STRIKER

Rules for 15mm Traveller Miniatures

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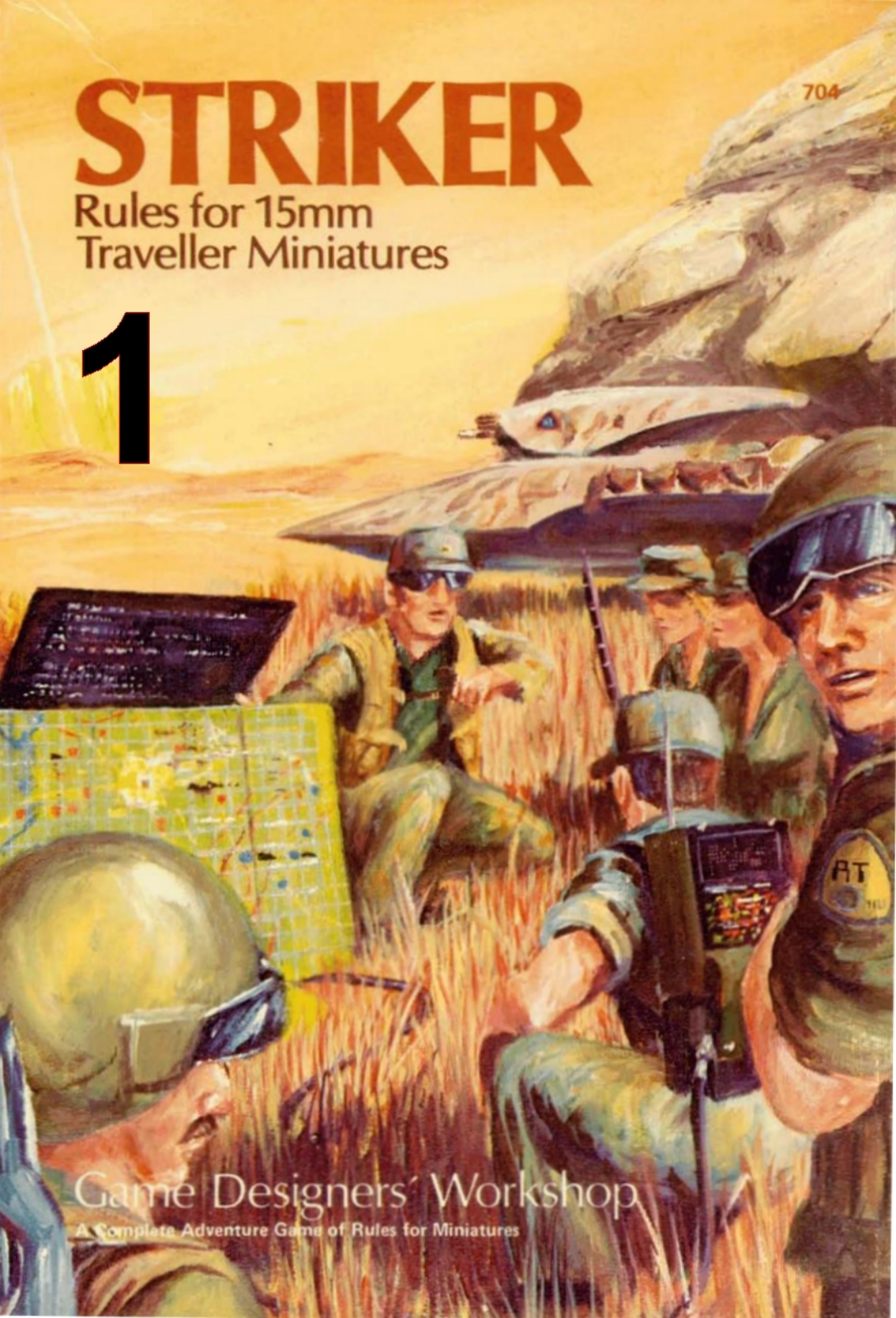

Game Designers' Workshop

A Complete Adventure Game of Rules for Miniatures

STRIKER

Rules for 15mm Traveller Miniatures

A Complete Adventure Game of Rules for Miniatures from Game Designers' Workshop

The Universe of *Traveller* – Communication is limited to the speed of courier ships. Remote central governments exercise only limited control over the affairs of their frontier territories. Megacorporations struggle for control of sparsely settled mineral-rich worlds. And everywhere, there are mercenaries for hire to settle disputes.

Striker fills an important place in the *Traveller* universe – rules for ground combat with 15mm figures and vehicles.

The basic combat system used in **Striker** is based on the popular *Azhanti High Lightning* game system. The movement system is simplified for use with larger forces and a ground scale of 1"=25 meters. The basic rules are written with the beginning miniatures player in mind and can easily be used as a combat resolution system for existing *Traveller* games. All weapons and vehicles covered in *Traveller* and *Mercenary* (Book 4) are rated for use in the game.

The true value of **Striker**, however, lies with the advanced rules. A complete system for designing armored vehicles and aircraft at different tech levels is presented, along with air-to-air and air-to-ground combat rules. The package contains everything a *Traveller* adventurer needs for campaigning with miniatures.

This box contains the following game components:

Book 1 – Basic Rules
Book 2 – Equipment
Book 3 – Advanced Rules
2 Dice

15mm figures and vehicles are available separately

Design: Frank Chadwick
Development: John Harshman
Art Director: Paul R. Banner

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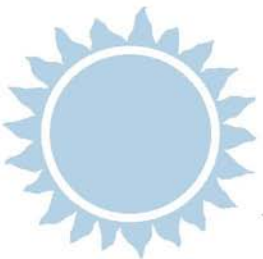

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Rule Book 1
Basic Rules

STRIKER

Rules for 15mm
Traveller Miniatures

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ROLE-PLAYING

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GAMES

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Rule Book 1
Basic Rules

STRIKER

Rules for 15mm
Traveller Miniatures

Game Designers' Workshop

Striker is a set of 15mm miniatures rules designed for use with **Traveller,** but capable of being played separately. It is not necessary to own **Traveller** in order to play *Striker.*

CREDITS

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STRIKER
Book 1, Basic Rules

2 3 4 5 6 7 8 9 10 11 12 13 14 15

Although this game (as represented in Books 1, 2, and 3) envisions a referee or umpire to supervise play and resolve questions, the publisher is prepared to answer questions or inquiries on *Striker* provided a stamped, self-addressed envelope accompanies the request.

Traveller is GDW's trademark for its science fiction role-playing game materials.

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Introduction

Striker is a set of rules for science fiction ground combat using 15mm miniature figures. Each player will command a force ranging from a platoon to several companies, consisting of from a few dozen to over a hundred men, plus artillery, armored vehicles, and aircraft. The rules are intended to be easy for the beginning player to understand while at the same time providing a comprehensive and detailed treatment of ground combat from the beginning of this century to the far future.

One important aspect in which *Striker* differs from previous miniatures rules is the role assigned to the player. In most games, a player simultaneously plays the role of every member of a military unit; no orders need to be given, and every man performs as the player likes. In *Striker,* realistic limitations have been put on the abilities of officers to command their units. Giving orders to subordinates is a time-consuming process; commanders will find it advisable to devise a simple plan and to give most orders in pre-battle briefings. Changes to this plan in the heat of action will be difficult except through on the spot leadership. For a more detailed discussion of this point, read *Firefight,* at the beginning of section II of this book.

The science fiction background of *Striker* is drawn from the universe of **Traveller.** All weapons and military technology described in **Traveller** (including Book 4, *Mercenary)* are included in *Striker.* These rules may be used in conjunction with **Traveller** or by themselves; no familiarity with **Traveller** is required.

In *Striker,* as in **Traveller,** technology is rated by tech levels; these rules cover weapons and equipment ranging from tech level 5 (about World War I) to tech level 15 (the level of **Traveller's** Imperium). Present-day Earth is about tech level 7.

The rules of *Striker* are divided into three books. Book 1 contains the basic rules of play. Book 2 includes advanced rules to add to the basic rules at the players' option, plus campaign rules to allow players to integrate *Striker* into a **Traveller** campaign or to fight an extended miniatures campaign. Book 3 includes rules for designing vehicles and heavy weapons, plus extensive lists of infantry weapons, equipment, and a number of representative heavy weapons and vehicles.

SECTION I: PRELIMINARIES

Rule 1: Game Scale and Environment

The basic *Striker* rules assume an Earthlike environment. That is, they assume a breathable atmosphere with the same atmospheric pressure as Earth, and the same temperature range, surface gravity, and approximate planetary size. Advanced rules in Book 2 deal with the effects of different planetary characteristics on the game.

Striker uses the following scales:

A. Figures: Each miniature represents one actual soldier, vehicle, or weapon.

B. Distance: One millimeter equals one meter; one centimeter equals ten meters. If English measurements are more convenient to use, multiplying distances given in centimeters by 0.4 will give the value in inches.

