7		7			
				01-20	28-48	67-75-	95-	01-	20-	01-	20-	01-	20-	01-	CE		RISING		42		5		52		7		7			
REAR						01-39-	56-	95-	01-	39-	01-	39-	01-	39-	Leopard	CE	FALLING		23		5		32		7		7		13	
						38	55	94	99	00	05	43	10	48		or	LEVEL		28		5		40		7		7			
																CE	FALLING		23		5		32		7		7			
a: Treat as a "miss" if hull down. b: Treat as corresponding hull hit on Biber.															Leopard				SIZE: 0.				GP DEFENSE: 5.				CA DEFENSE: 4.			
															Biber				SIZE: +1.				GP DEFENSE: 4.				CA DEFENSE: 3.			

NOTES: Both: Has radio and NBC. Not amphibious. MG and Bailed Crew are small arms. Leopard 1A1: 105mm main gun may fire canister and smoke. Path restrictions on turret turns in building and woods hexes. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys the mine plow (OR17.5.5.3). Biber: Unarmed. May not enter or overrun building hexes. See option 22.0.

FRG-8B: M113GA1/120 Self-Propelled Mortar Vehicle (12.1 tons): 43-22-11 points.



MOVEMENT INFORMATION				
Weather	MF	Road	Path	
Normal	6	2/3	3/4	
Snow	5	3/4	3/4	
Mud	3	1	1	
TURN COSTS: 0-0-1-Tracked				
STACKING POINTS: 2				
TRANSPORT VALUE: 1L				

MOVEMENT COSTS					
BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv1)	P	STREAM (NON-FORD)	6
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	P
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	3

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS															VEHICLE DAMAGE FROM HIT	
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	RANGE IN HEXES														
								1	2-4	5-8	9-12	13-20	21-24	25-28	29-32	33-36	39-42					
120mm (Mrt)	1	60R	12/12	16 (2)	0	GP	NM	—	—	23	23	23	23	23	23	23	23	EF = KNK OUT if GP DEF = 1-6.				
							SCATRa	—	—	20	20	20	20	20	20	20	20			20	20	
							SCATRb	—	—	30	30	30	30	30	30	30	30					
MG (HDO)	1	360	9/12	Unl	0	GP	NM	5	5	3	2	—	—	—	—	—	—					
							MV	3	3	2	1	—	—	—	—	—	—					
						AA	—	LL	LW	LH	MM	MH	HH	DAM	RNG	CN	—					
							OP	10	8	6	6	4	2	+20	1-6	—	—					
BAILED CREW-5	1	360	Unl	Unl	0	GP	NM	6	6	—	—	—	—	—	—	—	SMOKE MAKERS: DS					
							MV	3	3	—	—	—	—	—	—	—			—			
NOTES: a: Direct area effect fire scatter factor. b: Indirect area effect fire scatter modifier.																						

NOTES: a: Direct area effect fire scatter factor. b: Indirect area effect fire scatter modifier.

TARGET INFORMATION

HIT LOCATION CHARTS										ARMOR CHARTS									
ANGLE OF HIT	HIT LOCATION									AMMO USED	ELEVATION	FRNT-REAR		F/S-R/S			ABOVE		
	HF	HF*	HS	HS*	HR	HR*	TK*	GN	HGD			HDA	HF	HR	HF	HS		HR	HD
FRONT	01-	51-					95-		39-	39-	KE or CE	LEVEL	5	2	7	3	3	—	
	50	94	—	—	—	—	99	00	43	48		RISING	6	2	8	3	3	—	
FRONT/ SIDE	01-	26-	48-	72-			95-		20-	20-	FALLING	5	2	6	3	3	8		
	25	47	71	94	—	—	99	00-	24	24									
REAR/ SIDE	—	—		01-	25-	48-	73-	95-		20-									
	—	—	24	47	72	94	99	00	24	24									
REAR					01-	51-	95-		39-	39-									
	—	—	—	—	50	94	99	00	43	48									
HF*, HS*, HR* and TK*: Treat as "miss" if hull down.										SIZE: — 2		GP DEFENSE: 2		CA DEFENSE: 1					

Observer Scatter Modifiers:

FISTV: +10.
 Platoon CO: -10.
 Battalion CO/XO/SP: +10.
 Suppressed Observer: -20.
 Crack/Poor Observer: +10/-10.
 Through Brew-Up Smoke: -10.
 Through Other Smoke: -20

NOTES: Has radio and NBC. Amphibious. May not enter or overrun buildings. Must be open to fire mortar. Must use area effect fire with mortar, and may use GP, Illumination and Smoke ammunition. Mortar fires from the rear of the vehicle. MG and Bailed Crew are small arms.

LINE OF SIGHT CHART (AG13.2.1)

DEP/ ELEV	HEIGHT DIFFERENCES												DEP/ ELEV
	1	2	3	4	5	6	7	8	9	10	11	12	
1	10-27-32	19-50-60	28-53-60	37-57-60	46-57-60	55-59-60	----	----	----	----	----	----	1
2	5-9-9	10-17-18	14-24-27	19-32-36	23-40-45	28-48-54	32-54-60	37-55-60	41-56-60	46-57-60	50-58-60	55-59-60	2
3	4	7-9-9	10-13-13	13-17-18	16-21-22	19-26-27	22-29-31	24-34-36	27-37-40	30-42-45	33-46-49	36-50-54	3
4	3	5-6-6	8-9-9	10-12-12	12-15-15	14-18-18	16-20-21	18-22-23	21-25-26	23-28-29	25-31-32	27-34-35	4
5	2	4	5-7-7	7-9-9	8-11-11	10-13-13	11-15-15	13-17-17	14-19-20	16-21-22	17-23-24	19-25-26	5
6	1	3	4	5-6-6	5-7-7	6-9-9	7-10-10	8-12-12	9-13-13	10-14-15	11-15-16	12-17-18	6
7	1	2	2-3-3	3-4-4	3-4-4	4-5-5	4-6-6	4-7-7	5-8-8	5-9-9	6-10-10	6-10-11	7
8	1	1	1	2	2	3	3	3	4	4	4-5-5	4-5-5	8
9	1	1	1	1	1	2	2	2	3	3	3	3	9
10	1	1	1	1	1	1	1	2	2	2	2	3	10
11	1	1	1	1	1	1	1	1	1	2	2	2	11
12	1	1	1	1	1	1	1	1	1	1	1	1	12

DETERMINING LINE OF SIGHT

- 1) If the obstacle is higher than both firing unit and target, the line of sight is blocked.
- 2) If the obstacle is equal to one and higher than the other, the line of sight is blocked.
- 3) If the obstacle is lower than or equal to both, the line of sight is not blocked.

HULL DOWN (AG13.2.2)

When there are 3 numbers and the line of sight is not blocked, if the range is from the middle to the largest number inclusive, the target vehicle is hull down. Automatically hull down *inside* brick or stone buildings, in improved position, or if fired at from a higher adjacent hex. Also hull down if with a location (HULL DOWN) marker (OR17.2.5)

- a) Determine the height differences between firer and target. On that column, find the firer to target range.
- b) On that line, move left until the column with the height difference of higher to obstacle is found. The highest number there is the maximum range from the higher to the obstacle that will *not* block the line of sight.

WEAPON DEPRESSION/ELEVATION (OR17.3.1)

Crossgrid the depression or elevation line with the height difference. The highest number found is the minimum range at which firing is possible.

SIGHTING RANGES CHART (6.1.3)

CONDITIONS	TYPE SIGHTING UNIT	TERRAIN IN TARGET HEX											
		Bridge, Clear, In Water			Block, Rough, Destroyed, Scrub, Stream			Woods			Building, Ditch, Impr. Pos., Heavy Woods*		
		VH	LG	SM	VH	LG	SM	VH	LG	SM	VH	LG	SM
DAY (Basic Game)	Open	30	15	10	10	5	3	5	3	2	3	2	1
	Buttoned	21	11	7	7	4	2	4	2	1	2	1	1
DUSK	Open	15	8	5	5	3	2	4	2	1	2	1	1
	Buttoned	11	6	4	4	2	1	3	1	1	3	1	1
MOONLIGHT	Open	8	4	3	3	1	1	1	1	1	1	1	1
	Buttoned	6	3	2	2	1	1	1	1	1	1	1	1
NIGHT/FOG/BL. SNOW	Open	4	2	1	1	1	1	1	1	1	1	1	1
	Buttoned	3	1	1	1	1	1	1	1	1	1	1	1

VH: Vehicle units & Terrain. LG: Large (most towed units). SM: Leg & small towed units. *: 3X the listed range when sighting into ditch hexes from above. Use the column farthest to the right for mixed terrain. Treat a hex as clear with 11+ stacking points (AG12.2.2). Ground units "sight" 360 degrees (only 60 degrees if suppressed), and air units sight 120 degrees.

SPOTTED MARKERS: 2X the listed range for spotted (MOVING) & any unblocked range for spotted (FIRING). Units firing *only* small arms and/or mortars are marked with a spotted (MOVED) marker (OR17.6.2).

COMMAND CONTROL POINTS CHART (OR21.1)

NUMBER OF UNITS	ORGANIZATION GRADE			
	CRACK	AVERAGE	POOR	
1-5	3	2	1	
6-10	6	4	2	
11-15	9	7	4	
16-20	13	9	5	
21-25	16	12	7	
26-30	20	14	8	
31+	23	17	10	

AIR SIGHTING CHART (OR20.1.3.1.3 & 20.2.3.1.2)

AIR UNIT HEIGHT	EFFECTS
NOE	Handle as with ground units.
Low	Blocked 1/ + 2, 2/ + 3, 3/ + 4, etc.
Medium	Blocked 1/ + 4, 2/ + 5, 3/ + 6, etc.
High	Blocked 1/ + 6, 2/ + 7, 3/ + 8, etc.

ie., "1/ + 4" = blocked if 1 hex from + 4 height or more of blocking terrain.

AIR ACQUIRED RANGES CHART (OR20.1.3.1.1 & 20.3.3.2)

FROM	SPEED/ALTITUDE				
	LL	LM	LH/MM	HH	HH
Air Used*	5	10	15	20	25
Ground Used	1/2	2/4	3/6	4/8	5/10

* Require observer to acquire building and woods hexes.

"5" = 5 hex acquisition range by air units. "1/2" = 1 hex gun acquisition, 2 hex missile acquisition for anti-aircraft fire.

MINE EFFECTS TABLE (OR17.5.2)

TYPE MINEFIELD ENTERED	HIT	TYPE TARGET			
		VEN	GP DEF	7+	LEG/TOWED
Deliberate	EF	----	----	----	01-70
	HC	01-40	01-30	01-20	----
FASCAM	TK	41-70	31-70	21-70	----
	EF	----	----	----	01-60
Hasty	HC	01-30	01-20	01-10	----
	TK	31-60	21-60	11-60	----
Hasty	EF	----	----	----	01-50
	HC	01-20	01-10	----	----
Hasty	TK	21-50	11-50	01-50	----

NOTES: EF: GP Effective result. Squads reduced to 1/2 squads and suppressed. HC: Hull Compartment. TK: Track. *: A landed helicopter has 1 GP defense factor. " - 20" modifier for quickmarch.

HULL DOWN TABLE (OR17.2.5)

NO. OF UNITS	TERRAIN IN HEX		
	ROUGH WOODS	SCRUB	OTHER
1	01-30	01-15	01-08
2	01-15	01-08	01-04
3-4	01-08	01-04	01-02

RADIO JAMMING TABLE (DR21.2)

NO.	NATO	USSR
1	01-20	01-10
2	01-30	01-20
3	01-40	01-30

QUICKMARCH TABLE (OR17.4.2)

TYPE LEG UNIT	SUPPRESSED ON
Special Forces	01-15
Other Crack	01-25
Average	01-50
Poor	01-75

AIRCRAFT CONDITION CHART (OR20.1.2.1)

CONDITION	1	2	3	4
DAY	N	N	N	N
DUSK	N	N	N	X
MOONLIGHT	N	N	X	X
NIGHT/FOG/BL. SNOW	N	X	X	X

N: No effect.
X: May not operate at low altitude & no PG use. No point effect weapon use, & a " - 20" scatter modifier for area effect weapon use.

VEHICLES INTO BUILDINGS TABLE (OR18.3)

TYPE DAMAGE	TYPE BUILDING HEX		
	BRICK	STONE	WOOD
GN (Black)	01-45	01-60	01-35
GN (Fwd)	01-60	01-80	01-45
TK	01-50	01-65	01-40

Modify dice roll by + 5 per number of the vehicle's CA defense factor.

BAIL OUT TABLES (OR17.2.3)

TYPE PENETRATING HIT	BAIL OUT UNIT	HIT LOCATION			
		HF	EF KO,GN,HD,HR,HS,TK c	TF,TR,TS,TT	
No Damage ac	Crew	01-15	01-15	01-30	
	Compartment a	Crew	01-30	01-30	01-60
Knock Out b	Crew	01-50	01-25	01-25	
	Leg	01-80	01-40	01-40	
Brew Up h	Towed	01-40	01-20	01-20	
	Crew	Elim	Elim	Elim	
Brew Up h	Leg	01-60	01-20	01-20	
	Towed	01-20	Elim	Elim	

Bail out if listed numbers are rolled.

a: Transported unit automatically bails out if the crew does, and stays if the crew stays.

b: Suffers elimination if bail out fails.

c: Also use if flamethrower used in close assault (OR17.4.1.2.2).

SEQUENCE OF PLAY WITH ALL OPTIONS

1. INITIATIVE PHASE (BQ5.0): Roll for who goes first.

2. COMMAND PHASE: Consider both steps to be simultaneous.

- a. **Sighting Step (BQ6.1, AQ13.1-13.2):** Determine currently "sighted" units.
- b. **Mark Orders Step (BQ6.2, AQ13.3):** Announce radio jamming (OR21.2). Determine command points (OR21.1). Place sighting markers (OR18.1.2.1 & 20.3.3.1). Place or adjust command markers. Make indirect fire plots (OR17.1.2.4 & 19.2). Remember that ground observer units require OVERWATCH (OW) orders, and leg and towed units to be loaded require MOVE (M) orders.

3. FIRST AIR PHASE (OR20.0): Announce any appearing aircraft units, move and resolve combats. Then all helicopter units move and resolve combats. Mark all hexes hit with napalm with burning markers, and those hit with smoke with smoke (ON) markers.

4. FIRE PHASE:

- a. **Artillery Step (OR17.1 & 19.0):** Resolve all impacting indirect area fire. Place smoke (ON) markers where smoke fire missions impact. Smoke (DS) markers may be placed.
- b. **Close Assault Step (AQ14.5-14.6):** Resolve all close assault and hand-to-hand combats by dismounted leg units with CLOSE ASSAULT (CA) orders. Mark attackers with spotted (MOVED) markers. Mark building hexes attacked by flamethrowers with burning markers (OR17.4.1.2). Smoke (DS) markers may be placed.
- c. **Direct Fire Step (BQ7.0, AQ14.1-14.4):** Consider to be simultaneous. Announce and resolve all direct fire by ground units with FIRE (F) or FIRE/MOVE (FM) orders. Mark firing units with spotted (FIRED) markers.
- d. **ATGM Announcement Step (AQ14.2.2):** Consider to be simultaneous. Announce all fire for ground units with FIRE MISSILE (ATGM) orders. Resolve immediately for non-moving targets, and during the Movement Phase for moving targets. Mark firing units with spotted (FIRED) markers.
- e. **Overwatch Fire Step (BQ7.1, BQ7.5, AQ14.1.4):** Consider to be simultaneous. Units with OVERWATCH (OW) orders may be fired at enemy units that attacked or were fired during earlier steps. Mark firing units with spotted (FIRED) markers.

5. MOVEMENT PHASE:

- a. **Movement Step (BQ8.0, AQ15.0):** Move units with FIRE/MOVE (FM) and MOVE (M) orders, one at a time. Mark for (or replace) moving units with spotted (MOVE) markers. Remove smoke (DS) markers if their vehicle unit moves. Place smoke (ON) markers for units creating exhaust smoke. Location (FULL COVER) markers may be placed with leg or towed units with MOVE (M) orders that are not moved. Hasty entrenchments may be prepared by unsuppressed FULL COVER leg units with overwatch orders (OR17.4.4). Overwatch fire may be triggered from enemy units with OVERWATCH (OW) orders—mark these with spotted (FIRED) markers as they fire.
- b. **Overrun Step (AQ14.7):** Move units with OVERRUN (OR) orders, one at a time. Mark (or replace) the overrunning units with spotted (MOVE) markers. Remove smoke (DS) marker if its vehicle unit moves. Place smoke (ON) markers for units creating exhaust smoke. Overwatch fire may be triggered from enemy units with OVERWATCH (OW) orders—mark these with spotted (FIRED) markers as they fire.