C. Time: One turn equals 30 seconds of real time.

Rule 2: Die Rolling Conventions

The same die rolling conventions are used in *Striker* as in previous **Traveller** volumes. Specifically, the following procedures are referred to in the rules:

A. Throw: The dice roll required to achieve a stated effect. If only a number is stated, it must be rolled exactly. A number followed by a plus (such as 8+) indicates that that number or greater must be rolled. Similarly, a number followed by a minus (such as 3-) indicates that the number or less must be rolled.

B. Number of Dice: Generally, a dice throw uses two dice. Throws requiring more (or fewer) dice are clearly stated. For example, a roll of four dice would be expressed as 4D. All rolls are made using 6-sided dice.

C. Die Modifiers: Die roll modifiers (abbreviated DM) are always preceded by either a plus or minus. Thus the notation DM+3 indicates that three is added to the die roll before it is compared to the required throw. When a die roll modifier is called for, the dice are rolled and the modification made to the die roll before consulting the appropriate table.

Example: A weapons table indicates that a certain weapon will hit a target on a throw of 8 or better. In addition, the firing soldier receives a DM of +1 for being skilled with the weapon, and a DM of -2 for the target soldier being concealed. The net DM is -1. The dice are rolled, with a result of 8; the DM is then applied, reducing the result to 7, which indicates the target was missed.

Rule 3: The Referee

Although *Striker* can be played without a referee, having one (who should be someone other than one of the players) will make play faster and easier as well as allowing use of rules for limited tactical intelligence. The duties of a referee are:

A. Preparation For The Battle:

1. The Battlefield: The referee should determine the layout of the battlefield, including the location of fords across rivers and streams, armor classes of the various structures, and the characteristics of any unusual terrain features. Any or all of the above may be concealed from one or both of the sides.

2. The Forces: The referee should determine the forces available to both sides, the time of arrival of any reinforcements, the limits of original troop dispositions, and the missions of the two sides. Again, any of these may be concealed from the players, up to depriving a player of exact knowledge regarding his own reinforcements if the situation so warrants.

B. Game Management: The referee should supervise the conduct of the game, settling rule disputes, adjudicating matters such as whether a unit has an unblocked line of sight to a target unit, and, by his constant attention to the flow of the game, expediting play. Disputes may arise regarding rules interpretations a referee may make during a game. The best policy is to note the issue for discussion after the game and proceed with play without immediate argument. Even the most conscientiously honest of players often has trouble objectively viewing the merits of a situation when the survival of one of his own units rests in the balance; a dispassionate discussion is much more likely after the game is concluded.

C. Limited Intelligence: A referee may act to limit players' knowledge of their enemy's forces and dispositions. This may be done by allowing players to hold off the table such troops as have not yet been spotted (such as behind a hill, in a woods, town, etc. – see rule 14). Their positions may be indicated either by enter-

ing them on a small map of the battlefield in the referee's possession, or by placing a small card in the position occupied by the unit on the battlefield. If cards are used, the identification of the unit should be written on the reverse of the card, and the referee should allow each player a number of dummy cards. At times, the referee may require opposing players to turn away from the board while a range is measured or a line of sight is determined to a hidden unit, in order to preserve the secrecy of its location; in other circumstances, it may be useful to roll dice to determine if a nonexistent unit has been hit by fire, in order to avoid giving the firing player any information about the enemy's location.

D. Creative Input: Extensive as these rules are, they cannot cover every possible situation. The referee should feel free to expand upon or change any aspect of the rules to cover special circumstances, unusual weapons or tactics, alien races, and so on. Remember that *Striker* is a science fiction game; there doesn't have to be a meteor shower in every scenario, but it's a good idea to do something occasionally that will remind the players that they're not on Earth.

Rule 4: Set-Up and Terrain Representation

Before beginning a battle players must determine the terrain of the battlefield. Given the lethality of the weapons covered in *Striker,* too few major terrain features will make the battle short, bloody, and dull; too many terrain features will make the battle a game of sudden-death hide-and-seek. Generally speaking, the defender will attempt to chose the most defensible terrain along an attacker's most likely route of advance, while the attacker's route of advance will intentionally bypass hopelessly constricted terrain. Thus, a middle ground should generally be sought when setting up the playing area.

Inspiration for terrain set-ups can be obtained by consulting actual maps of suitable areas. Most libraries have a map department with a variety of maps covering different regions of the Earth, which can be studied for ideas. If desired, these maps can be used for actual terrain areas by tracing them on paper and superimposing a square grid, with each square equal to a 50 cm square on the gaming table. The table at left indicates the size of the grid superimposed on the tracing to yield 50 cm (500 meters) on the table. Note that if a 1:1000 map is available, the game may be played directly on it.

1:10,000 scale map	50mm grid
1:50,000 scale map	10mm grid
1:100,000 scale map	5mm grid
1:250,000 scale map	2mm grid

There are two goals of terrain representation in a miniatures game: first, the indication of terrain features and areas affecting combat and movement; second, aesthetic appeal. It is possible to play *Striker* by drawing terrain features on a flat map; at the other end of the spectrum, it is possible to produce a convincing scale representation of a battlefield. The following descriptions give the terrain types used in the rules and provide functional descriptions of how to represent them. For suggestions on how to build an attractive game board, see Book 2.

A. Ground Contour: Hills, gullies, bluffs, and other ground contour features are important as barriers to sight and movement. They may be represented either as labeled contour lines (in the fashion of a topographic map) or may be actual built-up models of the terrain, with contour lines drawn on them. The intervals between contours may be of any height, but should be constant within a game.

B. Buildings: On the ground scale used in *Striker,* scale models of each actual building in an area would appear grotesquely out of scale. As a result, buildings should be selectively thinned out: one model building is used to represent a cluster or complex of buildings, although in the game it will be treated as a single building. When representing a specific built-up area, choose one important building from the area. The height of each building (in number of stories) and the material from which it is constructed should be recorded by the referee.

When placing buildings, enough room should be left between them for easy passage of troops and vehicles, about 3 to 5 cm. In large urban areas, the spacing of buildings can be used to indicate major and minor thoroughfares through the city.

C. Vegetation: For game purposes, vegetation is of four types: dense trees, sparse trees, dense undergrowth, and sparse undergrowth. In addition, some areas may have both trees and undergrowth, and would combine the effects of both types. Areas of vegetation should be clearly delineated with borders or colored areas and defined by type. Model trees and bushes may be scattered throughout the area for visual effect. Even in areas representing dense growth the models should be spaced widely enough to allow easy placement of troops and vehicles, and players should feel free to move trees and bushes if necessary to position a unit. When mapping an area, remember that even dense forests are likely to have small clearings and sparse areas scattered throughout them. Areas of trees should be defined as having a particular height, decided before the game. On Earth, trees range from less than 10 to over 100 meters.

D. Rivers and Streams: These should be clearly represented; the easiest way is with strips of blue paper (or some other appropriate color). Many rivers will also have steep banks, which should be indicated. The referee should also determine where the river is fordable by men and ground vehicles.

E. Roads: Roads may be represented by tape or paper strips, 3 to 5 cm wide. The layout of roads should take into account the nature of surrounding terrain. Roads through steep slope areas will be built up in some places and cut into the ground in others to reduce the grade; roads going up long slopes may have switchbacks for the same reason. When planning roads on a game map it is necessary to make sure that they are not too steep for ground vehicles to travel on. Roads travelling over soft ground (a low-lying area near a river, for instance) are often on built-up causeways.

F. Other Man-made Structures: Bridges, walls, fences, fortifications, railroads and monorail lines, and other man-made structures may be represented. Their heights (if over a few meters) and their construction materials should be recorded.

G. Fields: Fields, hedges, orchards, and other cultivated vegetation may be represented in a manner similar to natural vegetation and will have similar effects.

H. Ground Characteristics: The nature of the ground surface, unless otherwise specified, is assumed to be normal, i.e. relatively firm and level, allowing easy going for ground vehicles and infantry. Areas of the playing surface (or, in some cases, the entire playing surface) may be represented as one or more of the following types: broken ground (firm, but very uneven), boulder field (entirely covered by large rocks), sand, soft ground, mud, glacier ice, or pools of water. By combining vegetation with different ground types, a variety of other terrain types can be achieved. A typical swamp, for example, would consist mostly of pools of water, broken by occasional islands of soft ground containing both trees and undergrowth;

desert oases often consist of low areas of soft ground with sparse undergrowth and widely spaced trees surrounding a central pool of water.

I. Other Worlds: Since *Striker* is a science fiction game, the nature of terrain is limited only by players' imaginations. A battle might take place in a forest of giant trees with trunks 100 meters in diameter, or on a living island floating in the sea. Perhaps the apparently solid ground is honeycombed with animal burrows and will collapse if driven across by heavy vehicles. Representation and game effects of these and other terrain features must be left to the players.

J. Armor Values: Certain terrain features provide partial protection against enemy fire. They are assigned armor values to indicate their degree of resistance to weapons penetration. The values listed at right are merely suggestions; the referee may assign any values he wishes to terrain features. No value is given for ground; it is assumed that any target protected by a significant distance of solid ground (for instance, one behind a hill) is completely protected from fire.

Type of Cover	*Armor Value*
Trees	7
Boulder field	6
Sandbags	6
Log and earth bunker	24
Concrete bunker	28
Wood frame building	4
Brick or stone building	8
Reinforced concrete building	15
Heavy steel frame building	20

Rule 5: Force Composition

At the beginning of the game, the referee determines the composition of each player's units, including the number of troops, their quality, and their equipment. Equipment is listed in Book 3. There are four basic qualities of forces from which a player's troops may be drawn: militia, conscripts, long service professionals, and picked troops. There are also four quality levels of individual soldiers: recruit, regular, veteran, and elite. Each force type contains a different proportion of men from each troop type, as given on the table below.

	Recruit	*Regular*	*Veteran*	*Elite*
Militia	84%	10%	5%	1%
Conscript	55%	25%	15%	5%
Long Service	25%	40%	25%	10%
Picked	0%	45%	30%	25%

For example, a force consisting of 200 soldiers drawn from a long service professional army would have 50 recruits, 80 regulars, 50 veterans, and 20 elites. If the force is not evenly divisible into percentages, the referee distributes the excess.

After the composition, in men and equipment, of his force has been determined, each player organizes his own unit, as described in rule 6.

Troop types differ mainly in their morale ratings. Elite troops have the best morale, and recruits the worst. For further details see rule 7.

Rule 6: Organization of Units

After the referee has specified the equipment and the number and qualities of the troops available, each player organizes his own unit. The basic building block of

unit organization is the infantry fire team, the weapon crew, or the individual vehicle. These are organized into higher level units, as outlined below.

A. Mounting Troops: Each soldier should be mounted on a base made of cardboard, wood, plastic, or any other suitable material. Most soldiers must be mounted on fire team bases. A fire team base is 25 mm by 25 mm (one inch by one inch) and contains four soldier figures. Leaders, elite troops, veterans, and adventurer characters may be mounted individually on bases 12.5 mm by 12.5 mm (½ inch by ½ inch). Vehicles crews (for use when outside their vehicles) and weapons crews of less than four men may be mounted on 2 or 3-man bases; 2-man bases are 12.5 mm by 25 mm (½ inch by 1 inch); 3-man bases are the same size as fire team bases. Weapons crews of more than four men should be broken up into two or more groups of about equal sizes. Each soldier will thus take up a scale area on the playing surface of about twelve by twelve meters. Obviously, more than one person could be placed in this area, but this is intended to represent the normal dispersion of soldiers in a combat situation.

Vehicles and weapons need not be mounted on bases, although antigravity vehicles and aircraft are much more visually attractive if mounted on pedestals attached to small bases.

Note that in all cases below in which it is stated that soldiers may be individually mounted, they must be veterans or elites to do so.

B. Unit Organization: Troops, in addition to being mounted on stands, must be organized into military units. Players have some flexibility in forming units, within the following guidelines.

Units are made up of officers, NCOs (non-commissioned officers), and men. There are three types of units: infantry, weapons, and vehicle; it is possible to mix the three together in a single unit.

1. Team: A team (or fire team) is the smallest organizational unit. In the case of infantry, it consists of four men, mounted on a single base. In the case of a vehicle or crew-served weapon, the size of the crew varies. If the crew is four or fewer men, they are considered a team. If the crew is five or more men, they are divided into as many teams as necessary to avoid having a team larger than four; all teams should be as close to the same size as possible; thus a weapon crew with ten men would be divided into two teams of three and one team of four. An infantry team may be formed by two soldiers plus a weapon with a crew of two.

2. Vehicle Crews: Vehicle crews don't have to be represented by figures (unless the crew dismounts during the game), but personnel must be assigned from the player's available troops. The size of each vehicle's crew is listed in Book 3. There are four crew positions defined: driver, gunner, loader, and commander. On some vehicles there are two gunners, and on others there is no loader. One soldier must be assigned to each crew position. A vehicle commander may also be an officer or NCO.

3. Squad: A squad consists of two or three teams. A vehicle or weapon crew with two or three teams is automatically a squad. Types of teams may be mixed within a squad; for example, a squad might consist of one infantry team, one weapon crew (with four men), and one vehicle with a crew of two carrying the other two teams. There may be no more than one vehicle in any squad; in a vehicle unit, each vehicle is a squad, even if it has only a crew of 4 or fewer.

Each squad has one NCO, who may be either individually mounted, separate

from the squad, or may be one of the men in one of the teams of the squad.

4. Section: A section consists of two squads. Players are not required to group their squads into sections, but have the option. A section has an NCO, who may be either one of the squad NCOs or a separate individual.

5. Platoon: A platoon consists of from two to five squads. If the platoon has four or five squads, four of them may be grouped into two sections, if desired. In addition to its squads (or sections), the platoon contains a command group of from one to six men. One of these is the platoon officer; another may be an NCO (the platoon sergeant) but is not required. The rest are additional command group personnel: radio operators, runners, extra weapons teams, etc. In the command group, teams may consist of two, three, or four men (as always, elites and veterans may be mounted separately). For instance, a platoon command group could have a platoon commander, a platoon sergeant, two radio operators, and the two-man crew of an anti-tank missile launcher. One radio operator could be assigned to the commander and one to the sergeant, making three teams in the command group.

In vehicle units, the platoon command group consists of the crew of a single vehicle (thus a platoon consists of a command vehicle and from two to five other vehicles); the platoon officer is included in the crew.

Any weapons platoon capable of indirect fire (see rule 15 for definitions) may also include one individually mounted forward observer in addition to the command group.

6. Company: A company consists of from two to five platoons and has a command group of from one to ten men, mounted in the same manner as a platoon command group. One of these is an officer (the company commander); another may be an NCO (the company senior sergeant) but this is not required.

In vehicle units, the company command group consists of the crews of from one to three vehicles, totaling no more than ten men. One vehicle contains the company officer; another may contain an NCO (the senior sergeant) but this is not required.

In weapons units, a company is usually referred to as a battery; in armored units, a company is sometimes referred to as a troop.

7. Battalion: It is unlikely that a full battalion will be employed on the game table in a *Striker* game, but a battalion headquarters may be present if two or more companies are present. A battalion consists of from two to five companies and has a a command group of from eight to thirty men, organized in the same manner as a platoon command group. One of these is the battalion commanding officer, one is another officer (the battalion executive officer), and one is an NCO (the battalion senior sergeant).

In vehicle units, the command group may have as many vehicles as can be crewed by its men. The commander, executive officer, and senior NCO each ride in a different vehicle.

In armored units, a battalion is sometimes referred to as a squadron.

8. Large Crews: Very large vehicles and weapons crews may have more than three teams; in such cases the crew must be organized as a section, a platoon, or even a company, depending on the number of men in the unit.

C. Marking Stands: Each stand (team or individual) and each vehicle should be uniquely identified. The simplest way is to glue a small circle of colored paper to the stand, with a number and/or letter code written in it. If the stand is to be part

of a permanently organized unit, a combination of paper color and code can be used to identify each team's place in its battalion organization. For example, B company of a battalion might be identified by a blue circle. One of its teams might have the code 31A, meaning third platoon, first squad, fire team A.

Rule 7: Initiative and Morale Determination

After a unit has been organized and the soldiers mounted as individuals and teams, players should determine the morale and initiative levels of the various stands. Each stand (individual or team) is rated separately for its level of initiative and morale based on the morale levels of the soldier or soldiers on the stand.

A. Morale: Morale levels of the four qualities of troops are given in the table at left. In the case of a soldier mounted individually, his game morale is his individual morale. In the case of a team mounted on a single stand the stand's game morale is the average of the individual morales of the soldiers making up the team. Fractional results are rounded to the nearest whole number; in the case of a fractional result of exactly ½, round up. For example, a fire team composed of one veteran (morale level 10) and three recruits (morale level 4) would have a team morale of 6 (10+4+4+4/4= 5.5, rounded to 6). The morale of a vehicle crew is not determined by averaging the morale of its members; its morale is the morale of the vehicle commander.

Morale Values	
Recruit	4
Regular	7
Veteran	10
Elite	13

B. Initiative: The morale level of a stand determines its initiative level. There are three initiative levels in the game: low, average, and high. All stands with a morale of 5 or less have low initiative. All stands with a morale of 6 through 10 have average initiative. All stands with a morale of 11 or higher have high initiative. As an exception to this, any stand containing an officer has the initiative of the officer, although its morale is determined by the procedure above. Thus a stand with an elite officer (morale 13) and three recruits (morale 4) would have high initiative, even though it only has a morale of 6.