6. SECOND AIR PHASE (OR20.0): Announce any appearing aircraft units (may not be any that appeared during the First Air Phase), move and resolve combats. Then all helicopter units move and resolve combats. Mark all hexes hit with napalm with burning markers, and those hit with smoke with smoke (ON) markers.

7. ADJUSTMENT PHASE:

- a. **Pivot Step (BQ9.1, AQ16.1):** Reveal all command markers that have not yet been turned up. Vehicle units with *unused* FIRE/MOVE (FM, MOVE (M), or OVERRUN (OR) orders and *all* unsuppressed leg and towed units may be pivoted in place. Place spotted (MOVED) markers on units as they pivot, unless already marked with a spotted marker of either type.
- b. **Adjust Turrets Step (BQ9.2, AQ16.2):** Change turret units from buttoned to open, or vice-versa (turret compartment hits must be changed to open), and pivot them, as allowed.
- c. **Adjust Markers Step (BQ9.3, AQ16.3):** Perform in this order:
 - (1) Handle the resolution of fires (OR18.3), place hasty entrenchment markers for completed hasty entrenchments (OR17.4.4), and remove all sighting markers.
 - (2) Remove all temporary suppress, suppress (OFF), smoke (OFF), and smoke (DS) markers.
 - (3) Change all suppressed (ON) and smoke (ON) markers to the corresponding (OFF) markers.
 - (4) Remove all desired location (FULL COVER) markers.
 - (5) If there are no enemy units that can currently "see" a combat unit, remove its spotted marker.
- d. **End Turn Step (BQ9.4, AQ16.4):** Advance initiative marker on TURN RECORD TRACK. Count victory points at game's end.

STANDARD TERRAIN VALUES CHART (AG12.1)

TYPE TERRAIN	HEIGHT	GP DEF	TYPE TERRAIN	HEIGHT	GP DEF
Block	+ 0	6-8a	Hasty Minefield	+ 0	3
Brewed Up Wreck (ground/smoke)	+ 0/ + 2	----	Heavy Woods (Ground/Tree tops)	+ 0/ + 4	----
Brick Building (ground/top)	+ 0/ + 1	9	Hill (Per Level) Ground Level	+ 1	----
Bridge	+ 0	10c	Improved Position	+ 0	----
Clear	+ 0	----	Normal Ground Level	0	----
Combat Units	+ 0	b	Other Smoke (ground/smoke)	+ 0/ + 3	----
Deliberate Minefield	+ 0	6	Path, Road, Rough, Scrub	+ 0	----
Depression Ground Level	- 1	----	Stone Building (ground/top)	+ 0/ + 1	10
Destroyed, Ditch	+ 0	----	Stream, Water	- 1	----
Discharger (DS) Smoke	+ 0	----	Wire	+ 0	1-3
FASCAM Minefield	+ 0	9	Wreck	+ 0	----
Fire (ground/smoke)	+ 0/ + 5	----	Wood Building (ground/top)	+ 0/ + 1	7
Hasty Entrenchments	+ 0	----	Woods (ground/tree tops)	+ 0/ + 3	----

NOTES: a: Depends on scenario. b: See data cards. c: Temporary bridges have a GP defense factor of "7". Standard weight limit is 60 tons.

MBT GAME CARD

LINE OF SIGHT CHART (AG13.2.1)

DEP/ ELEV	HEIGHT DIFFERENCES												DEP/ ELEV
	1	2	3	4	5	6	7	8	9	10	11	12	
1	10-27-32	19-50-60	28-53-60	37-57-60	46-57-60	55-59-60	....	....	....	....	....	....	1
2	5-9-9	10-17-18	14-24-27	19-32-36	23-40-45	28-48-54	32-54-60	37-55-60	41-56-60	46-57-60	50-58-60	55-59-60	2
3	4	7-9-9	10-13-13	13-17-18	16-21-22	19-26-27	22-29-31	24-34-36	27-37-40	30-42-45	33-46-49	36-50-54	3
4	3	5-6-6	8-9-9	10-12-12	12-15-15	14-18-18	16-20-21	18-22-23	21-25-26	23-28-29	25-31-32	27-34-35	4
5	2	4	5-7-7	7-9-9	8-11-11	10-13-13	11-15-15	13-17-17	14-19-20	16-21-22	17-23-24	19-25-26	5
6	1	3	4	5-6-6	5-7-7	6-9-9	7-10-10	8-12-12	9-13-13	10-14-15	11-15-16	12-17-18	6
7	1	2	2-3-3	3-4-4	3-4-4	4-5-5	4-6-6	4-7-7	5-8-8	5-9-9	6-10-10	6-10-11	7
8	1	1	1	2	2	3	3	3	4	4	4-5-5	4-5-5	8
9	1	1	1	1	1	2	2	2	3	3	3	3	9
10	1	1	1	1	1	1	1	2	2	2	2	3	10
11	1	1	1	1	1	1	1	1	1	2	2	2	11
12	1	1	1	1	1	1	1	1	1	1	1	1	12

DETERMINING LINE OF SIGHT

- 1) If the obstacle is higher than both firing unit and target, the line of sight is blocked.
- 2) If the obstacle is equal to one and higher than the other, the line of sight is blocked.
- 3) If the obstacle is lower than or equal to both, the line of sight is not blocked.

HULL DOWN (AG13.2.2)

When there are 3 numbers and the line of sight is not blocked, if the range is from the middle to the largest number inclusive, the target vehicle is hull down. Automatically hull down inside brick or stone buildings, in improved position, or if fired at from a higher adjacent hex. Also hull down if with a location (HULL DOWN) marker (OR17.2.5)

- 4) If the Obstacle is higher than one, but lower than the other, a line of sight check is made:
 - a) Determine the height differences between firer and target. On that column, find the firer to target range.
 - b) On that line, move left until the column with the height difference of higher to obstacle is found. The highest number there is the maximum range from the higher to the obstacle that will not block the line of sight.

WEAPON DEPRESSION/ELEVATION (OR17.3.1)

Crossgrid the depression or elevation line with the height difference. The highest number found is the minimum range at which firing is possible.

SIGHTING RANGES CHART (6.1.3)

CONDITIONS	TYPE SIGHTING UNIT	TERRAIN IN TARGET HEX											
		Bridge, Clear, In Water			Block, Rough, Destroyed, Scrub, Stream			Woods			Building, Ditch, Impr. Pos., Heavy Woods*		
		VH	LG	SM	VH	LG	SM	VH	LG	SM	VH	LG	SM
DAY (Basic Game)	Open	30	15	10	10	5	3	5	3	2	3	2	1
	Buttoned	21	11	7	7	4	2	4	2	1	2	1	1
DUSK	Open	15	8	5	5	3	2	4	2	1	2	1	1
	Buttoned	11	6	4	4	2	1	3	1	1	3	1	1
MOONLIGHT	Open	8	4	3	3	1	1	1	1	1	1	1	1
	Buttoned	6	3	2	2	1	1	1	1	1	1	1	1
NIGHT/FOG/ BL. SNOW	Open	4	2	1	1	1	1	1	1	1	1	1	1
	Buttoned	3	1	1	1	1	1	1	1	1	1	1	1

VH: Vehicle units & Terrain. LG: Large (most towed units). SM: Leg & small towed units.
*: 3X the listed range when sighting into ditch hexes from above. Use the column farthest to the right for mixed terrain. Treat a hex as clear with 11+ stacking points (AG12.2.2). Ground units "sight" 360 degrees (only 60 degrees if suppressed), and air units sight 120 degrees.

SPOTTED MARKERS: 2X the listed range for spotted (MOVING) & any unblocked range for spotted (FIRING). Units firing *only* small arms and/or mortars are marked with a spotted (MOVED) marker (OR17.6.2).

COMMAND CONTROL POINTS CHART (OR21.1)

NUMBER OF UNITS	ORGANIZATION GRADE		
	CRACK	AVERAGE	POOR
1-5	3	2	1
6-10	6	4	2
11-15	9	7	4
16-20	13	9	5
21-25	16	12	7
26-30	20	14	8
31+	23	17	10

AIR SIGHTING CHART (OR20.1.3.1.3 & 20.2.3.1.2)

AIR UNIT HEIGHT	EFFECTS
NOE	Handle as with ground units.
Low	Blocked 1/+2, 2/+3, 3/+4, etc.
Medium	Blocked 1/+4, 2/+5, 3/+6, etc.
High	Blocked 1/+6, 2/+7, 3/+8, etc.

ie., "1/+4" = blocked if 1 hex from +4 height or more of blocking terrain.

AIR ACQUIRED RANGES CHART (OR20.1.3.1.1 & 20.3.3.2)

FROM	SPEED/ALTITUDE				
	LL	LM	LH/MM	MH	HH
Air Used*	5	10	15	20	25
Ground Used	1/2	2/4	3/6	4/8	5/10

*Require observer to acquire building and woods hexes.

"5" = 5 hex acquisition range by air units. "1/2" = 1 hex gun acquisition, 2 hex missile acquisition for anti-aircraft fire.

MINE EFFECTS TABLE (OR17.5.2)

TYPE MINEFIELD ENTERED	HIT	TYPE TARGET			
		VEH GP DEF			LEG/ TOWED
		1-3*	4-6	7+	
Deliberate	EF	....	....	....	01-70
	HC	01-40	01-30	01-20	....
	TK	41-70	31-70	21-70	....
FASCAM	EF	....	....	....	01-60
	HC	01-30	01-20	01-10	....
	TK	31-60	21-60	11-60	....
Hasty	EF	....	....	....	01-50
	HC	01-20	01-10	....	....
	TK	21-50	11-50	01-50	....

NOTES: EF: GP Effective result. Squads reduced to 1/2 squads and suppressed. HC: Hull Compartment. TK: Track. *: A landed helicopter has 1 GP defense factor. "-20" modifier for quickmarch.

HULL DOWN	NO.	OF UNITS	ROUGHER WOODS
	1	01-30	
	2	01-15	
	3-4	01-05	

RADIO TABLE	NO.	NAT
	1	01
	2	01
	3	01

QUICKMARCH	TYPE LEG UNIT
	Special Forces
	Other Crack
	Average
	Poor

AIRCRAFT CO (OR2)	CONDITION
	DAY
	DUSK
	MOONLIGHT
	NIGHT/FOG/BL
	N: No effect.
	X: May not altitude & no P effect weapon scatter modifier weapon use.

VEHICLES IN TABLE	TYPE	VEH
	DAMAGE	BRN
	GN (Black)	01-40
	GN (Frwd)	01-60
	TK	01-50
	Modify dice number of the defense factor	

BALL	TYPE
	PENETRATING HIT
	No Damage
	Compartment

Knock Out
Brew Up

Ball out if listed
a: Transported and stays if the
b: Suffers elimination
c: Also use if (OR17.4.1.2.2)

MBT

GAME CARD

TABLE (OR17.2.5)		
TERRAIN IN HEX		
CR	SCRUB	OTHER
01-15	01-08	
01-08	01-04	
01-04	01-02	

JAMMING (DR21.2)	
ATO	USSR
01-10	
01-20	
01-30	

TABLE (OR17.4.2)	
SUPPRESSED ON	
01-15	
01-25	
01-50	
01-75	

CONDITION CHART (O.1.2.1)				
IN	1	2	3	4
	N	N	N	N
	N	N	N	X
	N	N	X	X
SNOW	N	X	X	X

operate at low
PGM use. No point
in use, & a " - 20"
for area effect

BUILDINGS (OR18.3)		
TYPE BUILDING HEX		
BRICK	STONE	WOOD
01-45	01-60	01-35
01-60	01-80	01-45
01-50	01-65	01-40

roll by +5 per
the vehicle's CA
tor.

BUILD OUT TABLES (OR17.2.3)

UNIT	BAIL OUT UNIT	HIT LOCATION			
		HF	EF KO,QN,HD,HR,HS,TK c	TF,TR,TS,TT	
ac	Crew	01-15	01-15	01-30	
at a	Crew	01-30	01-30	01-60	
	Crew	01-50	01-25	01-25	
b	Leg	01-80	01-40	01-40	
	Towed	01-40	01-20	01-20	
	Crew	Elim	Elim	Elim	
	Leg	01-60	01-20	01-20	
	Towed	01-20	Elim	Elim	

ed numbers are rolled.
d unit automatically balls out if the crew does,
the crew stays.
mination if ball out fails.
flamethrower used in close assault

SEQUENCE OF PLAY WITH ALL OPTIONS

1. INITIATIVE PHASE (BQ5.0): Roll for who goes first.

2. COMMAND PHASE: Consider both steps to be simultaneous.

a. **Sighting Step (BQ6.1, AQ13.1-13.2):** Determine currently "sighted" units.

b. **Mark Orders Step (BQ6.2, AQ13.3):** Announce radio jamming (OR21.2). Determine command points (OR21.1). Place sighting markers (OR18.1.2.1 & 20.3.3.1). Place or adjust command markers. Make indirect fire plots (OR17.1.2.4 & 19.2). Remember that ground observer units require OVERWATCH (OW) orders, and leg and towed units to be loaded require MOVE (M) orders.

3. FIRST AIR PHASE (OR20.0): Announce any appearing aircraft units, move and resolve combats. Then all helicopter units move and resolve combats. Mark all hexes hit with napalm with burning markers, and those hit with smoke with smoke (ON) markers.

4. FIRE PHASE:

a. **Artillery Step (OR17.1 & 19.0):** Resolve all impacting indirect area fire. Place smoke (ON) markers where smoke fire missions impact. Smoke (DS) markers may be placed.

b. **Close Assault Step (AQ14.5-14.6):** Resolve all close assault and hand-to-hand combats by dismounted leg units with CLOSE ASSAULT (CA) orders. Mark attackers with spotted (MOVED) markers. Mark building hexes attacked by flamethrowers with burning markers (OR17.4.1.2). Smoke (DS) markers may be placed.

c. **Direct Fire Step (BQ7.0, AQ14.1-14.4):** Consider to be simultaneous. Announce and resolve all direct fire by ground units with FIRE (F) or FIRE/MOVE (FM) orders. Mark firing units with spotted (FIRED) markers.

d. **ATGM Announcement Step (AQ14.2.2):** Consider to be simultaneous. Announce all fire for ground units with FIRE MISSILE (ATGM) orders. Resolve immediately for non-moving targets, and during the Movement Phase for moving targets. Mark firing units with spotted (FIRED) markers.

e. **Overwatch Fire Step (BQ7.1, BQ7.5, AQ14.1.4):** Consider to be simultaneous. Units with OVERWATCH (OW) orders may be fired at enemy units that attacked or were fired during earlier steps. Mark firing units with spotted (FIRED) markers.

5. MOVEMENT PHASE:

a. **Movement Step (BQ8.0, AQ15.0):** Move units with FIRE/MOVE (FM) and MOVE (M) orders, one at a time. Mark for (or replace) moving units with spotted (MOVE) markers. Remove smoke (DS) markers if their vehicle unit moves. Place smoke (ON) markers for units creating exhaust smoke. Location (FULL COVER) markers may be placed with leg or towed units with MOVE (M) orders that are not moved. Hasty entrenchments may be prepared by unsuppressed FULL COVER leg units with overwatch orders (OR17.4.4). Overwatch fire may be triggered from enemy units with OVERWATCH (OW) orders—mark these with spotted (FIRED) markers as they fire.

b. **Overrun Step (AQ14.7):** Move units with OVERRUN (OR) orders, one at a time. Mark (or replace) the overrunning units with spotted (MOVE) markers. Remove smoke (DS) marker if its vehicle unit moves. Place smoke (ON) markers for units creating exhaust smoke. Overwatch fire may be triggered from enemy units with OVERWATCH (OW) orders—mark these with spotted (FIRED) markers as they fire.

6. SECOND AIR PHASE (OR20.0): Announce any appearing aircraft units (may not be any that appeared during the First Air Phase), move and resolve combats. Then all helicopter units move and resolve combats. Mark all hexes hit with napalm with burning markers, and those hit with smoke with smoke (ON) markers.

7. ADJUSTMENT PHASE:

a. **Pivot Step (BQ9.1, AQ16.1):** Reveal all command markers that have not yet been turned up. Vehicle units with unused FIRE/MOVE (FM, MOVE (M), or OVERRUN (OR) orders and all unsuppressed leg and towed units may be pivoted in place. Place spotted (MOVED) markers on units as they pivot, unless already marked with a spotted marker of either type.

b. **Adjust Turrets Step (BQ9.2, AQ16.2):** Change turret units from buttoned to open, or vice-versa (turret compartment hits must be changed to open), and pivot them, as allowed.

c. **Adjust Markers Step (BQ9.3, AQ16.3):** Perform in this order:

(1) Handle the resolution of fires (OR18.3), place hasty entrenchment markers for completed hasty entrenchments (OR17.4.4), and remove all sighting markers.

(2) Remove all temporary suppress, suppress (OFF), smoke (OFF), and smoke (DS) markers.