No low initiative stand may be used as an officer or NCO; all stands containing officer or NCO figures must be organized so as to have at least average initiative.

Initiative and morale are very important in *Striker.* See subsequent rules for their effects.

C. Example of Determining Initiative: The process of determining unit morale and initiative is fairly involved, and understanding it is essential to playing the game. Therefore, the following example of a small unit organization is provided to illustrate the process.

The referee informs a player that his force will consist of a 46-man infantry platoon drawn from a conscript army, and so consisting of 55% recruits, 25% regulars, 15% veterans, and 5% elites. Since the total of regulars, veterans, and elites does not come out to even numbers, the referee determines how they are rounded and gives the player a total of 25 recruits, 12 regulars, 7 veterans, and 2 elites. The player organizes them into a platoon headquarters, a weapons squad, and three rifle squads, as follows:

The platoon headquarters consists of four men: the platoon commander (an officer), the platoon senior NCO, and two radiomen. The officer and senior NCO are elites; the two radiomen are regulars. The officer and senior NCO are each

mounted with one of the radiomen, for two teams of two men each.

The weapons squad is composed of two light machinegun teams, each with one veteran and one recruit, and one tac missile team with one regular and one veteran serving as squad NCO.

All three rifle squads consist of three fire teams, each of four men mounted as a team (a total of nine rifle teams). Two of the teams are of four recruits each. One of the teams has one regular and three recruits. Three of the teams consist of two regulars and two recruits. Two of the teams have one veteran and three recruits. The last team consists of two regulars and two veterans. The last three listed fire teams each contain the NCO of one of the three squads.

The player now determines morale and initiative levels. The officer's team, with one elite and one regular, has a morale of (13+7/2=) 10, but has high initiative since it uses the officer's initiative. The senior NCO's team also has a morale of 10, but only average initiative. The weapons squad NCO's team has a morale of (10+7/2=) 9

1st Platoon, 2nd Section
17: Morale 10, average initiative
Section NCO; veteran; GR

GR= gauss rifle
GL= grenade launcher

3rd Squad
12: Morale 6, average initiative
Squad NCO; regular; GR
regular; GR
recruit; GR
recruit; GL

4th Squad
3: Morale 6, average initiative
Squad NCO, veteran; GR
recruit; GR
recruit; GR
recruit; GL

9: Morale 5, low initiative
regular; GR
recruit; GR
recruit; GR
recruit; GR

41: Morale 4, low initiative
recruit; GR
recruit; GR
recruit; GR
recruit; GR

Weapons	Effective	Long	Extreme	Targets
Gauss Rifle	60(7)+3	120(3)+2	–	1/2
Grenade Lchr				
HEAP	37(36)	75(36)	150(36)	1
HE	37(11)	75(11)	150(11)	1 burst: 1(2)
Flechette	25(3)+4	50(3)+3	100(3)+2	35cm

Other equipment: each man: cloth armor (AC6)
helmet radio (power 10)
Section NCO: map box

and average initiative. The two machinegun teams each have a morale of (10+4/2=) 7 and average initiative. The two rifle teams consisting of four recruits have a morale of 4 and low initiative. The rifle team consisting of one regular and three recruits has a morale of 5, and low initiative. One of these three fire teams is assigned to each squad. The three fire teams consisting of two regulars and two recruits have a morale of 6, and thus average initiative. One of these fire teams is assigned to each squad. The two fire teams consisting of one veteran and three recruits have a morale of 6 and average initiative also. These two teams contain the squad NCOs for the first and second squads. Finally, the team consisting of two regulars and two veterans has a morale of 9 and average initiative, and contains the squad NCO for the third squad.

Rule 8: Unit Cards

After a player's force is organized, its characteristics should be recorded on cards for easy reference during the game. As a general rule, one card should be able to contain the information for one to three infantry squads, several crew-served weapons, or a vehicle platoon. The card should contain an entry for each man in the unit, listing his troop quality (recruit, regular, veteran, elite), his position weapons crewman, gunner, infantryman, squad NCO, vehicle commander, etc.), weapons he is carrying (including ammunition type), and space for recording wounds. In addition, the morale, initiative, and identification code of each team should appear on the card. Players will also find it useful to copy the information provided for each vehicle and weapon used in the game from Book 3 for ready reference.

A typical card for an infantry section is shown on the facing page.

SECTION II: PLAYING THE GAME

Striker in Action: a Firefight

It's the sort of ticket that you hate: a jerkwater tech 8 world where there hasn't been a serious fight for forty years, a banana republic without enough money for a standing army, and now a real shooting war. And you're in the middle of it, as a mercenary cadre for the militia that's supposed to track down and drive out the other side's mercenary strikers. It's the sort of ticket that could get you killed.

You hired on because you were short of cash, needed a job, and know your business. So now you find yourself the commander of a platoon of militia in a sweep through woods tracking down a report of an enemy border incursion. Another platoon is off on your left, but too far away in the dense foliage to be much help in a firefight. In the event of serious trouble, your company's reserve platoon will back you up; then again, in the event of serious trouble you doubt that your platoon will survive long.

There are forty-one men in your platoon, including yourself and your platoon sergeant. None of them, other than yourself, has ever heard a shot fired in anger, but two of the three squad leaders and your platoon sergeant have been in a long time and seem to know their jobs well. You deploy the platoon in a skirmish line to sweep through the woods on a two-squad frontage. You keep them fairly close together, so that verbal orders can be passed down the line and men won't straggle off. You put the two squad leaders at either end of the line and you walk a couple

of meters behind the center. You leave your platoon sergeant with your least reliable squad as a small reserve force about fifty meters behind the line.

Suddenly there's automatic weapons fire off on the right, the area covered by your first squad. You call the squad leader on your helmet radio to find out what he's run into.

"Tiger One, this is Tiger Leader. What's your status, over?" (Tigers: a good example of wishful thinking, you think to yourself.)

"Tiger Leader, this is Tiger One. We're catching some small caliber autofire from up ahead in the trees. I've got some men down here and a couple took off, but I think we're keeping their heads down, over."

"OK, Tiger One, hold on. I'm on my way. Tiger Leader to all Tigers. Code X-ray. Acknowledge, over." You give a codeword you worked out with the squad leaders before moving out, meaning stop the advance and hold in place.

"Tiger Leader, this is Tiger Two. Wilco, over." That's second squad on the left flank.

"Tiger Leader, this is Tiger Four. Wilco, over." That's your platoon sergeant with the third squad in reserve.

Once the acknowledgements come in and you're sure there's been no screw-up, you begin making your way through the undergrowth toward the sound of gunfire. On the way, you make a brief situation report to the company commander on the company radio net.

"Ringleader, this is Tiger Leader. I have a couple hostiles on my right and I'm taking automatic weapons fire. Some casualties already. I'm going to sort things out over there now, over."

"Roger, Tiger Leader. Do you need help, over?" Help? Probably, but what can Company do right now?

"Negative, Ringleader, but stay on the line. Out." If you could see anything you could call for fire support from the company mortars that are set up about half a klick to the rear, but by the time you radioed them the fire coordinates, they put rounds near the target, and you adjusted the fire to where you wanted it, you could be commanding an ex-platoon. Or you could have the second squad pivot to the right in line and try to hit the ambush party in flank, but it would take time to explain to these militia men what you wanted them to do, what axis to move out on, what to do once they got where you wanted them, what to expect, probably when to breathe. That takes time, and all of a sudden time is what you don't have.

Three men from first squad break through the undergrowth, heading for the rear. You yell at them to stop, but they vanish into the undergrowth almost as soon as you see them. You could follow them, stop them, and get them turned around with a quick pep talk, but you'll probably do more good over on the line with your first squad leader.

"Tiger Four, this is Tiger Leader. Code Olympic. I say again, code Olympic. Acknowledge, over." This is the code word to your platoon sergeant to bring the reserve squad up on line. By now you're thinking ahead, and the reserve squad's firepower might be handy a little closer to the action, especially if it starts to spread.

Finally you get to first squad, just as the firing dies down. There are just four men remaining out of the thirteen in the squad: the squad leader and three of his troopers. Two men are down with minor wounds and the rest have become separated

during the confusion of the firefight. There's no sign of the hostile troops, and the first squad is visibly shaken. The enemy has withdrawn into the dense woods, and you're left with the job of putting your platoon back into some sort of order.

You take the first squad in tow and head back toward the original center of the platoon's skirmish line. On the way, you find four of the missing men; after they stopped running, they just sat down and waited for someone to come along and tell them what to do. It figures. There's no sign of the other three who ran off; they don't answer a radio hail. Later they will no doubt claim they never heard you.

When you link up with your platoon sergeant and third squad, you give your NCOs a quick briefing on the new platoon formation. First squad goes into reserve with the platoon sergeant, third squad takes the right, second squad stays where it is. When everyone's on line, you move out.

The above action took place in a *Striker* game, and serves to illuminate the essential nature of the *Striker* system and how it differs from previous miniatures rules. When attempting to understand these differences, it will help to keep in mind that *Striker,* as a part of **Traveller,** has been designed to be, to some extent, a role-playing game. Miniatures players may initially have difficulties coming to grips with the basic assumptions of *Striker,* perhaps more so than a role-playing gamer would. The essential difference is that *Striker* addresses the problems of battlefield command and control more directly and emphatically than any other rules yet published; actions which would be commonplace in many other miniatures games simply cannot be done in *Striker* due to the constraints of the command and initiative rules.

Consider, for example, the short action described above. A platoon is moving through dense woods, two squads in line and one in reserve. The righthand squad blunders into an ambush, takes casualties, returns fire, and about two-thirds of the survivors (inexperienced militia) run away. So far, most miniatures rules will produce similar results. It is in the player's reaction to this that *Striker* departs from the rest. With most rules systems, the player would begin to move the rest of his platoon in order to bring fire to bear on the ambushers. Assuming that they could reach the area in two turns, they would begin firing at the enemy in the third turn. A brief firefight would ensue, ending with the withdrawal of the ambushers. On about the fifth turn, the platoon would again be moving out, gradually taking up a new formation to compensate for the losses it had sustained. The emphasis is on the actions of the platoon.

In *Striker,* by contrast, the emphasis is on the actions of the platoon commander. The intent of the rules is to put the player in the role of a small unit commander and force him to think about what he would be doing with his time if he were actually present on the battlefield. Here is the action again from the platoon commander's viewpoint, described in game terms and broken into 30-second *Striker* turns:

On turn 1, the enemy fired upon first squad. On turn 2, as first squad halted to return fire (an action within the abilities of the squad leader), the platoon commander gave a brief order to the remainder of the platoon to stop the advance; the chatter back and forth, with acknowledgements, took all his time in that turn. On turn 3 the officer began making his way toward the site of the firefight, receiving a situation report from first squad's leader on the way. On turn 4, he was encount-

ered by routing militiamen, and was forced to decide whether to rally them, bring up his reserves, call for support from the company mortars, or keep moving; he decided to move the reserves into the line, again a simple, previously agreed upon code. On turn 5 he reached the right flank squad, in time to find the ambushers gone. On turn 6 he personally led the remnants of first squad back toward the center of the line. On turn 7 he encountered the stragglers and, still moving, attached them to his retinue. He arrived back in his original position, followed by first squad, on turn 9, finding both his platoon sergeant and the second squad leader there. He held a short orders briefing to explain the new order of advance to the three NCOs, an unforeseen situation for which no ready-made code word existed, explaining to each of them their positions in the new line, their new objective, speed of the advance, and a place to rally in case of disaster. The briefing took four minutes in all, or 8 turns. Then, on turn 18, the squads moved to their new positions and on turn 19 the advance resumed. Total elapsed time, a little under ten minutes, or 19 turns instead of 5.

It may sound complicated, but the game system doesn't really require the player to account for every second of his life or every word that comes out of his mouth. Instead, it gives a limited number of command actions an officer can perform in a turn and states the time required to perform them in game turns. Most actions (like rallying troops, calling in a fire mission, giving single code word orders, or leading by personal example) take only one turn, but giving new orders, to be executed outside the officer's sight, takes more time. (Consider the difficulty of communicating anything in 30 seconds, much less under combat conditions.) The above detailed description was provided to give players, especially experienced miniatures players, an understanding of the rationale behind the command and initiative rules, which form the center of the *Striker* system. That understanding is important to a full enjoyment of the game.

Some of the playtesters, who have been playing miniatures for years, experienced a great deal of frustration when first playing *Striker* because the rules would not let them do what they wanted to do; opportunities appeared and disappeared before the troops could be turned around to take advantage of them. Much of that frustration disappeared once they understood that they were playing the part not of their troops, but rather of just a few high initiative officers and NCOs, and that the rest of the troops were in many respects more controlled by events around them than by the wishes of the player. For role-playing gamers, the notion of non-player characters is easier to cope with.

A good way for players to learn the feel of the game (and the proper outlook) is to play a short scenario in which the referee moves all average and low initiative troops in response to orders from the players (or at least his interpretation of those orders). Players move only their high initiative units directly. This puts the player right in his role as unit commander and reinforces his perception of the dichotomy between high initiative troops (whose actions he controls directly) and all others (whose actions he does not control, but has the power to influence). This course is not recommended in regular play, solely because of the extra burden it places on the referee, but is excellent as a learning device.

Rule 9: Turn Sequence

Play in *Striker* is divided into turns, each representing 30 seconds of time. Each

turn is divided into six phases. During a turn, the phases are performed one at a time in the order given below; all actions and events take place during the phase specified by the rules, and no activity may be performed out of sequence.

At the beginning of the game, one player (or group of players) is designated the first player, and one is designated the second player. Throughout the rules, the terms friendly and enemy phase (movement phase or fire phase) are used. For the first player, the friendly phases are the first player movement and fire phases, and the enemy phases are the second player movement and fire phases; for the second player, the opposite is true.

Each turn consists of the following phases:

1. **Command Phase:** Both players decide what command functions their officers and NCOs will engage in during the turn, and issue any orders which are called for.
2. **First Player Movement Phase:** The first player moves his units.
3. **First Player Fire Phase:** This phase is resolved in three stages.
   a. All indirect fire by the second player's artillery.
   b. Direct fire by the second player's units (some units may be unable to fire if they moved in the second player's movement phase of the previous turn).
   c. Direct fire by the first player's units.
4. **Second Player Movement Phase:** The second player moves his units.
5. **Second Player Fire Phase:** This phase is resolved in three stages.
   a. All indirect fire by the first player's artillery.
   b. Direct fire by the first player's units (some units may be unable to fire if they moved in the first player's movement phase).
   c. Direct fire by the second player's units.
6. **Panic Morale Check Phase:** Both players' units which are subject to panic now check morale.

Rule 10: Command

During the command phase both players secretly decide what, if any, command functions their officers and NCOs will engage in during the turn. There are three command functions possible: lead, order, and rally. An officer/NCO may perform only one of these functions at a time. Leading is the exercise of command by means of continuous direct personal supervision. Ordering is the exercise of command through orders to units or to other officers/NCOs, which are executed without direct supervision by the ordering officer/NCO. Rallying is the use of an officer/NCO's personal presence to return routed troops to combat.

A. Officers and NCOs: Differentiation is made in the organization rule between officers and NCOs. The distinction is important as their command abilities differ in several ways, as explained below. The abilities of officers/NCOs also differ depending on their initiative levels, also explained below.

B. Initiative: Troops of the three initiative classes respond differently to command. High initiative troops do not require orders or leading; they will act independently and are directly controlled by the player. Average initiative troops must be ordered or led in order to perform most actions. Low initiative troops must be led to perform most actions; they will not respond to orders.

If low initiative troops are not being led, they may fire at any enemy troops within 10 cm and perform actions mandated by adverse morale check results. If

average initiative troops have no orders and are not being led, they may, in addition to the actions described above, fire at any enemy troops who have fired at their squad.

C. Leading: Troops who are being led by a high initiative officer/NCO may perform any action the player wishes. Troops who are being led by an average initiative officer/NCO may perform any action consistent with the orders under which the officer/NCO is acting.

1. Who May Lead: Any officer may lead any soldiers. Any high initiative NCO may lead any soldiers. Any average initiative NCO may lead any soldiers normally under his leadership. (For example, a platoon senior NCO could lead any soldiers from his own platoon, but could not lead soldiers from another platoon.) While leading, an officer/NCO may freely move and engage in combat. A single officer/NCO may lead any number of units at once; he may lead subordinate officers/NCOs, who may in turn be leading others.

2. Requirements: In order to lead, an officer/NCO must be able to see the soldiers being led and must be in constant communication with them. See rule 11 for details on communication.

D. Orders: Orders are given by officers/NCOs to average initiative squads, teams, and officers/NCOs, and allow them to act without the direct leadership of a superior; orders must be written and consist of specific, simple instructions. Orders to squads, teams, and squad NCOs must be very specific; orders to higher level NCOs and to officers may be somewhat more general, as explained below. Squads and teams following orders will perform the stated action; officers/NCOs following orders will lead their troops in performing the action or will issue appropriate orders to their subordinates. Orders take time to give and receive, sometimes a great deal of time; for this reason, orders are often explained to troops before the beginning of the game and initiated by short code words; see 6 below. During a turn in which he gives or receives orders, an officer/NCO or squad/team may not perform any other action.