(3) Change all suppressed (ON) and smoke (ON) markers to the corresponding (OFF) markers.

(4) Remove all desired location (FULL COVER) markers.

(5) If there are no enemy units that can currently "see" a combat unit, remove its spotted marker.

d. **End Turn Step (BQ9.4, AQ16.4):** Advance initiative marker on TURN RECORD TRACK. Count victory points at game's end.

STANDARD TERRAIN VALUES CHART (AQ12.1)

TYPE TERRAIN	HEIGHT	GP DEF	TYPE TERRAIN	HEIGHT	GP DEF
Block	+0	6-8a	Hasty Minefield	+0	3
Brewed Up Wreck (ground/smoke)	+0/+2	----	Heavy Woods (Ground/Tree tops)	+0/+4	----
Brick Building (ground/top)	+0/+1	9	Hill (Per Level) Ground Level	+1	----
Bridge	+0	10c	Improved Position	+0	----
Clear	+0	----	Normal Ground Level	0	----
Combat Units	+0	b	Other Smoke (ground/smoke)	+0/+3	----
Deliberate Minefield	+0	6	Path, Road, Rough, Scrub	+0	----
Depression Ground Level	-1	----	Stone Building (ground/top)	+0/+1	10
Destroyed, Ditch	+0	----	Stream, Water	-1	----
Discharger (DS) Smoke	+0	----	Wire	+0	1-3
FASCAM Minefield	+0	9	Wreck	+0	----
Fire (ground/smoke)	+0/+5	----	Wood Building (ground/top)	+0/+1	7
Hasty Entrenchments	+0	----	Woods (ground/tree tops)	+0/+3	----

NOTES: a: Depends on scenario. b: See data cards. c: Temporary bridges have a GP defense factor of "7". Standard weight limit is 60 tons.

AP POINT EFFECT HIT CHART (7.4.3)																								
NET	AP FACTOR																							NET
MOD	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	MOD	MOD	MOD	MOD
+10+	00	00	00	00	00	00	99	92	83	74	65	56	48	42	35	27	23	17	12	06	+10+	+10+	+10+	+10+
+9	00	00	00	00	00	00	96	88	80	71	62	54	46	41	33	26	22	17	12	06	+9	+9	+9	+9
+8	00	00	00	00	00	00	99	92	85	77	69	60	52	45	39	32	25	21	16	11	06	+8	+8	+8
+7	00	00	00	00	00	00	96	89	82	74	66	58	50	43	38	31	24	20	15	11	05	+7	+7	+7
+6	00	00	00	00	00	00	98	92	86	79	72	64	56	48	42	36	30	23	20	15	10	05	+6	+6
+5	00	00	00	00	00	00	94	89	83	76	69	61	54	46	40	35	29	23	19	14	10	05	+5	+5
+4	00	00	00	00	00	00	96	90	85	79	73	66	59	52	44	38	34	28	22	18	14	10	05	+4
+3	00	00	97	92	86	82	76	70	63	56	49	43	37	32	26	21	17	13	09	05	+3	+3	+3	+3
+2	00	96	92	88	83	78	73	67	61	54	47	41	35	31	25	20	17	13	09	04	+2	+2	+2	+2
+1	96	91	88	84	79	75	69	64	58	51	45	39	34	29	24	19	16	12	08	04	+1	+1	+1	+1
0	91	87	84	80	75	71	66	61	55	49	43	37	32	28	23	18	15	11	08	04	0	0	0	0
-1	86	83	80	76	71	67	63	58	52	47	41	35	30	27	22	17	14	10	08	04	-1	-1	-1	-1
-2	82	78	76	72	68	64	59	55	50	44	39	33	29	25	21	16	14	10	07	04	-2	-2	-2	-2
-3	77	74	71	68	64	60	56	52	47	42	37	31	27	24	20	15	13	09	07	03	-3	-3	-3	-3
-4	73	70	67	64	60	57	53	49	44	39	34	30	26	22	18	14	12	09	06	03	-4	-4	-4	-4
-5	68	65	63	60	56	53	50	46	41	37	32	28	24	21	17	14	11	08	06	03	-5	-5	-5	-5
-6	64	61	59	56	53	50	46	43	39	34	30	26	22	20	16	13	11	08	06	03	-6	-6	-6	-6
-7	59	56	55	52	49	46	43	40	36	32	28	24	21	18	15	12	10	07	05	03	-7	-7	-7	-7
-8	55	52	50	48	45	43	40	37	33	29	26	22	19	17	14	11	09	07	05	02	-8	-8	-8	-8
-9	50	48	46	44	41	39	36	34	30	27	24	20	18	15	13	10	08	06	04	02	-9	-9	-9	-9
-10	46	44	42	40	38	36	33	31	28	25	22	19	16	14	12	09	08	06	04	02	-10	-10	-10	-10
-11	41	39	38	36	34	32	30	27	25	22	19	17	14	13	10	08	07	05	04	02	-11	-11	-11	-11
-12	36	35	34	32	30	28	26	24	22	20	17	15	13	11	09	07	06	04	03	02	-12	-12	-12	-12
-13	32	30	29	28	26	25	23	21	19	17	15	13	11	10	08	06	05	04	03	01	-13	-13	-13	-13
-14	27	26	25	24	23	21	20	18	17	15	13	11	10	08	07	05	05	03	02	01	-14	-14	-14	-14
-15	23	22	21	20	19	18	17	15	14	12	11	09	08	07	06	05	04	03	02	01	-15	-15	-15	-15
-16	18	17	17	16	15	14	13	12	11	10	08	07	06	05	04	03	02	02	01	01	-16	-16	-16	-16
-17	14	13	13	12	11	11	10	09	08	07	06	05	04	03	03	02	02	01	01	01	-17	-17	-17	-17
-18	09	09	08	08	07	07	06	06	05	04	04	03	03	02	02	02	01	01	01	--	-18	-18	-18	-18
-19+	05	04	04	04	04	04	03	03	03	02	02	02	02	01	01	01	01	--	--	--	-19+	-19+	-19+	-19+
NET	AP FACTOR																							NET
MOD	AP FACTOR																							MOD

ADVANCED GAME AP HIT RESULTS (AQ14.3.3): Non-Penetrating: A TT or HD hit on an open vehicle causes 1 crew loss. A hit on a machinegun location destroys the machinegun. **Compartment:** Also causes 1 crew loss, and suppresses the crew and all transported units. 2 compartment hits=knock out. A hull compartment hit also prevents movement, ends EX smoke capability, reduces turret turn to "1", and destroys all hull weapons, sights, and searchlights. A turret compartment hit prevents turret turns, ends DS smoke capability, and destroys all turret weapons, sights, and searchlights. **Knock Out:** Replace with wreck marker. **Brew-up:** Replace with brew up wreck marker. Also suppresses all other units in the hex. **Crew Loss (OR17.2.7):** 1-3 is an officer.

GP POINT EFFECT MODIFIERS (AG14.4.2)	
GENERAL MODIFIERS	(A) (AE) VS. VEHICLE
Aquisition/Turn: +5	In Building Hex: -10
Per Firing Crew Loss: -10	In Woods Hex: -10
(A) Firer Suppressed: -20	Hull Down: -20
Firer Tem Sup-Class1: -5	Moving: -10
Firer Tem Sup-Class2-3: -10	FIRING CANISTER
Firer Tem Sup-Class4: -15	Vs. Leg/Towed: +20
Transported Firer: -10	Vs. Vehicle: -20
(A) (AE) Through Brew-up Smoke: -10	(2-10 hex range)
(A) (AE) Through Other Smoke: -20	(A) FIRER GRADE MODIFIERS
Firing Overwatch—Target NM/MV: -5/-15	Poor: 11-20 hexes: -5
(A) (AE) Building Target: -10/Ht.	21+ hexes : -10
Making Overrun Attack (AG14.7): +20	Crack: 11-20 hexes: +5
Firing Bailed Out Crew (OR17.2.3.2.2.3): -10	21+ hexes : +10
(A) Rate Of Fire (OR17.3.2.2): +/-10 each	(A) AIR UNIT GUN FIRING MODIFIERS (OR20.1.3.2.3)
Using HEAT/HESH/HEP as GP (OR17.3.2.3.1): -10	Firing Using Evasive Man.: -10
Using Infantry Alt. Fire (OR17.3.4): -5/each	Firer Is At Low Speed: +5
Firing Squad Plus (OR17.4.1.1): +10	Firer Is At High Speed: -5
Firing Special Forces (OR17.4.1.3.2): +10	(AE) = Apply to area eff. fire.
Using Normal Pinning Fire (OR17.4.3.1): +10	(A) = Apply to aircraft and low altitude helicopters.
(A) (AE) Vs. Hasty Entrench (OR17.4.4.3): -10	
NBC Environment (OR18.4.2): -5	

THE AP POINT EFFECT MODIFIERS (7.4.2)			
(A) TERRAIN MODIFIERS	MOVEMENT MODIFIERS		GENERAL MODIFIERS
In Building Hex: -2	FIRING UNIT	TARGET UNIT	
In Rough Hex: -4		NM	MV
In Scrub Hex: -2	Non-Moving	0	-3
In Woods Hex: -6	Moving:Stab.1	-2	-4
(AQ14.3.1.2)	Moving:Stab.2	-3	-5
Inside Building: -8	Moving:Stab.3	-4	-6
In Imp. Position: -10	Moving:Stab.4	-5	-7
	Moving:Stab.0	-8	-10
	ATGM:Class1-2*	0	-1
	ATGM:Class3-4*	0	-3
	*Use firing landed helicopter.		
OVERWATCH MODIFIERS	(A) = Apply to aircraft and low altitude helicopters.		
Target Is Not Moving: -2			
Target Is Moving: -5			

(A) SIGHT MODIFIERS (AQ14.3.2)						
TYPE SIGHT	MODIFIER					NOTES
	0	+1	+2	+3	+4	+5
(C) Co2 Laser Sight	1-5	6-10	11-15	16-20	21-25	26-40
	Use in all conditions & smoke (except DS smoke).					
(D) Laser Designator	Cannot be used in smoke, Fog or Blowing Snow. See OR19.2.4.7 and OR20.2.3.3.3 for uses.					
(I) Image Intensifier	Day sighting to 20 hexes in Dusk/Moonlight & Day sighting to 15 hexes at Night. Negated by any smoke, Fog or Blowing Snow.					
(L) Laser Sight	1-5	6-10	11-15	16-20	21-25	26-40
	Cannot be used in smoke, Fog, or Blowing Snow.					
(O) Optical Sight	--	--	--	--	--	No modifiers.
(R) Radar	--	--	--	--	--	Only vs. air. See OR20.3.1 for use.
(S) Stereo/COD Sight	1-5	6-15	16-25	26-40	--	--
(T) Thermal Imager	Day sighting to 20 hexes in all conditions & smoke (except DS smoke). Ignore camouflage out to 20 hexes range (OR17.6.1).					

GP COMBAT RESULTS TABLE (AG14.4.4)																								
GP		GP FACTOR																			GP			
DEF	EFF	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49+	EFF	DEF	FAC			
1	N	50	46	42	38	34	30	26	22	18	14	10	06	02	----	----	----	----	N	1				
	S	75	72	69	66	63	60	57	54	51	48	45	42	39	36	33	30	27	S					
2	N	55	51	47	43	39	35	31	27	23	19	15	11	07	03	----	----	----	N	2				
	S	80	77	74	71	68	65	62	59	56	53	50	47	44	41	38	35	32	S					
3	N	59	55	51	47	43	39	35	31	27	23	19	15	11	07	03	----	----	N	3				
	S	84	81	78	75	72	69	66	63	60	57	54	51	48	45	42	39	36	S					
4	N	64	60	56	52	48	44	40	36	32	28	24	20	16	12	08	04	----	N	4				
	S	89	86	83	80	77	74	71	68	65	62	59	56	53	50	47	44	41	S					
5	N	68	64	60	56	52	48	44	40	36	32	28	24	20	16	12	08	04	N	5				
	S	93	90	87	84	81	78	75	72	69	66	63	60	57	54	51	48	45	S					
6	N	73	69	65	61	57	53	49	45	41	37	33	29	25	21	17	13	09	N	6				
	S	98	95	92	89	86	83	80	77	74	71	68	65	62	59	56	53	50	S					
7	N	77	73	69	65	61	57	53	49	45	41	37	33	29	25	21	17	13	N	7				
	S	00	99	96	93	90	87	84	81	78	75	72	69	66	63	60	57	54	S					
8	N	82	78	74	70	66	62	58	54	50	46	42	38	34	30	26	22	18	N	8				
	S	00	00	00	98	95	92	89	86	83	80	77	74	71	68	65	62	59	S					
9	N	86	82	78	74	70	66	62	58	54	50	46	42	38	34	30	26	22	N	9				
	S	00	00	00	00	99	96	93	90	87	84	81	78	75	72	69	66	63	S					
10	N	91	87	83	79	75	71	67	63	59	55	51	47	43	39	35	31	27	N	10				
	S	00	00	00	00	00	98	95	92	89	86	83	80	77	74	71	68	65	S					
EFFECTS: N: "No effect". "Suppressed". EF: Any modified dice roll exceeding the suppressed number is an "Effective" ("EF") result.																								
GP HIT RESULTS: No Effect: No results against any targets. Suppressed: Suppresses all leg and towed units, and all vehicle units except buttoned ones hit by small arms weapons at range 2+. No results against terrain. Effective: Suppresses all buttoned vehicle units except those hit by small arms weapons at range 2+. Suppress +1 crew loss against all open vehicles. Vehicles can be knocked out/brewed up (along with transported units) in some situations (see 14.4.4.2.3.3) and by close assaults, (where the vehicle is brewed up). Eliminates all leg and towed units, except that full squads are only reduced to 1/2 squads by GP point effect fire and suppressed. "01-50" elim. an attached weapon (except rocket launcher and AAM)—OR17.2.3 & "1-3" is an officer—OR17.2.7—when reduced to a 1/2 squad.																								
TRANSPORTED UNITS: GP defense of "1" in non-FC vehicles, and "3" in open FC vehicles.																								

EFFECT MODIFIERS (7.4.2)

GENERAL MODIFIERS	(A) FIRER GRADE MODIFIERS
Acquisition/Turn: +2	Poor: 6-10 hexes: -1
Target Vehicle Size: ?	11-15 hexes: -2
Through Brew-Up Smoke: -5/hex	16-20 hexes: -3
(AG14.3.1.1)	21-25 hexes: -4
Through Other Smoke: -10/hex	26+ hexes: -5
Firer Suppressed: -10	Crack: 6-10 hexes: +1
Transported Firer: -5	11-15 hexes: +2
Firer Crew Loss: -4	16-20 hexes: +3
Firer Tem Sup-Class1: -2	21-25 hexes: +4
Firer Tem Sup-Class2-3: -5	26+ hexes: +5
Firer Tem Sup-Class4: -7	(A) AIR UNIT GUN FIRING MODIFIERS
FC Environment (OR18.4.2): -2	(OR20.1.3.2.2)
Altitude helicopters.	Firing Using Evasive Man.: -5
	Firer Is At Low Speed: +2
	Firer Is At High Speed: -2

NOTES

s & smoke (except DS

w.

Day sighting to 15
Blowing Snow.

Smoke, Fog, or

R20.3.1 for use.

Smoke (except DS
age (OR17.6.1).

(AG14.4.4)

GP	DEF	FAC
37-40-43-48-49	EFF	
39 42 45 48 +		
02	N	1
39 36 33 30 27	S	
07 03	N	2
44 41 38 35 32	S	
11 07 03	N	3
48 45 42 39 36	S	
16 12 08 04	N	4
53 50 47 44 41	S	
20 16 12 08 04	N	5
57 54 51 48 45	S	
25 21 17 13 09	N	6
62 59 56 53 50	S	
29 25 21 17 13	N	7
66 63 60 57 54	S	
34 30 26 22 18	N	8
71 68 65 62 59	S	
38 34 30 26 22	N	9
75 72 69 66 63	S	
43 39 35 31 27	N	10
80 77 74 71 68	S	+

ified dice roll exceeding the

ts. Suppressed: Suppresses
oried ones hit by small arms
ve: Suppresses all buttoned
ange 2+. Suppress +1 crew
d out/brewed up (along with
by close assaults, (where the
except that full squads are
suppressed. "01-50" elim. an
17.2.3 & "1-3" is an officer—

ehicles, and "3" in open FC

AP POINT EFFECTS NUMBER OF HITS TABLE (7.4.4)

HIT NO.	ROF1	ROF2	ROF3	ROF4	ROF5
20+	24 H	19 33 H	14 29 43 H	10 24 38 52 H	
80-89	21 H	17 30 H	13 26 38 H	09 21 34 47 H	
70-79	19 H	15 26 H	11 23 34 H	08 19 30 41 H	
60-69	16 H	13 23 H	10 20 29 H	07 16 26 36 H	
50-59	14 H	11 19 H	08 17 25 H	06 14 22 30 H	
40-49	11 H	09 16 H	07 14 20 H	05 11 18 25 H	
30-39	09 H	07 12 H	05 11 16 H	04 09 14 19 H	
20-29	06 H	05 09 H	04 08 11 H	03 06 10 14 H	
10-19	04 H	03 05 H	02 05 07 H	02 04 06 08 H	
01-09	01 H	01 02 H	-- 01 02 H	-- 01 02 03 H	

HAND-TO-HAND COMBAT TABLE (AG14.6.2.2)

ATTACKER VS. DEFENDER	ATTACKER WINS	DEFENDER WINS
Squad vs. Squad	01-50	51+
Squad vs. 1/2 Squad	01-80	81+
Squad vs. Team	01-90	91+
Squad vs. Towed or Bailed Crew	01-00	----
1/2 Squad vs. Squad	01-20	21+
1/2 Squad vs. 1/2 Squad	01-50	51+
1/2 Squad vs. Team	01-80	81+
1/2 Squad vs. Towed or Bailed Crew	01-90	91+
Attacker gets a spotted (MOVED) marker. Losing squads are reduced to 1/2 squads and suppressed.		