1. Who May Order: All officers may order anyone except an officer of superior rank (a company commander is superior to his executive officer and all platoon commanders; a company executive officer is superior to all platoon commanders). A high initiative NCO may order anyone normally under his leadership, but not others. An average initiative NCO may not order.

2. Requirements: To give orders, an officer or NCO must be in communication with the unit he is ordering. The time required to receive an order varies according to the officer, NCO, or unit receiving it, as shown in the table below. Times apply to units in direct contact: the stands must be touching. If stands are not in direct contact, the time is twice that stated. If two stands possess battle computers (or are in direct contact with a stand possessing a computer) they are considered to be in direct contact. If all stands concerned have map boxes (or are in direct contact with a stand possessing a map box), the time is halved. These effects are cumulative; for example, if an officer gives an order to a squad NCO by radio, but both of them have map

Time Required to Receive Orders

Unit	*Turns*
Team/squad	4
Squad NCO or Platoon NCO	4
Section NCO or Company NCO	8
Platoon Officer	16
Company Officer	32

boxes, the time required is 4 turns, doubled and halved, or 4 turns.

Generally, an officer/NCO may give only one order at a time, to any one officer, NCO, or squad/team. However, any number of officers in direct contact with the officer giving the orders may receive their orders at the same time. A single code word may also be given to several units at once; see 6 below.

An officer/NCO or unit giving or receiving orders may interrupt the process at any time (and is required to if he suffers any adverse morale check result), in which case the order has not been received and all time spent giving the order up to that point is wasted.

3. Orders to Squads, Teams, and Squad NCOs: These orders must be very specific, and allow little freedom of action. Orders given directly to a squad may be given to the NCO at the same time; the NCO performs his normal function, but the squad will be capable of operating under its orders without him. A single order may consist of up to three components: a movement order, a fire order, and a rally point order.

a. Movement: A movement order must state an objective which is clearly definable on a map; it must list a route of travel (if other than a straight line); and it must state a speed of travel. For example, "move to the crest of hill 17, through the forest, at fastest speed" or "move to the northern village, through the valley, at NOE". As an alternative, a unit may be ordered to maintain position relative to another unit of the same platoon, which must be visible at all times; in this way, a platoon may assume a formation. For example, "10 cm to the left of 1st squad" or "5 cm behind platoon commander". The unit may also be ordered to move toward its objective and halt at a recognizable point. For example, "stop at the edge of the woods" or "stop when encountering friendly troops". To aid in writing orders, players may use a small map of the area, with landmarks indicated by letter or number codes, as was done in the case of hill 17 above.

b. Fire: A fire order must state the conditions under which a unit will fire; this must consist of a simple and unambiguous sentence. For example, "fire as soon as enemy come within 30 cm", "fire if enemy armored personnel carriers come within 60 cm", "fire at enemy units which are able to fire at 3rd platoon", or "fire at any enemy units within long range".

c. Rally Point: A rally point order gives a location easily recognizable on a map, to which a unit will move, by a safe route if possible, if the code order to retreat to the rally point is given, or if they recover from a rout and receive no orders. For example, "rally point: stone farmhouse".

d. Delays: An order may also contain a statement delaying its execution until a specific turn or until an orders briefing is over. For example, "delay execution until turn 15" or "delay execution until completion of platoon briefing".

e. Attachment: Instead of the orders in a to c above, a squad or team may be attached to another squad or higher level unit; it then becomes part of the other unit for all game purposes. For example, "the platoon antitank team is attached to 3rd squad" or "1st squad is attached to 2nd platoon, B company".

f. Discretionary Actions: A unit or NCO under orders has some ability to make choices. If the squad is fired upon, or if an enemy is visible within 10 cm, the squad may return fire, halt, and/or move to the nearest covered position, if there is one within one turn's movement; as soon as it is no longer receiving enemy fire, the unit must resume following its orders. A unit may change its facing at will and may

make minor course changes to avoid serious obstacles to movement. The referee may decide that certain other minor demonstrations of initiative are reasonable, but should take care not to allow too much freedom.

4. Orders to Officers and Higher NCOs: These orders are somewhat less restrictive than squad/team level orders. An order to an officer or higher NCO may consist of one simple declarative sentence plus one simple conditional statement. All statements must be clear and unambiguous, as determined by the referee. Locations mentioned must be easily identifiable on a map. Orders to platoon and company NCOs should also state what unit they are to command. Here are a few examples of possible orders:

"Advance on hill 79, proceeding north of the forest. When hill 79 has been taken, give supporting fire to B company."

"Withdraw to point C. If point C is occupied by enemy, withdraw to point D."

"Defend the town. If casualties are suffered, withdraw to the edge of the woods."

"Move at half NOE speed to point 8. If enemy are sighted, execute code bravo."

When an officer/NCO has no other orders, he will defend his current position.

An officer/NCO may lead his troops and an officer may give orders; troops may be ordered or led to perform any action relevant to the orders under which the officer/NCO is operating, but no others. For example, if a platoon commander were under the first sample order above, he could not make a detour to attack an enemy unit which was holding up the advance of another platoon; he could only engage enemy units which were directly preventing his platoon from taking and holding hill 79. The referee's judgement is necessary in doubtful cases.

An officer/NCO is allowed a certain degree of flexibility regarding the performance of his orders. An officer ordered to move his unit is not required to move each squad every turn; however, he must, over the course of several turns, keep the unit moving. If an officer is ordered to defend a position, he doesn't have to keep every squad stationary; however, every movement must contribute to the defense of that position.

5. When Orders Are Changed: Orders (of all types) remain in effect until the unit or officer/NCO is given a new order, has completed his current order, or a morale check result of forced back or routed. Orders are not changed if a unit is led for a period, although they are suspended for that time. If a unit has a fire order it will continue to be in effect after its movement order has been completed.

6. Code Words: An order (of any type) may be identified with an execution code, and will then only be performed when the code is given. Giving a code word counts as an order, but takes only one turn. Up to four code words may be defined for each officer/NCO or unit capable of receiving orders. The same code word may be given to several units in one turn. For example, an officer might say, "2nd section and weapons squad, execute code alfa." A single code may be defined as having different meanings for different units. Note that orders to higher level officers/NCOs may contain code words as part of their conditional statements.

7. Automatic Orders: There are four simple orders which any unit (or several units at once) may be given in one turn.

a. Halt: The unit will stop in its current position, and remain until further orders are received.

b. Resume: This order is given to a unit previously ordered to halt, or which has ceased to follow its orders due to a forced back or routed morale check

result. The unit will return to following its previous orders.

c. Retreat: The unit will move to its rally point or, if it has none assigned, to the closest cover away from the enemy.

d. Flee: This is a general order, given by a commander to all units under his command. It announces that the battle is lost and troops must attempt to save themselves however they can.

E. Rallying: During the course of the game, troops may become routed due to enemy action. A capable officer or NCO may rally such units during the command segment. For an explanation of routing and rallying, see rule 12.

1. Who May Rally: Any officer may rally any troops. High initiative NCOs may rally troops normally under their leadership. Average initiative NCOs may not rally any troops.

2. Requirements: In order to rally troops, an officer/NCO must be visible to them and within 10 cm of them during the command phase. Neither the rallying officer/NCO nor the troops being rallied may move or fire during the turn.

Rule 11: Communication

In order to exchange commands, fire corrections, or other information, two stands must be in communication. There are several means possible.

A. Direct Verbal Communication: This includes hand signals and verbal commands. Any two stands which are touching are always in communication; any two stands connected by a chain of touching units, up to 10 cm long, are in communication. Finally, any two stands which can see each other and are within 10 cm of each other are in communication.

B. Radio: Stands equipped with radios are in communication with each other as long as both are within the stated range of each other's radios and are not being successfully jammed. Each radio has a power rating, which gives its range in km and determines its ability to resist jamming; radios and their ratings are listed in Book 3. Radios may be jammed by radio jammers, also listed in Book 3. Each radio jammer has a power which depends upon its distance from the receiver (the unit receiving orders); if the distance is less than or equal to the jammer's listed range, the jammer uses its listed power; if the distance is up to twice the jammer's listed range, it uses half its listed power. Communication is prevented if the strength of the jammer is greater than the strength of the sender (the unit giving orders).

C. Lasers: Stands equipped with tight beam laser communicators are in communication if stationary and if an unobstructed line of sight exists between them. If one of the two communicators is linked to a battlefield computer, the stands may remain in communication while moving, as long as an unobstructed line of sight exists. If the line of sight is obstructed, communication is terminated until the line of sight is reestablished. If two communicators are not linked to a computer and one of them moves, one turn must be spent in the new position before communication is restored. In addition to obstacles listed in rule 14, a laser's line of sight is blocked by anti-laser aerosols. However, as tech level increases, lasers become able to see through smoke and aerosols. See rule 27.

D. Masers: Maser communicators function in the same way as laser communicators, except that smoke and anti-laser aerosols have no effect on the line of sight.

E. Wire Telephones: Stands equipped with telephones are in communication with each other if a wire link exists between them. Wire may only be placed before

the start of a game, and thus only troops in prepared positions may have telephones, and the telephone must remain in place; if a stand moves, its telephone does not move with it. There are two possible types of connection: direct and switchboard. A direct connection requires two telephones, one at each end, and neither telephone may be part of another connection; thus, a company HQ with direct phone links to three platoons would require three separate phones. A switchboard can link up to 20 phones to each other; a master switchboard can link up to 20 switchboards. Each switchboard requires an operator unless noted otherwise in Book 3. Before the game, the player or referee must determine the locations of all telephone wires, telephones, and switchboards. If the wire is cut, communication is interrupted. Wire may be cut by indirect fire or by enemy units who discover it. If an artillery sheaf falls on the wire, roll once for each 5 cm of wire covered by the sheaf. A contact hit destroys the wire. Enemy units who move across the wire will discover it on a roll of 5+, DM -1 per 2 cm of movement in the turn in excess of 10; if the wire is discovered it is destroyed.

F. Meson Communicators: Meson communicators are available at very high tech levels. They cannot be jammed and do not require a line of sight between the sender and receiver. Two communicators may not communicate while either is moving unless one of them is linked to a battlefield computer. One complete turn is required to regain communication after moving if a computer is not linked.

G. Battle Computer Links: For a communicator to be linked to a battle computer, they must be in physical contact. Beam communicators (lasers, masers, and meson communicators) may not communicate if either sender or receiver is moving unless one of them is linked to a computer. For example, suppose a company commander and his three platoon commanders all have laser communicators; the company commander's laser is linked to a computer. If all four are moving, the platoon commanders may all communicate with the company commander, but not with each other.

Rule 12: Morale

As explained in rule 7, each stand (or vehicle crew) has a basic morale value number representing its general ability to stand up under stress. At various points in the game units will be required to take morale checks. The player rolls two dice and compares it to the unit's morale number. The die roll must be less than or equal to the unit's morale number for it to pass the check. If the number rolled is greater than the unit's morale, it will suffer adverse results.

A. Morale Modifiers: A stand's morale number may be modified, either instantaneously (for a specific morale check) or permanently (for the rest of the game). In either case, modifications will be expressed in terms of plus or minus modifications to the checking stand's morale number. All morale modifiers are cumulative, but a stand's morale number may never go below two.

1. Instantaneous Modifiers: These are dependent on circumstances at the time of a specific morale check and never permanently alter a unit's basic morale number. A list of instantaneous modifiers may be found on the morale modifier chart.

2. Permanent Modifiers: These alter a stand's basic morale number, and should be recorded on the unit card. A stand's morale is reduced by one each time it suffers a forced back or routed morale check result. A stand containing several soldiers has its morale reduced by one for each casualty the stand suffers.

B. Conditions Under Which Morale Must Be Checked:

1. Proximity to the Enemy: Whenever a unit is within 10 cm of an enemy unit (and can see it), the unit must check morale. This check is done at the end of each movement phase.

2. Casualties: Whenever casualties are suffered, friendly units which are in close proximity (and can see the event) must check morale. A casualty is defined as any wound or death of any soldier, or any vehicle or weapon suffering a minor or major penetration or any surface damage result that renders it unable to move. Close proximity is defined as within 5 cm of a personnel casualty or 10 cm of a vehicle or gun. Casualty checks are made at the end of each step of each fire phase.

3. Panic: Often a unit will be influenced by events not directly affecting it, but having an effect on the overall course of the battle. A unit must make a panic check (during the panic morale check phase) under each of the following circumstances:

a. If a stand at any time in a turn was within 15 cm of a friendly stand which routed, and which was of equal or higher initiative. Note that a unit which routs due to a panic check may cause other stands to rout.

b. If a personnel stand at any time was within 15 cm of a friendly combat vehicle which routed.

c. If a stand during one of the fire phases was within 15 cm of a friendly vehicle which suffered a catastrophic hit.

d. If a stand was fired upon by friendly units.

4. Frequency of Checks: A unit will never be required to check morale more than once in a phase (or step of the fire phase). Thus, if a unit took casualties from several sources in a single fire phase, it would check morale at most once in the indirect fire step, once in the enemy direct fire step, and once in the friendly direct fire step (if it received fire from friendly troops).

C. Morale Results: Four results are possible if a unit fails its morale check, depending upon the type of check and the amount by which the die roll exceeds the unit's morale. See the morale tables.

1. Suppressed: The unit may not fire. If under cover or concealment it may not move. If not under cover or concealment it must fall back in the direction of the closest cover or concealment, away from the enemy, at its fastest ground movement rate (running for infantry, NOE for grav vehicles). This effect lasts for one complete turn.

2. Fall Back: As above, but if already in cover/concealment, the unit will move in the direction of the next closest cover/concealment. The effect lasts for one complete turn.

3. Forced Back: As above, but if the unit does not reach cover/concealment in one turn, it will continue to move until it reaches such a position or rallies. The unit's morale is permanently reduced by 1.

4. Routed: As above, but after the unit reaches cover/concealment it will continue to move away from the enemy until rallied.

5. Movement: If a unit is forced to retreat as a result of morale failure, it moves as soon as it fails the morale check. The unit may not move in its next movement phase, but is considered to be moving for fire purposes.

6. Surrender: In some cases, a unit which routs will surrender. In the basic rules, troops which surrender are removed from the game. A routing unit will

surrender under the following circumstances:

a. If an enemy unit is visible within 10 cm of it at the end of its rout move or at the end of any movement phase.

b. If it is fired upon by enemy direct fire while routed and there is no unrouted friendly officer/NCO within 10 cm.

c. If it routs while in physical contact with an enemy unit.

d. If it routs while within 10 cm of an enemy unit and does not reach a covered/concealed position during its rout move.

7. Rallying: Units which rout or which are forced back and do not reach a covered position will continue to retreat until rallied. Each turn in the command phase the unit checks morale. If it passes the check, it has rallied; it may not move or fire in the turn but returns to its normal capabilities in the next turn. If it fails the check it remains in its previous condition. If an officer/NCO rallies a unit, as specified in rule 10, no die roll is required. An average initiative unit which rallies is without orders and will move toward its rally point or, if there is none assigned, the nearest cover/concealment.

D. Officers and NCOs: In addition to being required to check morale themselves, and their ability to rally units as stated above, officers and NCOs may influence the morale checks of others. Troops mounted on the same stand (or in the same vehicle) as an officer/NCO are included in his morale check, and the effects stated below do not apply to them.

The list of morale modifiers notes that the presence of an officer/NCO visible within 10 cm allows the checking stand a favorable morale modification of 1 for an NCO or 2 for an officer. An officer may provide this modification to any troops, but an NCO may provide it only to a unit normally under his leadership. The highest ranking officer on a side (the supreme commander) provides a morale modifier of 3. Several officers/NCOs may influence a single unit's morale check, in which case their modifiers are cumulative.

Whenever an officer/NCO is required to check morale, that check is conducted before the checks of any unit he may be influencing. If he fails the check, his morale modifier becomes an unfavorable modifier for all units visible within 10 cm.

An officer/NCO may influence the morale check of a subordinate officer/NCO.

E. Routing Off the Battlefield: If a unit routs off the battlefield, it may return in a later turn. Low initiative units will never rally; they are gone. The referee should roll for each other unit until it rallies, counting the number of rolls it takes. The unit will rally in that many turns. If an officer rallies, he is also assumed to have rallied any of his men who routed off with him. An average initiative unit must then be ordered to return to combat; this is possible only if it has a radio. The number of turns a unit spent routing is also the time it will take to return to the battle.

Rule 13: Movement

Units move and conduct various movement-related operations (such as setting up heavy weapons, dismounting from vehicles, etc.) during their own movement phase. All units have a movement allowance expressed in centimeters which may be used for movement or movement related operations.

A. Movement Allowances

1. Personnel: Men on foot (infantry, gun crews, dismounted vehicle crews, and so on) have a movement rate of 2.5 cm per turn if evading (taking full advant-

age of cover), 5 cm per turn if walking, and 10 cm per turn if running. Troops will generally not run unless there is a pressing reason: a dash to cover when receiving enemy fire, a rush to assault an enemy position or cross a space of open ground under fire, movement to leave the near vicinity of artillery impact, and so on; the referee must decide in questionable cases. High initiative troops may run at any time. However, no soldier may run for more than two turns in a row. Troops in battle dress (powered armor) are an exception and may always run every turn.

2. Ground Vehicles: All ground vehicles have both a road speed and a cross country speed, as listed in Book 3. Road speed is the number of centimeters it may move if the entire movement phase is spent on a road, while the cross country speed is used in all other cases.