HAND-TO-HAND COMBAT MODIFIERS (14.6.3)

SITUATION	ATT	DEF
Defender is Suppressed	---	-20
Uphill Attack (not over 2 heights)	+10	---
Per Crew Loss and/or Bailed Out	---	-10
Per Additional Attacker	-10	---
A Unit is Crack Grade	-10	+10
A Unit is Poor Grade	+10	-10
A Unit is Squad Plus (OR17.4.1.1)	-5	+5
A Unit is Assault Infantry (OR17.4.1.2)	-10	+10
A Unit Has a Flamethrower (OR17.4.1.2)	-20	+20
A Unit is Spec Forces (OR17.4.1.3.2)	-10	+10

CLOSE ASSAULT MODIFIERS (AG14.5.2.2)

Uphill Attack: -10 (not over 2 heights)
Vs. Moving Vehicle: -10
Vs. Open Vehicle: +10
Crack Grade Attacker: +10
Poor Grade Attacker: -10
Assault Inf Attack (OR17.4.1.2): +10
Attacker Has Flamethrower (OR17.4.1.2): +20
Spec Forces Attack (OR17.4.1.3.2): +10
Attacker gets a spotted (MOVED) marker.

AP POINT EFFECT TURRET FACING TABLE (OR17.2.1)

SHOT ANGLE	ACTUAL HIT LOCATION		
TF	TS	TR	
Front	01-00	----	----
Front/Side	01-50	51-00	----
Rear/Side	----	01-50	51-00
Rear	----	----	01-00

ANTI-AIRCRAFT MODIFIERS (OR20.3.4.1)

Helicopter at NOE (Nape of Earth): No radar use.
Firer Suppressed/CA,FM,M,OR Orders: Hit number halved/each.
Helicopter Moving: -10 (except popup) to hit roll.
Helicopter Popup: No AAM or radar use possible (unless target fires ATGM). Hit number halved.
Target Hovering (Not Popup): -10 to hit roll.
Aircraft Evasive Maneuvering: +20 to hit roll.
Firer Crack/Poor: -10/+10 to hit roll.

BUILDING FIRE TABLE (OR18.3)

BUILDING TYPE	GP FACTOR						FIRE STATUS		
	01-10	11-20	21-30	31-40	41-50	51+	SPREAD	CONTINUE	ENDS
Brick	----	01-10	01-20	01-30	01-40	01-50	01-35	36-80	81+
Stone	----	01-05	01-15	01-25	01-35	01-45	01-25	26-70	71+
Wood	01-10	01-20	01-30	01-40	01-50	01-60	01-50	51-85	86+

NOTE: Only GP factors from guns of 14.5mm + can start a fire. Napalm and flamethrowers start immediate fires.

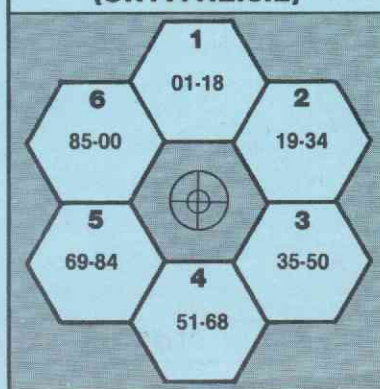
AREA EFFECT SCATTER MODIFIERS CHART (OR17.1.2.2)

SCATTER MODIFIERS	CONDITIONS			
	DAY	DUSK	MOONLT	NT/FG/BLSN
0	1-30	1-15	1-8	1-4
-10	31-40	16-23	9-11	5-6
-20	----	24-30	12-15	7-8
-30	----	31-40	16-19	9-10
-40	----	----	20-23	11-12
-50	----	----	24-26	13-14
-60	----	----	27-30	15-16
-70	----	----	31-34	17-18
-80+	----	----	35-38	19-20

AREA EFFECT SCATTER TABLE (OR17.1.2.3)

MODIFIED DICE ROLL	SCATTER FACTOR								
	0	10	20	30	40	50	60	70	80
05 or less	H	2	3	4	5	6	7	8	9
06-10	H	1	2	3	4	5	6	7	8
11-20	H	H	1	2	3	4	5	6	7
21-30	H	H	H	1	2	3	4	5	6
31-40	H	H	H	H	1	2	3	4	5
41-50	H	H	H	H	H	1	2	3	4
51-55	H	H	H	H	H	H	1	2	3
56-60	H	H	H	H	H	H	H	1	2
61-65	H	H	H	H	H	H	H	H	1
66+	H	H	H	H	H	H	H	H	H

SCATTER DIAGRAM (OR17.1.2.3.2)



AP POINT EFFECT HIT CHART (7.4.3)

NET	AP FACTOR																			NET	
MOD	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	MOD
+10 +	00	00	00	00	00	00	99	92	83	74	65	56	48	42	35	27	23	17	12	06	+10 +
+9	00	00	00	00	00	00	96	88	80	71	62	54	46	41	33	26	22	17	12	06	+9
+8	00	00	00	00	00	99	92	85	77	69	60	52	45	39	32	25	21	16	11	06	+8
+7	00	00	00	00	00	96	89	82	74	66	58	50	43	38	31	24	20	15	11	05	+7
+6	00	00	00	00	98	92	86	79	72	64	56	48	42	36	30	23	20	15	10	05	+6
+5	00	00	00	00	94	89	83	76	69	61	54	46	40	35	29	23	19	14	10	05	+5
+4	00	00	00	96	90	85	79	73	66	59	52	44	38	34	28	22	18	14	10	05	+4
+3	00	00	97	92	86	82	76	70	63	56	49	43	37	32	26	21	17	13	09	05	+3
+2	00	96	92	88	83	78	73	67	61	54	47	41	35	31	25	20	17	13	09	04	+2
+1	96	91	88	84	79	75	69	64	58	51	45	39	34	29	24	19	16	12	08	04	+1
0	91	87	84	80	75	71	66	61	55	49	43	37	32	28	23	18	15	11	08	04	0
-1	86	83	80	76	71	67	63	58	52	47	41	35	30	27	22	17	14	10	08	04	-1
-2	82	78	76	72	68	64	59	55	50	44	39	33	29	25	21	16	14	10	07	04	-2
-3	77	74	71	68	64	60	56	52	47	42	37	31	27	24	20	15	13	09	07	03	-3
-4	73	70	67	64	60	57	53	49	44	39	34	30	26	22	18	14	12	09	06	03	-4
-5	68	65	63	60	56	53	50	46	41	37	32	28	24	21	17	14	11	08	06	03	-5
-6	64	61	59	56	53	50	46	43	39	34	30	26	22	20	16	13	11	08	06	03	-6
-7	59	56	55	52	49	46	43	40	36	32	28	24	21	18	15	12	10	07	05	03	-7
-8	55	52	50	48	45	43	40	37	33	29	26	22	19	17	14	11	09	07	05	02	-8
-9	50	48	46	44	41	39	36	34	30	27	24	20	18	15	13	10	08	06	04	02	-9
-10	46	44	42	40	38	36	33	31	28	25	22	19	16	14	12	09	08	06	04	02	-10
-11	41	39	38	36	34	32	30	27	25	22	19	17	14	13	10	08	07	05	04	02	-11
-12	36	35	34	32	30	28	26	24	22	20	17	15	13	11	09	07	06	04	03	02	-12
-13	32	30	29	28	26	25	23	21	19	17	15	13	11	10	08	06	05	04	03	01	-13
-14	27	26	25	24	23	21	20	18	17	15	13	11	10	08	07	05	05	03	02	01	-14
-15	23	22	21	20	19	18	17	15	14	12	11	09	08	07	06	05	04	03	02	01	-15
-16	18	17	17	16	15	14	13	12	11	10	08	07	06	06	05	04	03	02	02	01	-16
-17	14	13	13	12	11	11	10	09	08	07	06	06	05	04	03	03	02	02	01	01	-17
-18	09	09	08	08	08	07	07	06	06	05	04	04	03	03	02	02	02	01	01	--	-18
-19 +	05	04	04	04	04	04	03	03	03	02	02	02	02	01	01	01	01	01	--	--	-19 +
NET	AP FACTOR																			NET	
MOD	AP FACTOR																			MOD	

ADVANCED GAME AP HIT RESULTS (AQ14.3.3): Non-Penetrating: A TT or HD hit on an open vehicle causes 1 crew loss. A hit on a machinegun location destroys the machinegun. **Compartment:** Also causes 1 crew loss, and suppresses the crew and all transported units. 2 compartment hits=knock out. A hull compartment hit also prevents movement, ends EX smoke capability, reduces turret turn to "1", and destroys all hull weapons, sights, and searchlights. A turret compartment hit prevents turret turns, ends DS smoke capability, and destroys all turret weapons, sights, and searchlights. **Knock Out:** Replace with wreck marker. **Brew-up:** Replace with brew up wreck marker. Also suppresses all other units in the hex. **Crew Loss (OR17.2.7):** 1-3 is an officer.

GP POINT EFFECT MODIFIERS (AQ14.4.2)

GENERAL MODIFIERS	(A) (AE) VS. VEHICLE
Aquisition/Turn: +5	In Building Hex: -10
Per Firing Crew Loss: -10	In Woods Hex: -10
(A) Firer Suppressed: -20	Hull Down: -20
Firer Tem Sup-Class1: -5	Moving: -10
Firer Tem Sup-Class2-3: -10	FIRING CANISTER
Firer Tem Sup-Class4: -15	Vs. Leg/Towed: +20
Transported Firer: -10	Vs. Vehicle: -20
(A) (AE) Through Brew-up Smoke: -10	(2-10 hex range)
(A) (AE) Through Other Smoke: -20	(A) FIRER GRADE MODIFIERS
Firing Overwatch—Target NM/MV: -5/-15	Poor: 11-20 hexes: -5
(A) (AE) Building Target: -10/Ht.	21+ hexes: -10
Making Overrun Attack (AQ14.7): +20	Crack: 11-20 hexes: +5
Firing Bailed Out Crew (OR17.2.3.2.2.3): -10	21+ hexes: +10
(A) Rate Of Fire (OR17.3.2.2): +/-10 each	(A) AIR UNIT GUN FIRING MODIFIERS (OR20.1.3.2.3)
Using HEAT/HESH/HEP as GP (OR17.3.2.3.1): -10	Firing Using Evasive Man.: -10
Using Infantry Alt. Fire (OR17.3.4): -5/each	Firer Is At Low Speed: +5
Firing Squad Plus (OR17.4.1.1): +10	Firer Is At High Speed: -5
Firing Special Forces (OR17.4.1.3.2): +10	(AE) = Apply to area eff. fire.
Using Normal Pinning Fire (OR17.4.3.1): +10	(A) = Apply to aircraft and low altitude helicopters.
(A) (AE) Vs. Hasty Entrench (OR17.4.4.3): -10	
NBC Environment (OR18.4.2): -5	

THE AP POINT EFF

(A) TERRAIN MODIFIERS	MOVEMENT MODIFIERS	
In Building Hex: -2	FIRING UNIT	TARGET UNIT
In Rough Hex: -4		NM MV
In Scrub Hex: -2	Non-Moving	0 -3
In Woods Hex: -6	Moving:Stab.1	-2 -4
(AQ14.3.1.2)	Moving:Stab.2	-3 -5
Inside Building: -8	Moving:Stab.3	-4 -6
In Imp. Position: -10	Moving:Stab.4	-5 -7
	Moving:Stab.0	-8 -10
	ATGM:Class1-2*	0 -1
	ATGM:Class3-4*	0 -3
	*Use firing landed helicopter.	
	(A) = Apply to aircraft and low alti	

(A) SIGHT MODIFIERS (AQ14.3.2)

TYPE	MODIFIER					
SIGHT	0	+1	+2	+3	+4	+5
(C) Co2 Laser Sight	1-5	6-10	11-15	16-20	21-25	26-40
(D) Laser Designator	Cannot be used in smoke, Fog or Blowing Snow. See OR19.2.4.7 and OR20.2.3.3 for uses.					
(I) Image Intensifier	Day sighting to 20 hexes in Dusk/Moonlight & D hexes at Night. Negated by any smoke, Fog or E					
(L) Laser Sight	1-5	6-10	11-15	16-20	21-25	26-40
(O) Optical Sight	--	--	--	--	--	--
(R) Radar	--	--	--	--	--	--
(S) Stereo/COD Sight	1-5	6-15	16-25	26-40	--	--
(T) Thermal Imager	Day sighting to 20 hexes in all conditions & sm smoke). Ignore camouflage out to 20 hexes rang					

GP COMBAT RESULTS TABLE

GP	DEF	EFF	GP FACTOR													
			1-3	4-8	9-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36			
1	N		50	46	42	38	34	30	26	22	18	14	10	06		
	\$		75	72	69	66	63	60	57	54	51	48	45	42		
2	N		55	51	47	43	39	35	31	27	23	19	15	11		
	\$		80	77	74	71	68	65	62	59	56	53	50	47		
3	N		59	55	51	47	43	39	35	31	27	23	19	15		
	\$		84	81	78	75	72	69	66	63	60	57	54	51		
4	N		64	60	56	52	48	44	40	36	32	28	24	20		
	\$		89	86	83	80	77	74	71	68	65	62	59	56		
5	N		68	64	60	56	52	48	44	40	36	32	28	24		
	\$		93	90	87	84	81	78	75	72	69	66	63	60		
6	N		73	69	65	61	57	53	49	45	41	37	33	29		
	\$		98	95	92	89	86	83	80	77	74	71	68	65		
7	N		77	73	69	65	61	57	53	49	45	41	37	33		
	\$		00	99	96	93	90	87	84	81	78	75	72	69		
8	N		82	78	74	70	66	62	58	54	50	46	42	38		
	\$		00	00	00	98	95	92	89	86	83	80	77	74		
9	N		86	82	78	74	70	66	62	58	54	50	46	42		
	N		00	00	00	00	99	96	93	90	87	84	81	78		
10	N		91	87	83	79	75	71	67	63	59	55	51	47		
	\$		00	00	00	00	00	00	98	95	92	89	86	83		

EFFECTS: N: "No effect". "Suppressed". EF: Any modifier suppressed number is an "Effective" ("EF") result.

GP HIT RESULTS: No Effect: No results against any targets all leg and towed units, and all vehicle units except button weapons at range 2+. No results against terrain. **Effective:** vehicle units except those hit by small arms weapons at range loss against all open vehicles. Vehicles can be knocked transported units) in some situations (see 14.4.2.3.3) and by vehicle is brewed up). Eliminates all leg and towed units, only reduced to 1/2 squads by GP point effect fire and su attached weapon (except rocket launcher and AAM)—OR17 OR17.2.7—when reduced to a 1/2 squad.

TRANSPORTED UNITS: GP defense of "1" in non-FC vehicles.

STANDARD TERRAIN IDENTIFICATION CHART

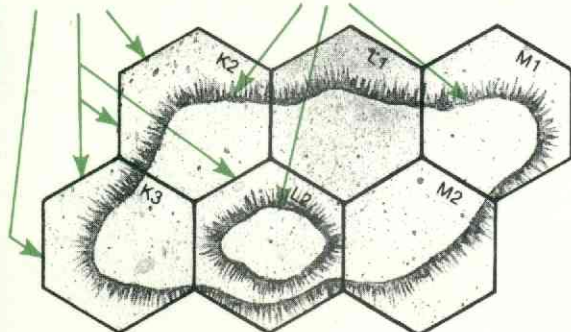
NOTE: For appearance, many hexes contain two or more colors. The terrain in a hex is determined by the color that fills *most* of the hex. For hexes that contain streams, bridges or buildings, consider the *entire* hex to be a clear hex completely filled with stream, bridge, or buildings, regardless of other colors also in the hex.

HILL (Higher than surrounding terrain—color indicates other terrain in a hex): Includes hexes with one or more contour lines (in green) and those enclosed by contour line hexes.

DEPRESSION (Lower than surrounding terrain—color indicates other terrain in a hex): Includes hexes with brown contour lines and those enclosed by contour line hexes.

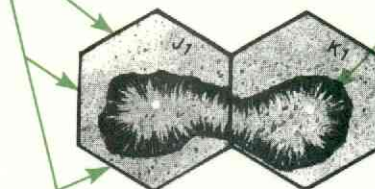
HILL HEXSIDES

GREEN HILL CONTOUR LINES



DEPRESSION HEXSIDE

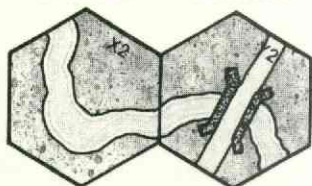
BROWN DEPRESSION CONTOUR LINES



STREAMS AND BRIDGES

STREAM

BRIDGE



ROADS AND PATHS

(May run through any other types of hexes)

ROAD

(Light Grey)

PATH

(Brown)



BUILDINGS

(Building patterns)

BRICK

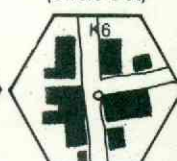
(Red patterns)
(Triangle Dot)

STONE

(Black patterns)
(Square Dot)

WOOD

(Brown patterns)
(Circle Dot)



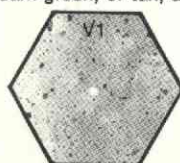
WOODS

(Woods pattern)



CLEAR

(Light green, dark green, or tan, and no patterns)



SCRUB

(Scrub pattern)



ROUGH

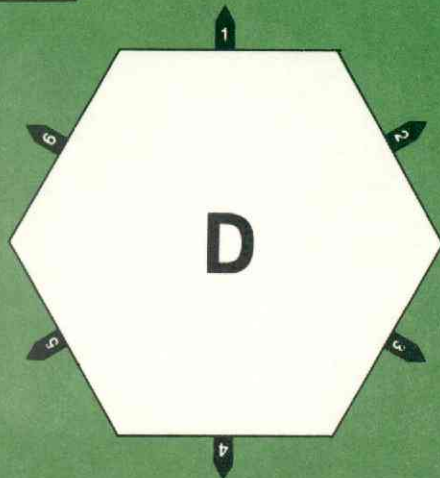
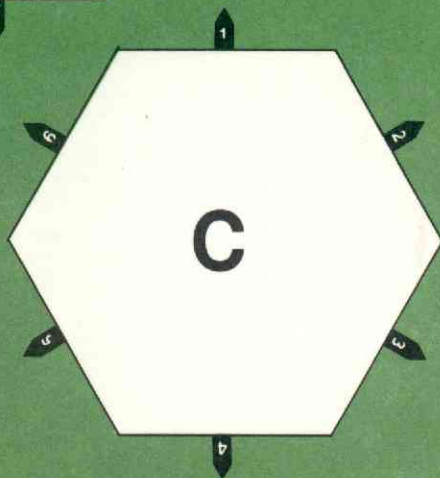
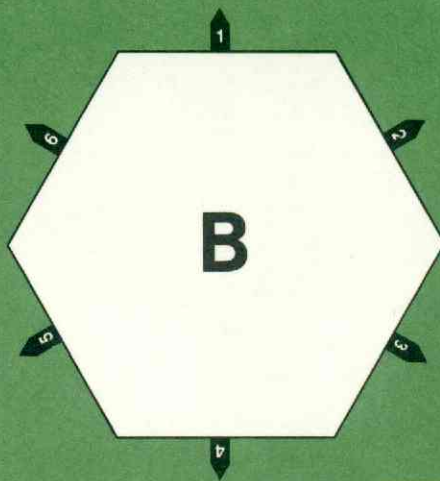
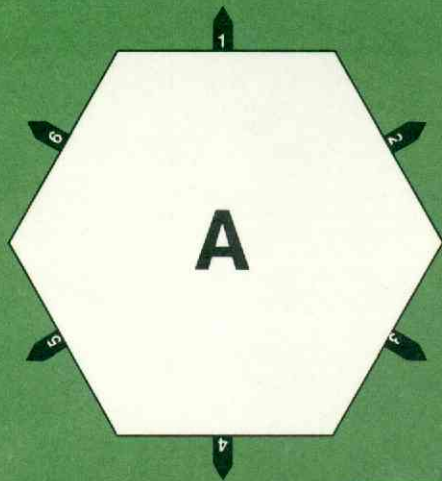
(Rough pattern)



TURN RECORD TRACK (BG9.4.1, AG10.1)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

SUBSTITUTE HEXES (AG12.2.3)



DATA CARD FORMAT

The data cards display the individual information needed to move and fight the combat units.. A single data card serves as a reference for all units of that type that are on the mapboard. Information on different units appears on the two sides of a data card. Many data cards may contain the information for more than one type of unit. This provides a general overview of the information found on the various data cards, except for the artillery data cards, which are quite unique and discussed in detail in Optional Rule 19.0. Examine the data cards and locate the information on them while reading through the information on this card. Those marked with an asterisk (*) are not needed for play of the Basic Game.

1. NAME: At the top of each card is an identification number (ie., "USA-1A") is the United States data card #1, side A) for the card, the name of the unit(s) it represents, its weight in metric tons (ground units only), and, except for infantry data cards, its point value.

2. UNIT COUNTER: To help find the proper units used with a data card, all have a picture of the proper unit counter and all of the identification numbers for these counters. The top of each picture is the "front" of the unit.

3. MOVEMENT INFORMATION: This section is found on all but aircraft and helicopter data cards, but in slightly different formats:

a. SPEEDS:

Vehicle Speeds: Vehicle data cards have three speeds lines, for "Normal", "Snow", and "Mud" ground weather conditions (see OR18.2 for "Snow" and "Mud"), with three columns showing their "MF" ("movement factors") and costs to move on "Road" or "Path" hexes (usually fractions, ie. "2/3" indicates a cost of 2/3 of a movement factor to enter a hex).

Towed and Leg Speeds (*): Towed data cards have one speed line which says "Towed" (unit must be towed by a vehicle to move) or "Towed (1)" (unit has a limited ability to move one hex on its own—see AG15.2.1). Leg data cards have one speed line, with columns showing the movement factors of different size (squad, half squad, and team) leg units. A number in parenthesis shows the number of movement factors a leg unit can use and still fire its weapons (ie., with FIRE/MOVE orders).

b. TURN COSTS: Found only on vehicle data cards, the three numbers are the movement factors expended to turn one, two or three hexes in one hex. After the numbers is a reference word (which information plays no part in the game) indicating if the vehicle is "Tracked" or "Wheeled".

c. STACKING POINTS (*): All ground units have stacking points that essentially tell how much space they occupy in a hex, and, also, for leg and towed units, how much space they occupy on a transporting vehicle or helicopter unit (see AG12.2, AG15.3, and OR20.2.2.3).

d. TRANSPORT VALUE (*): Found only on vehicle and helicopter data cards, this is the number of leg ("L") and/or towed ("T") stacking points they can transport. The notation "(FC)" indicates that transported units are carried inside the vehicle or helicopter—otherwise, they are carried outside and are more exposed.

e. LOAD/UNLOAD (*): Found only on leg and towed data cards, this is the number of the transporting unit's movement factors required to load or unload the leg or towed unit.

4. MOVEMENT COSTS: This section is found only on vehicle data cards. This chart shows the number of movement factors required by the vehicle unit to enter hexes with various types of terrain. "P" indicates that movement into a hex is "prohibited". A "+" indicates that the normal costs based on the hex terrain are paid, plus an additional movement factor.

5. GENERAL INFORMATION (*): This section is found only on aircraft and helicopter data cards. Aircraft, helicopter and anti-aircraft fire rules are found in option 20.0.

a. CREW SIZE: Found only on aircraft data cards, this is the number of crewmen carried by an aircraft. Aircraft with two crewmen get favorable modifiers in a number of situations.

b. CONDITION LEVELS: Found only on aircraft data cards, this rates an aircraft's bad weather performance. "1" is the best, and "4" is the worst. Unfavorable conditions hinder low rated aircraft more than better rated ones (see OR20.1.2.1).

c. MAXIMUM WEAPON LOADS: Found only on aircraft data cards, this is the maximum number of "loads" (individual pods, tanks, bombs or canisters) that aircraft can carry (OR20.1.1).

d. PRECISION MUNITIONS: Found only on aircraft data cards, this indicates ("Yes" or "No") if the aircraft can

carry PGM weapons (for use see OR20.1.3.4.3).

e. CARRIES ECM POD OR CARRIES CHAFF/ICM: This indicates ("Yes" or "No") if the aircraft can carry ECM pods (some have one available internally), or if a helicopter carries similar Chaff/ICM equipment internally (for use see 20.3.4.1.1).

f. DEFENSE VALUE: This is an aircraft or helicopter defense value when engaged by enemy anti-aircraft weapons (OR20.3.4.2).

g. SPEEDS: Found only on helicopter data cards, this has two lines which show a helicopter's movement factors at low and nap of earth ("NOE") altitudes.

h. STACKING POINTS: Found only on helicopter data cards, this shows how much space a helicopter occupies in a hex when landed.

6. FIRING INFORMATION: This section presents a unit's offensive capability on all data cards. Individual weapons are ruled off and further subdivided if they fire more than one type of ammunition. Information on the various weapons and types of ammunition are found in the columns of these sections.

a. VEHICLE OR TYPE OF UNIT: This column appears only when the information is split for more than one type of unit on the same data card; it only differentiates the units.

b. UNIT SIZE (*): Found only on leg data cards, this differentiates the various types of leg units.

c. PT (*): Found only on leg data cards, this gives the "point values" of the various leg units and their attached weapons.

d. WEAPON: This identifies the weapon by size (ie., "125mm") or by name (ie., "TOW"), gives its stabilization ("Stab.") if it is a gun that fires armor piercing ammunition or its missile class guidance number ("Class") if it is an anti-tank guided missile, and identifies the type of weapon (ie., "AAM" = "Anti-Aircraft Missile", "ATGM" = "Anti-Tank Guided Missile", "Gun" = "Uncategorized Gun(s)", "MnGn" = "Main Gun", "Mrt" = "Mortar", etc.)—only main gun and anti-tank guided missile weapons are used in the Basic Game. For vehicle machineguns ("HMG" = "Heavy Machinegun" and "MG" = "Light or Medium Machinegun") not mounted in turrets, their locations are given (ie., "HD" = "Hull Deck", "TT" = "Turret Top"), using the same abbreviations as in the TARGET INFORMATION section (see below)—these abbreviations are further expanded by the addition of the letter "O" (= "Open") or "C" (= "Closed") to show the type of mounting (which determines when the weapon can be fired. For "Bailed Crew", the accompanying number is the size of the crew).

e. MAX ROF: This gives the weapon's maximum "Rate of Fire".

f. TRN: If a "T" appears, the weapon is mounted in a "turret". The number next to the "T" gives the number of hexides the turret may be turned each turn. All turret mounted weapons have a 60 degree fire arc from the turret's front facing. If there is no "T", the number given is the weapon's fire arc.

g. DEP EL (*): This is the weapon's "Depression/Elevation", ie., how low or high it can be pointed (OR17.3.1).

h. TOT AMMO (*): This is the total "rounds" of ammunition carried for the weapon (OR17.3.2).

i. ST (*): The letters represent various sights available for the weapon to possibly improve its accuracy. See AG14.3.2 and the "Sight Modifiers" in the AP POINT EFFECT MODIFIERS section on the Game Card for explanations of what each letter represents.

j. TYPE AMMO FIRED: This column identifies the types of ammunition a weapon can fire. It also differentiates "KE" (= "Kinetic Energy") from "CE" (= "Chemical Energy") armor-piercing ammunition. Only armor piercing ammunition is used in the Basic Game.

k. FAC: These are various "factors" identifying the "Gunnery Chart" lines for the weapons. These are: "AP" = AP Factor; "MV" = Moving; "NM" = Non-moving; "NM/MV" = Non-moving or Moving; "OP" = Optical or Visual Control (for firing anti-aircraft); "PY" = Penetration

Factor; "PYLOW" = Penetration Factor from low altitude; "PYNOE" = Penetration Factor from nap of earth ("NOE") altitude; "RD" = Radar Control (for firing anti-aircraft); "SCATR" = Scatter Factor. Only "AP" and "PY" are used in the Basic Game.

1. RANGE IN HEXES:

Weapon Ranges: These columns are topped by the range in hexes and present the various factors at those ranges.

AA and Bomb Information (*): Where a weapon is capable of anti-aircraft and bomb information is also presented in this same section, but this information has nothing to do with range. Instead, these lines are topped with headings for the information presented on their next line. These anti-aircraft and bomb headings are as follows: "LL" = "Low Speed/Low Altitude", "LM" = "Low Speed/Medium Altitude" or "Low Altitude/Medium Speed", "LH" = "Low Speed/High Altitude" or "Low Altitude/High Speed", "MM" = "Medium Speed/Medium Altitude", "MH" = "Medium Speed/High Altitude" or "Medium Altitude/High Speed", "HH" = "High Speed/High Altitude", "DAM" = "Anti-Aircraft Damage Modifier", "RNG" = "Anti-Aircraft Fire Range" (minimum to maximum), and "CM" = "Countermeasures Rating".

m. VEHICLE DAMAGE FROM HIT: These columns are used to figure the damage caused by hits on vehicle units: "NO DAM" = "No Damage"; "CMP HIT" = "Compartment Hit"; "KNK OUT" = "Knock Out"; "BRW UP" = "Brewed Up".

n. ATGM SPEEDS TAR MV (*): This shows how fast an ATGM moves for every hex moved by a target vehicle.

o. SMOKE MAKERS (*): Only vehicle units have this in the lower right hand side of their FIRING INFORMATION section. This shows if a vehicle unit can make defensive smoke screens, either using "DS" = "Smoke Dischargers" or "EX" = "Exhaust Smoke" (AG12.6 and 15.7).

p. HEXES EFFECTED (*): Found only on aircraft data cards, these diagrams show the hexes hit by various weapons (see OR20.1.3.3 and 20.1.3.4).

7. POSSIBLE MAXIMUM ARMAMENTS AND POINTS (*): Found only on helicopter data cards, this displays what armaments a helicopter unit can carry and what they cost in points (OR20.2.1).

8. POSSIBLE LOADS AND THEIR POINT VALUES (*): Found only on aircraft data cards, this displays what loads an aircraft unit can carry and what they cost in points (OR20.1.1).

9. TARGET INFORMATION: Found on all but aircraft and helicopter data cards.

a. LEG AND TOWED (*): For leg and towed units, there is a chart showing the unit's GP defense factors when located in various terrains, and various situations ("FC" = unit in Full Cover, "NM" = unit is not moving, "MV" = unit is moving). "P" shows "prohibited" hexes, and "+" shows hexes where the GP defense factor is increased by one more than the terrain in that hex would normally provide.

b. VEHICLE: The TARGET INFORMATION section for vehicle units is quite involved, and fully covered in the rules. The "Hit Location" abbreviations are: "GN" = Main Gun (or ATGM if there is no main gun); "HD" = Hull Deck (top of hull); "HF" = Hull Front; "HR" = Hull Rear; "HS" = Hull Side; "TF" = Turret Front; "TK" = Tracks (or Wheels); "TR" = Turret Rear; "TS" = Turret Side; "TT" = Turret Top.

10. TERRAIN MARKERS AND OTHER EQUIPMENT (*): Data cards USA-4B, FRG-6A, and USSR-7B all have this section, which has nothing to do with the unit covered on terrain markers for quick reference during a game.

11. NOTES: Notes may appear with various sections of the data cards as needed, and all data cards have a NOTES section at the bottom of the card. All notes cover some special characteristic of the unit and are self-explanatory and/or covered extensively in the rules and included only as a memory aid.

MARKER ABBREVIATIONS AND MEANINGS: A short explanation of the side abbreviations on the markers which have them. Those marked with an asterisk (*) are not used in the Basic Game.

COMMAND MARKERS: These faces are called "orders". Note that *both* types of command markers include OW (OVERWATCH) orders.

"Move" Command Markers (Black Dot):

FM: FIRE/MOVE. The unit may fire guns, then move 1/2. Can load/unload (AG15.3.2), and vehicles can create "EX" smoke (AG15.7).

M: MOVE. The unit may move its full rate, but may not fire. Can load/unload (AG15.3.2), and vehicles can create "EX" smoke (AG15.7). Can be used to place location (FULL COVER) markers on leg and towed units that remain in their hex (AG15.5).

OR (*): OVERRUN. The unit will perform an overrun attack (AG14.7). Vehicles can create "EX" smoke (AG15.7)

OW: OVERWATCH. The unit may not move, but may fire at enemy units that reveal themselves by moving or firing. Required for a ground observer units (OR17.1.1.2), and for full cover leg units to prepare hasty entrenchments (OR17.4.4).

"Fire" Command Markers (Red Dot):

ATGM: FIRE (ANTI-TANK GUIDED) MISSILE. the unit may fire an anti-tank guided missile, but may not move.

F: FIRE. The unit may fire guns, but may not move.

CA (*): CLOSE ASSAULT. The unit will perform a close assault or hand-to-hand combat attack (AG14.5-14.6).

OW: OVERWATCH. The unit may not move, but may fire at enemy units that reveal themselves by moving or firing. Required for a ground observer units (OR17.1.1.2), and for full cover leg units to prepare hasty entrenchments (OR17.4.4).

LOCATION MARKERS (*): These faces show a unit's location or altitude.

FC: FULL COVER. Infantry "hitting the dirt" and taking full advantage of any and all cover (AG15.5)

INB: INSIDE BUILDING. A vehicle or towed unit is inside a building (AG15.4.3—15.4.4).

UP: UPSTAIRS. An infantry unit is in the upper floors of a building (AG15.4.2).

HD: HULL DOWN. A vehicle unit has its lower hull and tracks covered (OR17.2.5).

SIGHTING MARKERS (*): These faces indicate *how* a unit is doing its sighting.

IR: INFRARED. Using an infrared searchlight (OR18.1.2).

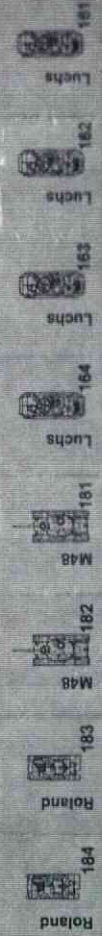
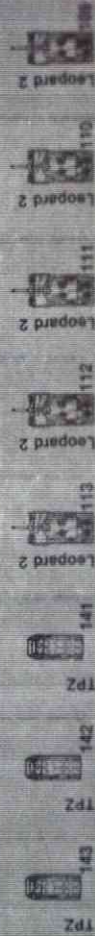
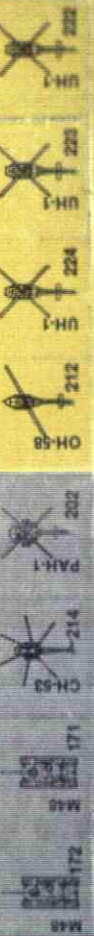
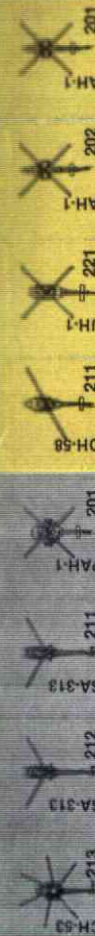
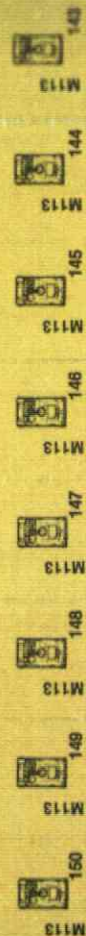
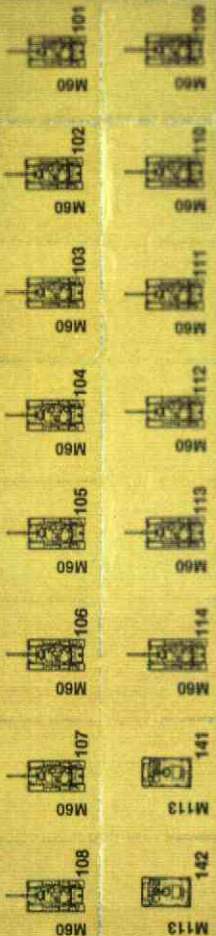
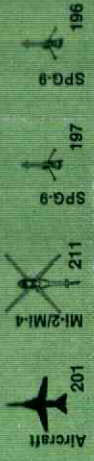
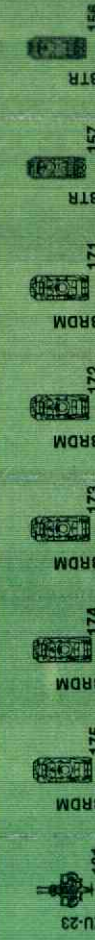
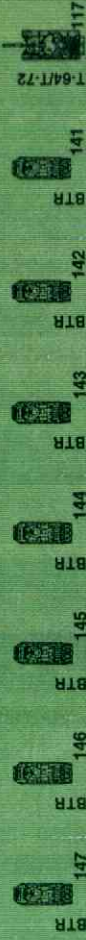
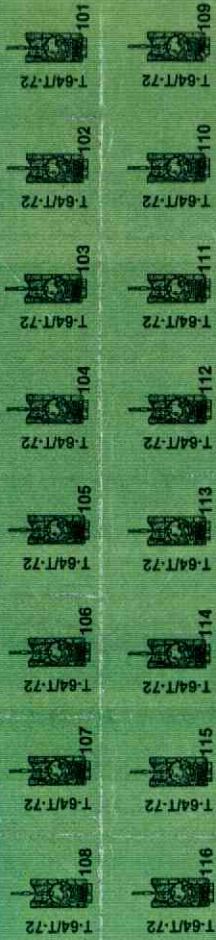
RAD: RADAR. Using radar anti-aircraft control (OR20.3.3.1).

VIS: VISUAL. Using optical anti-aircraft control (OR20.3.3.1).

WL: WHITE LIGHT. Using a white light searchlight (OR18.1.2).

SMOKE (*) AND SUPPRESSED (*) MARKERS: ON and OFF indicates when the marker was placed. "DS" on the smoke marker indicates that discharger smoke was made (AG12.6).

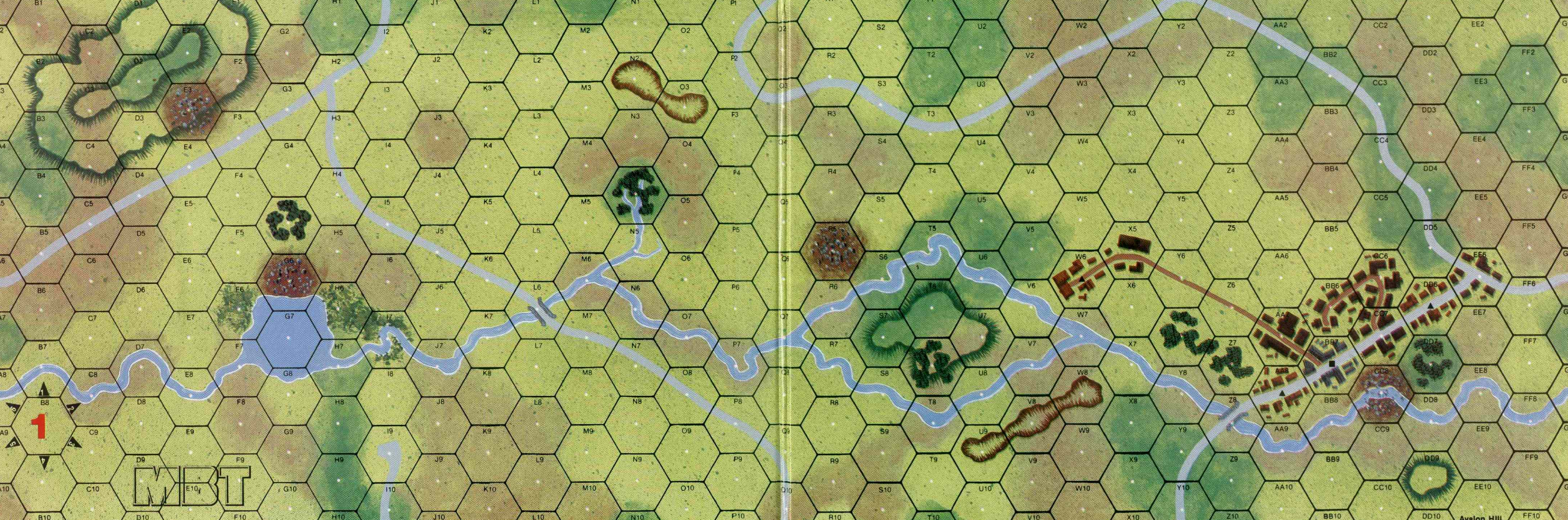
STRENGTH MARKERS (*): The facing side ("2" – "4") shows the number of combat units represented by the doctrine combat unit stacked on top of the strength marker (AG13.4).

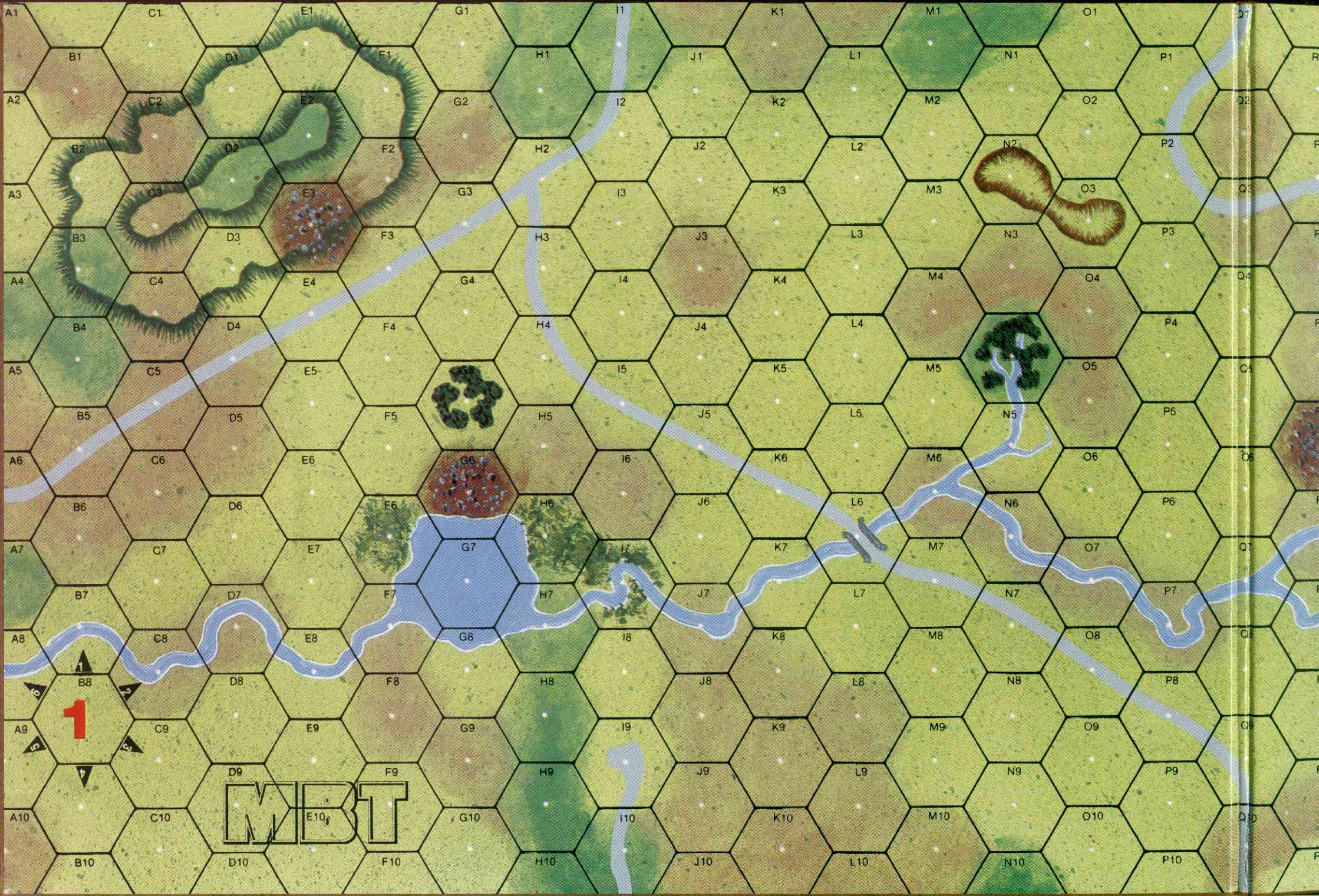


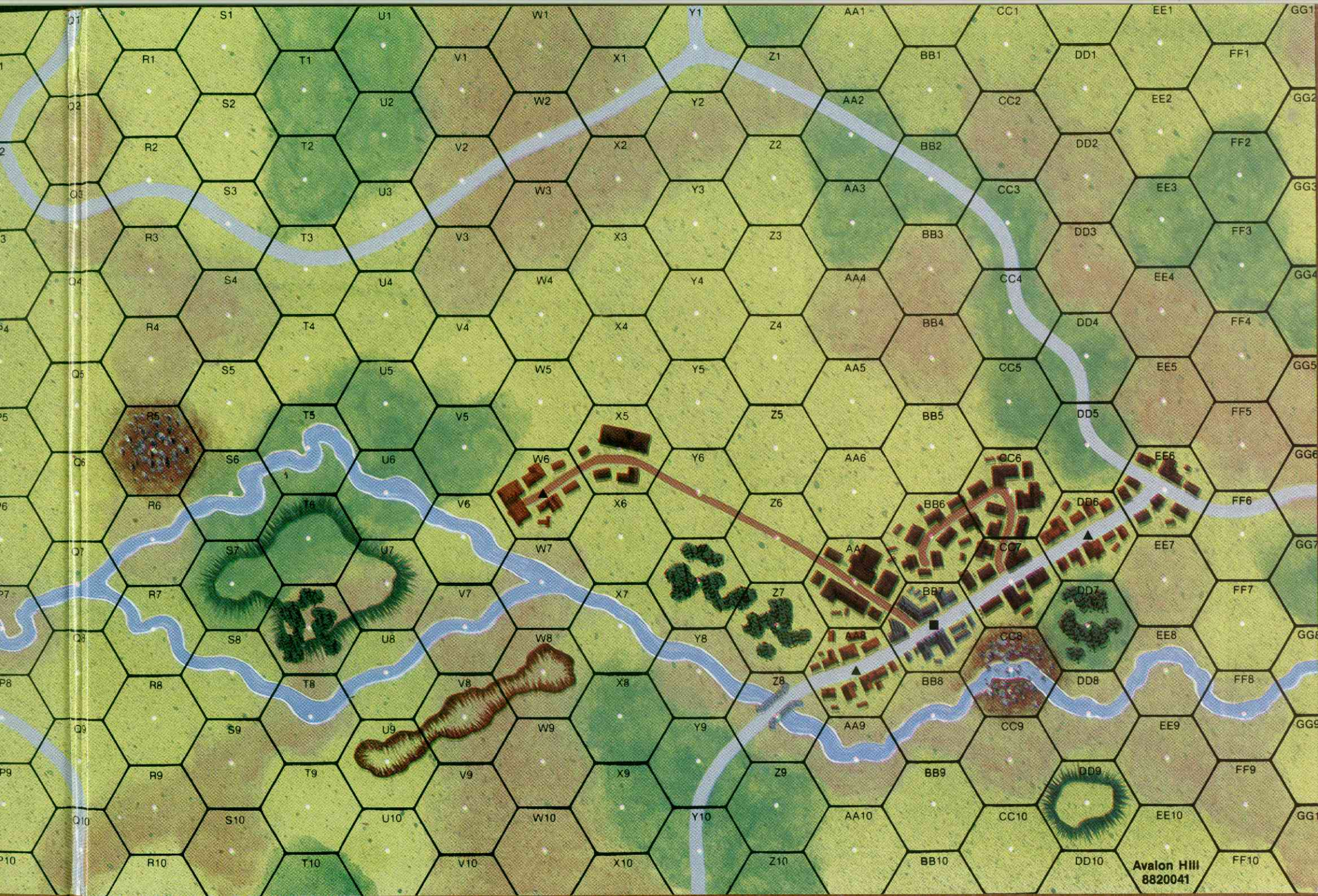
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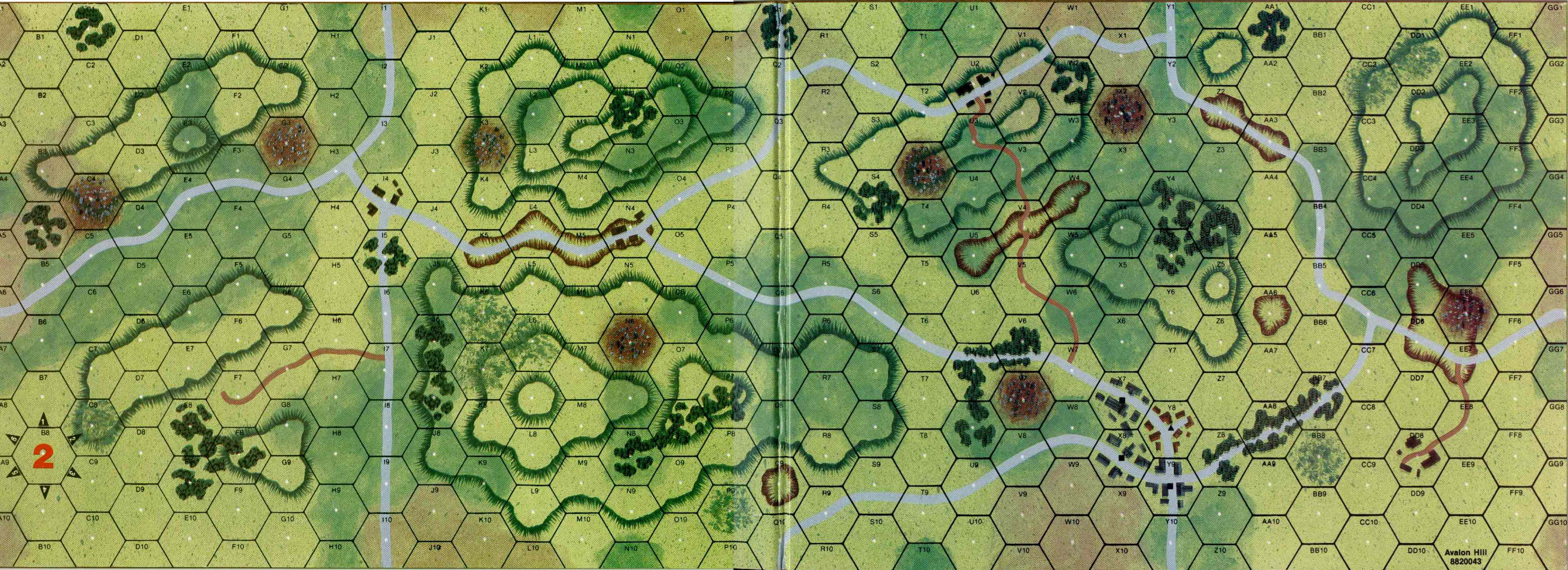
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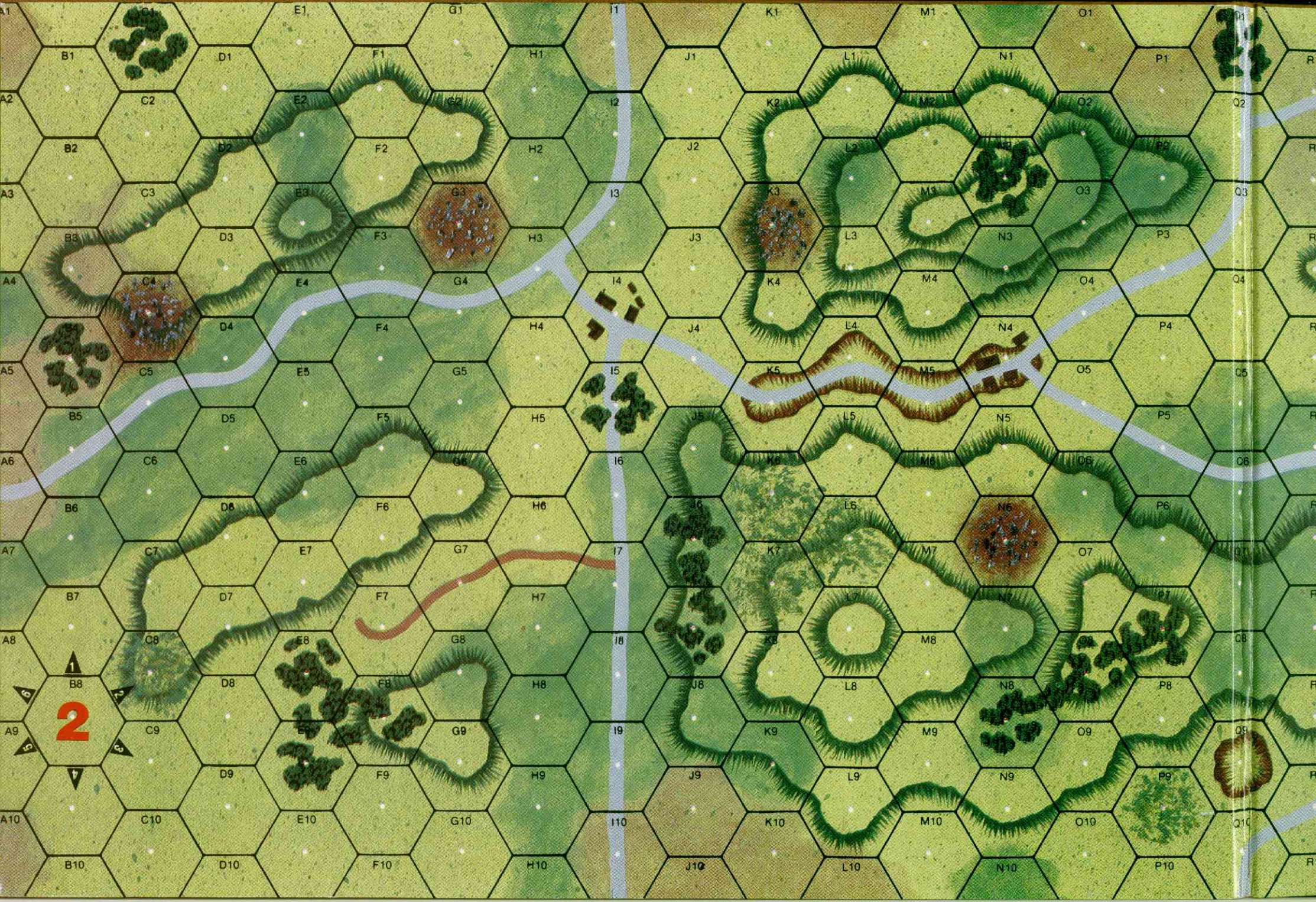
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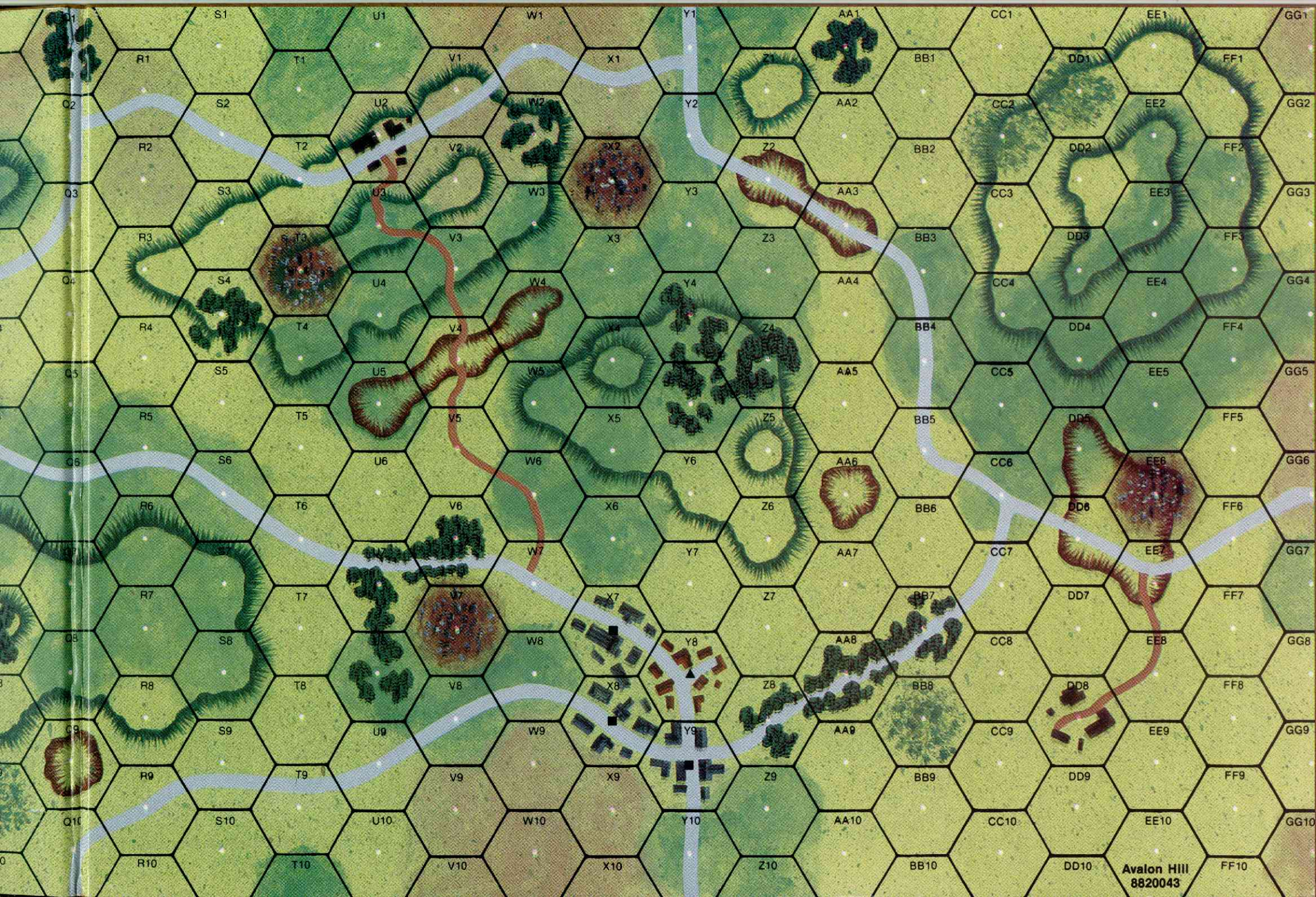


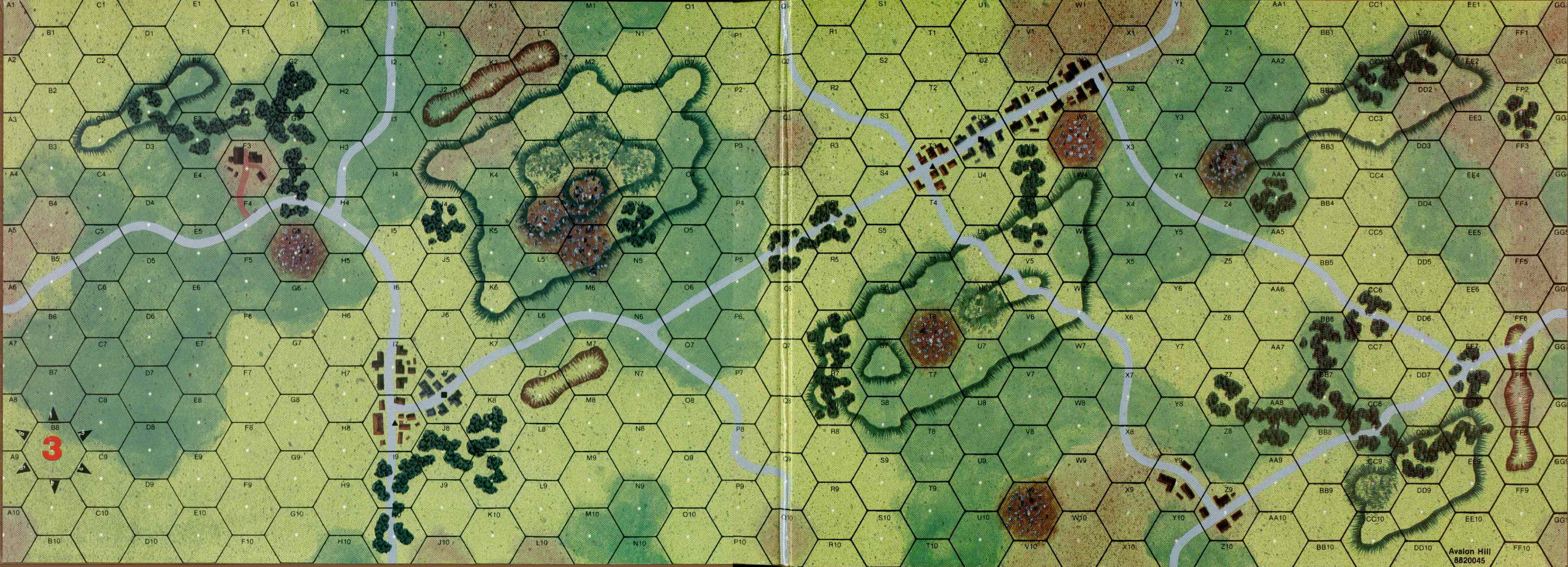


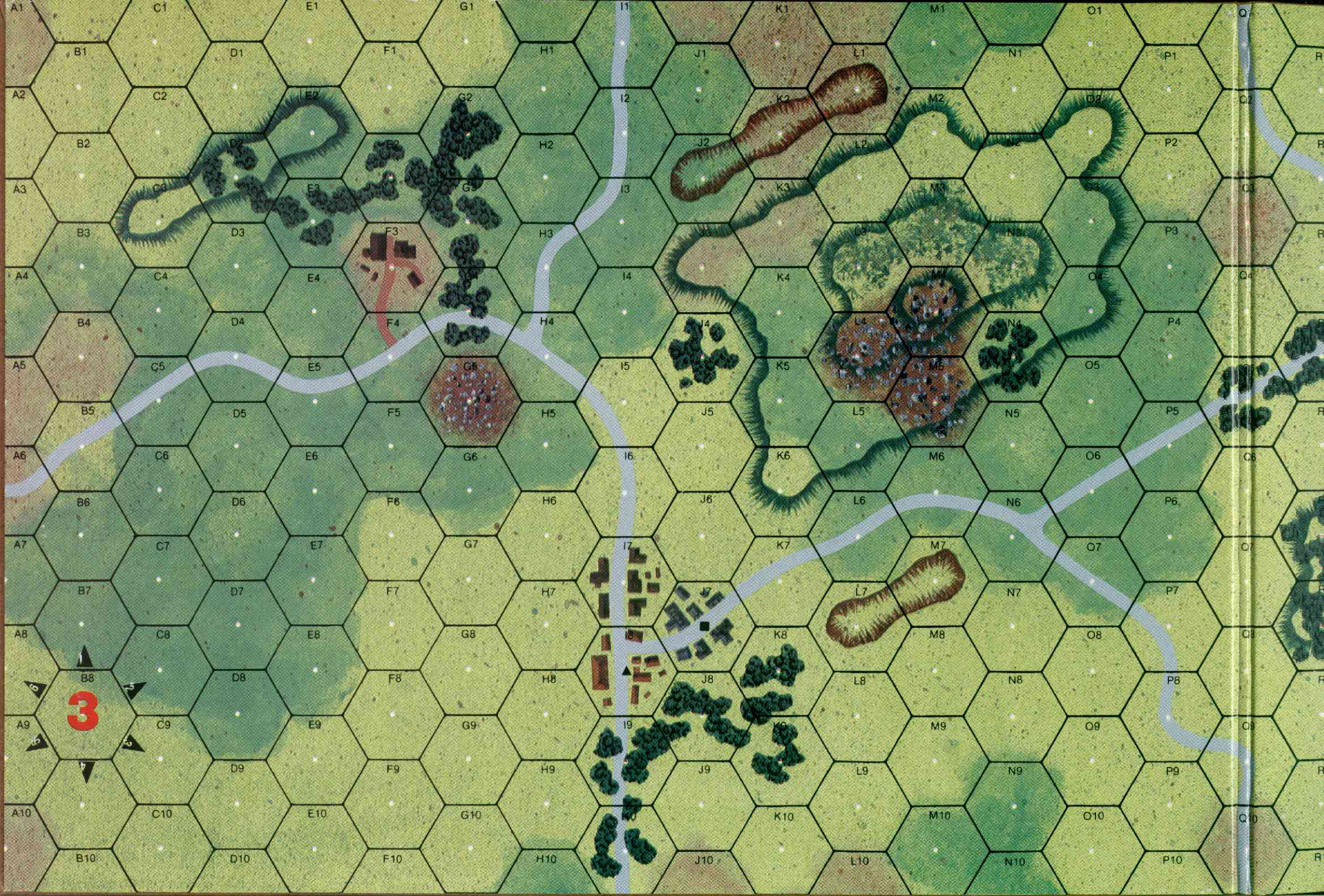


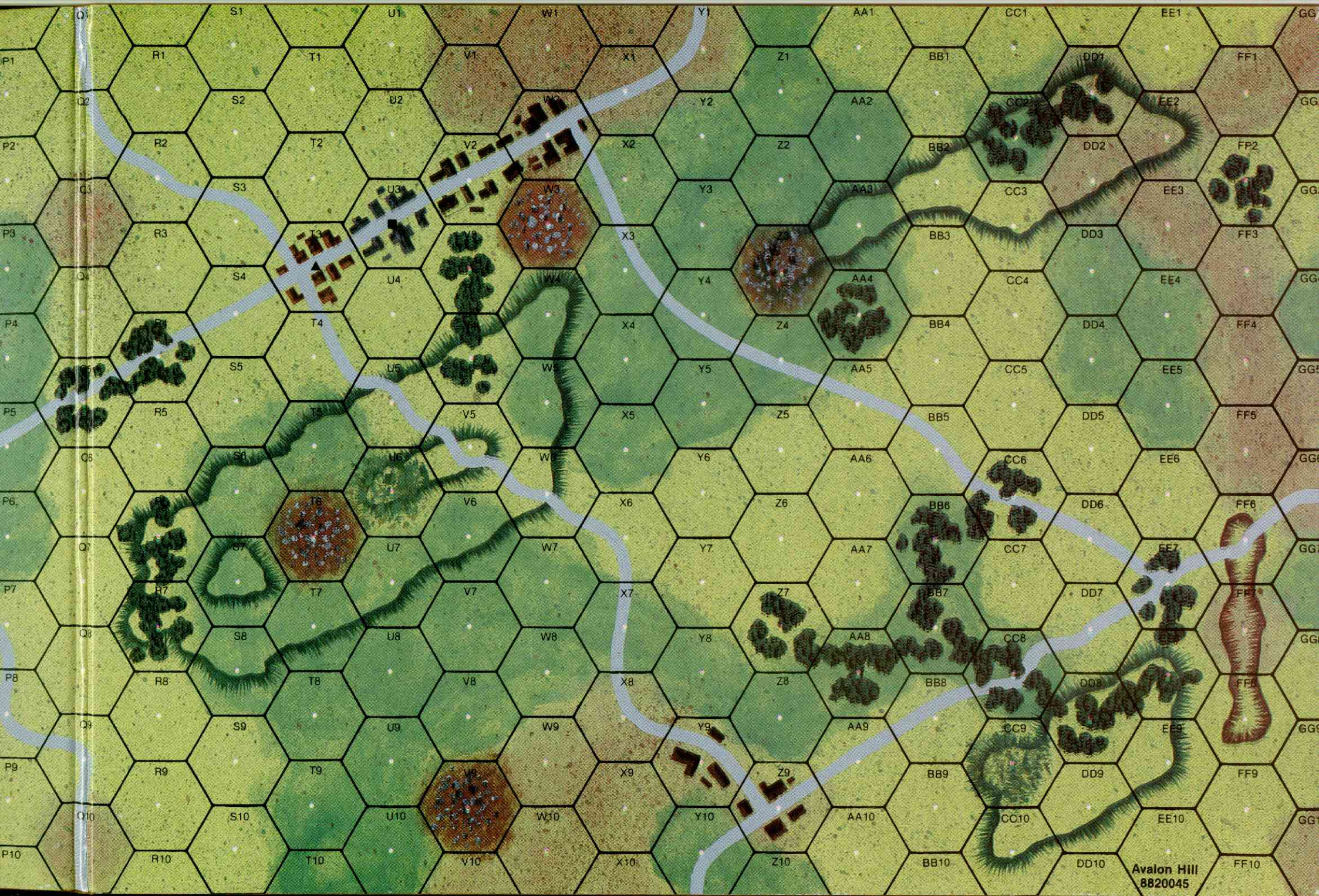


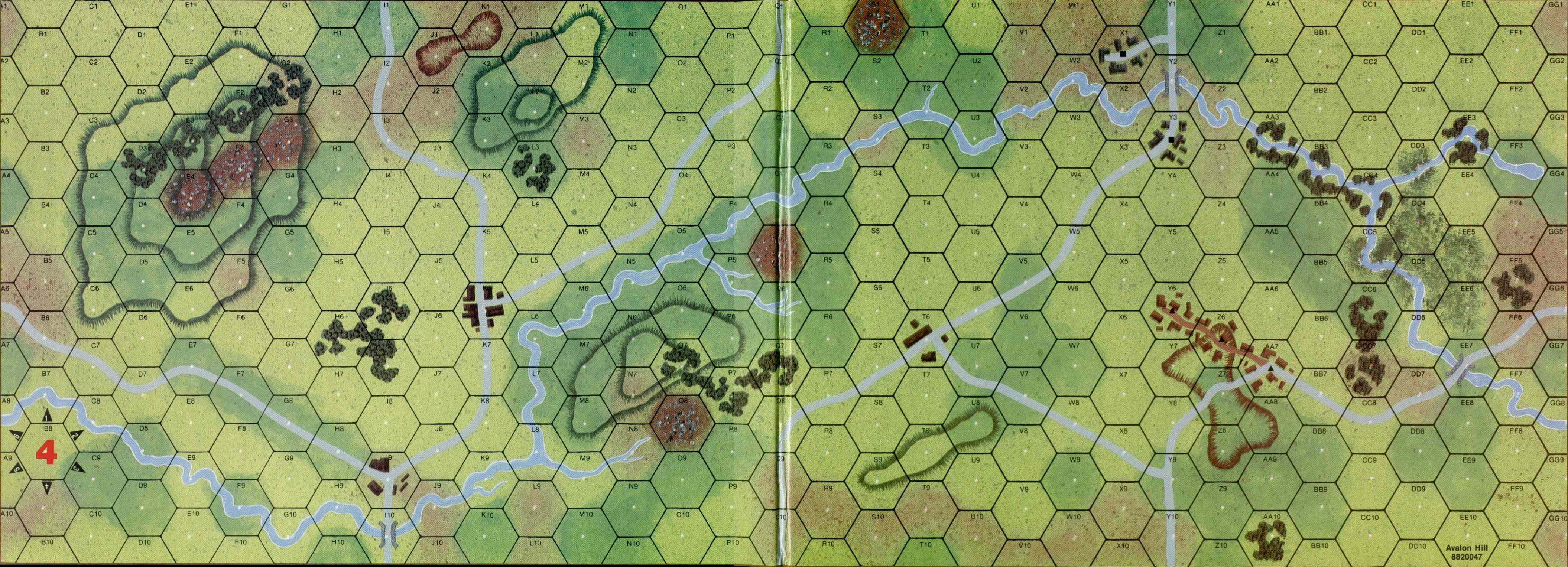


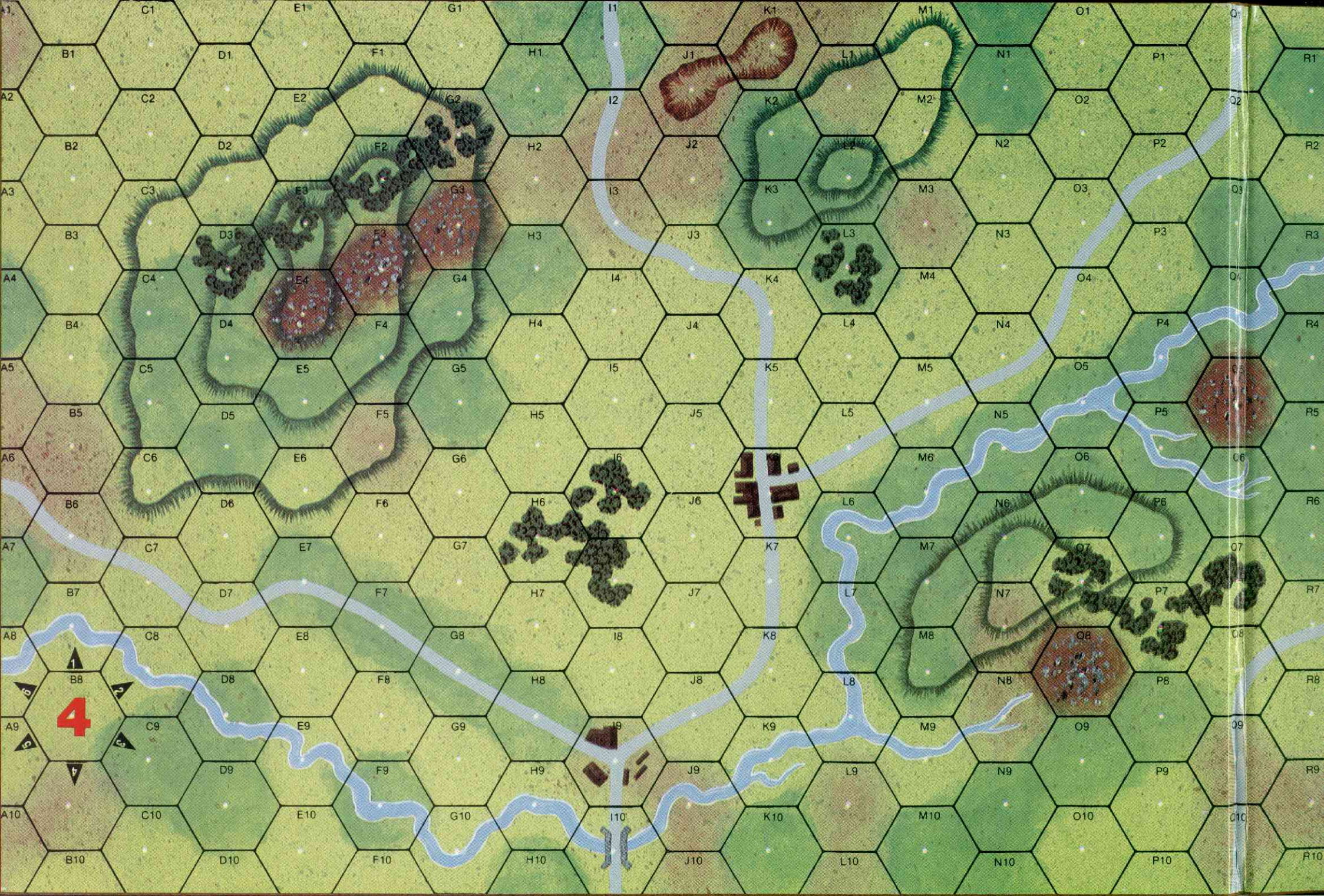


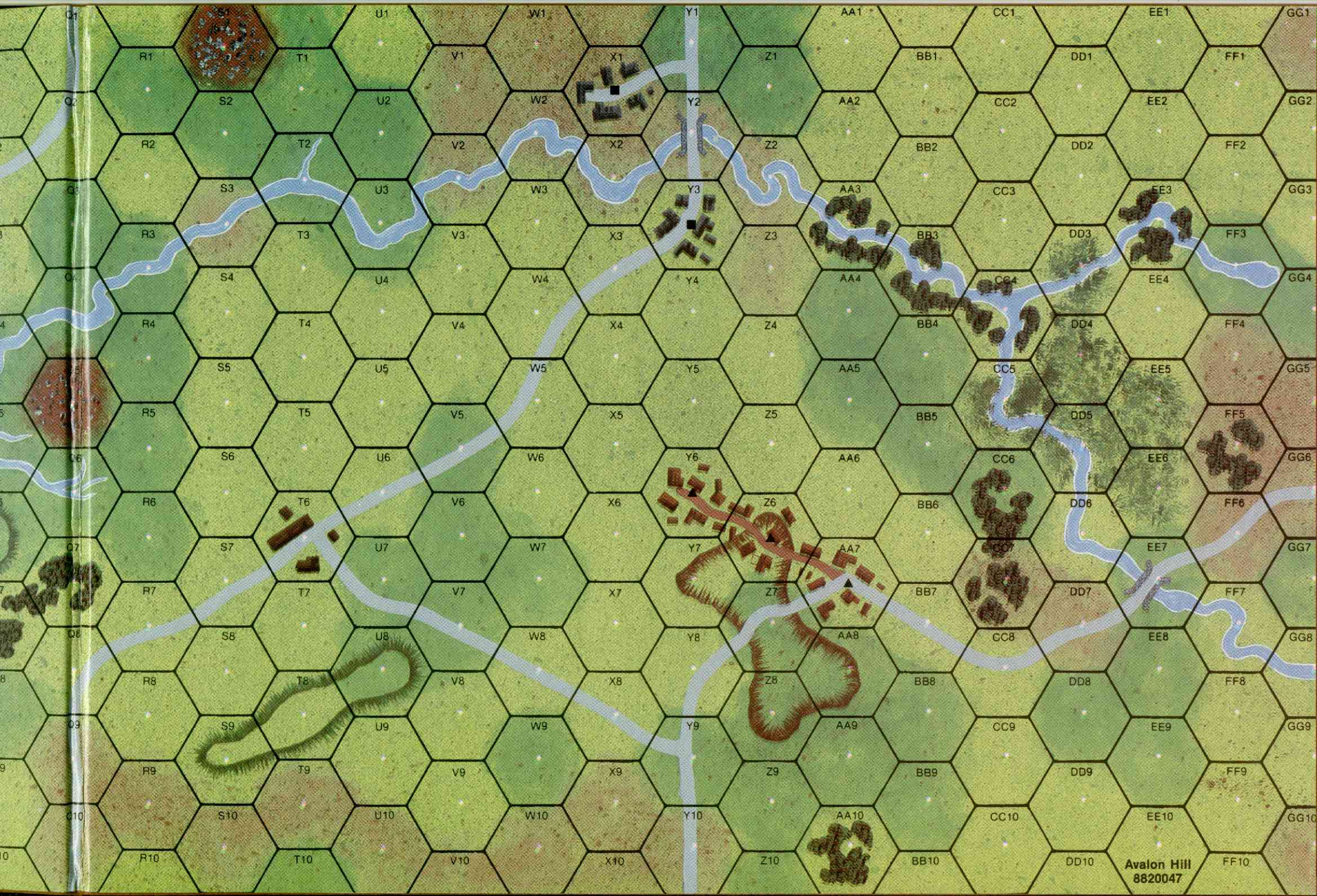






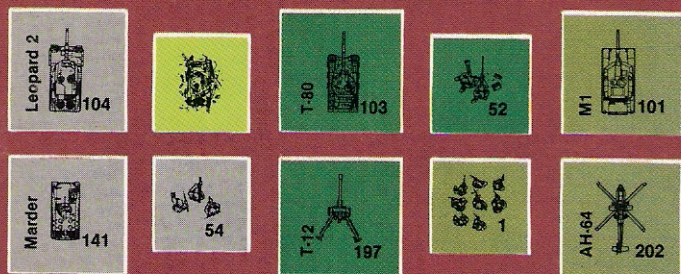








MBT is a detailed look at the organization, equipment and capabilities of some of today's most powerful and advanced military forces. Included are the latest American, West German and Soviet vehicles, their accompanying infantry and attached weapons, and the supporting artillery, air and helicopter elements that compose modern "combined arms" forces. It's all here, and YOU are in command!



The Avalon Hill Game Company

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Baltimore, MD 21214

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COMPLEXITY		VERY HIGH		SOLITAIRE SUITABILITY
		HIGH		
		MEDIUM		
		LOW		

CONTENTS:

- 436 Die-Cut Counters
- 4 8" x 22" Mapboard Panels
- 1 Rulebook
- 2 Decimal Dice
- 2 Game Cards
- 1 Information Card
- 28 Data Cards

TIME SCALE: 1—5 minutes per Turn.

MAP SCALE: 100 meters per hex.

PLAYERS: Two or more (team play)

UNIT SCALE: Individual vehicles, aircraft, helicopters and guns, and squads and teams of infantry.

PLAYING TIME: One hour and up, depending on scenario size and rules used.

Units may use a wide variety of weapons and ordnance. Is a powerful enemy force attacking? Use the thermal imagers to peer through the smoke from the artillery barrage. Engage at long-range with anti-tank guided missiles, then, as they continue to close, with tank guns, and finally with shorter-range infantry weapons from those squads YOU so thoughtfully placed in ambush. Here come the tanks! Better fire APFSDS rounds for maximum penetration. Now the infantry carriers pop into view! Switch to HEAT rounds to set them on fire. Look out! There's a helicopter gunship sneaking in below the trees. Good thing YOU thought to place an anti-aircraft missile team over there.

Minefields and barbed wire can be used to "channel" enemy attacks, and entrenchments and camouflage can be used to improve survivability. Artillery barrages, fighter-bomber strikes, air mobility, helicopter gunships and anti-aircraft weapons can all play a part in deciding the issue. Unit integrity, command control, troop quality and doctrine all play roles that can be as important as the lethal high-tech weapons systems employed. Individual "data cards" for each weapon provide the detailed information that it is impossible to cram into a few factors printed on a counter, but make reference easy and keep the game fast-moving and playable.

***Endless Scenario Variations:** Use any of the given scenarios or devise your own.

***Flexible Mapboards:** The mapboard panels may be placed in numerous configurations, and their terrain varied from game-to-game to permit battles to be fought from the mountains to the plains.

***Organizational Data:** Extensive lists of platoon, company and battalion organizations allow players to deploy realistic forces.

***Basic, Advanced, and Optional Rules:** Learn the game at YOUR own pace. Choose the levels of complexity and detail that YOU enjoy.