3. Grav Vehicles: Grav vehicles have three listed speeds: maximum, cruise, and NOE (nap of the earth), and three flight modes: high, terrain following, and (again) NOE. Infantry wearing grav belts move like grav vehicles.

a. Maximum Speed: This is the fastest the vehicle may travel; it may use this speed only in high mode. A vehicle travelling at maximum speed may not make any changes of direction.

b. Cruise Speed: This is the fastest the vehicle may travel in terrain following mode. A vehicle travelling at cruise speed may turn up to 8 times during its movement; each turn may be 45° or less and consumes 10% of the vehicle's movement allowance.

c. NOE Speed: This is the fastest the vehicle may travel in NOE mode. A vehicle travelling at NOE speed may turn without limit.

d. High Mode: A vehicle in high mode must be at least 10 mm above the highest terrain feature on the battlefield.

e. Terrain Following Mode: A vehicle in terrain following mode is following the contour of the land, and is always 10 mm above the terrain feature (ground, trees, building, etc.) which is directly beneath it.

f. NOE Mode: A vehicle in NOE mode is flying close to the ground, dodging around terrain obstacles rather than flying over them.

g. Popup: A grav vehicle which is otherwise stationary in a phase may execute a popup. The vehicle rises straight up to whatever altitude it wants and drops back down in the same turn.

4. Towed Weapons: Each vehicle may tow one light or heavy crew-served weapon. Infantry weapons are carried by the troops. Each weapon's type is stated in Book 3. Towed and carried weapons move at the rate of the vehicle or men towing or carrying them.

B. Terrain Effects on Movement: Terrain affects the movement ability of units differently depending on the terrain type and mobility type of the unit, as noted below.

1. Slopes: Slopes are divided into five general categories: flat, gentle, moderate, steep, and sheer. Slopes are defined by the change in elevation per horizontal distance. An area is considered flat if the change in elevation between contours is one quarter or less the distance between contours. For example, if contours on the battlefield represent 25-meter elevation changes (or 2.5 cm in game scale), a slope is flat if the distance from one contour to the next is 10 cm or more. A gentle slope is one on which the change in elevation is between one-quarter and one-half the distance between contours. A moderate slope is one on which the change in eleva-

tion is more than one-half but less than the distance between contours. A steep slope is one on which the change in elevation is greater than the distance between contours but less than twice the distance. A sheer slope is one on which the change in elevation is twice the distance between contours or more.

Personnel are unaffected by gentle slopes, pay double movement costs (that is, pay two cm of movement for each cm moved) to climb moderate slopes, pay quadruple movement costs to climb steep slopes, and may not climb sheer slopes.

Ground vehicles pay double movement costs to climb gentle slopes and may not climb moderate, steep, or sheer slopes.

Grav vehicles ignore slopes.

2. Trees: Trees may be either dense or sparse. Personnel are unaffected by trees. Ground and grav vehicles pay double movement costs to move through areas of sparse trees and may not move through areas of dense trees. Troops with grav belts may move through dense or sparse trees at double cost. Grav vehicles are unaffected when flying over trees.

3. Undergrowth: Undergrowth may be either dense or sparse. Personnel are unaffected by sparse undergrowth and pay double costs to move through dense undergrowth. Tracked ground vehicles are unaffected by undergrowth. Wheeled ground vehicles pay double costs to move through sparse undergrowth and pay quadruple costs to move through dense undergrowth. Grav vehicles are unaffected by undergrowth.

4. Ground Characteristics: Normal movement distances assume firm, even ground. There are six other possible ground types: broken ground, boulder field, mud, sand, soft ground, and ice.

Personnel pay double movement costs to move through all special ground types except soft ground; they are unaffected by soft ground.

Wheeled ground vehicles pay double movement costs to move through sand and soft ground, pay quadruple movement costs to move through broken ground, mud, and ice, and may not move through boulder fields.

Tracked ground vehicles pay double movement costs to move through broken ground, mud, and ice, and may not move through boulder fields; they are unaffected by sand and soft ground.

Grav vehicles are unaffected by special ground types except that they pay double movement costs when moving through boulder fields. They may fly over boulder fields at normal movement rates.

5. Water Barriers: Streams, rivers, lakes, and pools of water constitute water barriers. Personnel and most ground vehicles may cross water barriers only at bridges and fords. Ground vehicles listed as amphibious may cross at their listed amphibious movement costs. For example, a vehicle might have a listed amphibious movement cost of x20; this means that the vehicle pays 20 times normal movement costs when moving across water. Grav vehicles are unaffected by water barriers.

6. Roads: Roads have no effect on personnel and grav vehicles. Ground vehicles move on roads at their listed road speeds; in general, slopes will be the only type of terrain modifying road movement speeds, since obstacles will have been cleared away and a road base laid down to modify ground types.

C. Movement Effects on Fire: Whether (and how far) a unit moves may have an effect on its ability to fire in subsequent fire phases; see rule 16 for details.

E. Dismounting: Troops require one full movement phase to mount or dis-

mount from a vehicle. To mount, they must begin the movement phase within 2.5 cm of the vehicle. Troops who mount may not fire in the next friendly and enemy fire phases. Troops who dismount may fire in the next enemy fire phase.

F. Facing and Backing Up: The direction a vehicle is facing is important in determining its target configuration when resolving direct fire. The direction any unit is facing also determines its field of fire. A unit may change its facing at the beginning of the friendly movement phase; this is not considered movement.

When it moves, a personnel unit or ground vehicle always faces the direction it is moving; at the end of its movement, it faces the direction it moved during the last 5 cm of its movement. As an exception to this, personnel and ground vehicles may back up. A vehicle's movement allowance is quartered, and a personnel unit's allowance is reduced to 2.5 cm (it is not evading). At the conclusion of its movement, the unit faces in the direction from which it came.

Grav vehicles moving NOE may face in any direction at any time; grav vehicles moving at cruising or maximum speed must face in the direction they are moving.

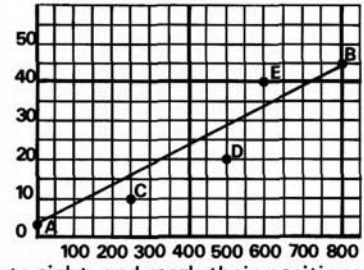
G. Movement Markers: It is often necessary to remember whether (and how far) a unit moved in order to determine movement effects on firing and spotting; the easiest way to maintain a record is by using a small marker placed on the vehicle or team stand. The marker is placed on the unit at the end of the friendly movement phase and remains until the beginning of the next friendly movement phase. Markers may be made from half-inch cardboard squares (boardgame counters are useful for this). Depending on the information it is necessary to remember, markers may indicate a vehicle or team's movement status (up to ½ movement, over ½ movement), actual distance moved (90 cm, etc.), or flight mode (NOE, terrain following, high flight, popup). The simplest course is to make a marker only when it is needed.

Rule 14: Visibility and Spotting

At a ground scale of 1:1000, few gaming tables will cover an area more than 3000 meters long, well within normal visibility ranges. As a result, the primary limitations on visibility will be blocks to the line of sight and target concealment.

A. Line of Sight: A unit, in order to be able to see another unit, must trace an unblocked line of sight. The line of sight is a straight line from one unit to the other. Most of the time, whether the line of sight is blocked can be determined by examining the units on the battlefield. Remember, however, that actual units at the scale of the game are much smaller than the models representing them; the same is true for trees, buildings, and other obstacles to the line of sight. Only hills (if the terrain is represented by actual built-up contours) will be the correct height on the board. The actual game heights of units and obstacles are listed below.

In cases where precise determination of the line of sight is necessary, a simple diagram can be constructed out of graph paper, as shown at the right. The vertical axis corresponds to altitude and the horizontal axis to distance. Place marks on the diagram for the two units at the proper altitudes and horizontal separation. Then examine the line between them on the battlefield for possible obstacles to sight, and mark their positions and



altitudes on the diagram too. If an obstacle's position on the diagram falls above the line connecting the two units, the line of sight is blocked.

The following factors may affect the line of sight, either by blocking it or by determining the altitude of a unit.

1. Units: Units do not block line of sight. A personnel or light weapon unit is about 2 mm tall, a ground vehicle or heavy weapon about 3 mm. A grav vehicle in NOE mode is 4 mm above the ground; a grav vehicle in terrain following mode is 10 mm above the surface beneath it (whether ground, trees, or some other obstacle); a grav vehicle in high mode is at any altitude at least 10 mm higher than the tallest obstacle on the battlefield; a grav vehicle in a popup is at whatever altitude it wishes.

2. Hills: Hills block the line of sight.

3. Vegetation: Trees block the line of sight, with certain modifications. Units on the ground (or NOE) can see through up to 3 cm of dense trees and up to 10 cm of sparse trees. Units in tree areas are protected from observation from above. In dense tree areas, the sky is considered entirely blocked by branches, leaves, or equivalent; thus units in dense trees may not see or be seen if the line of sight passes through this canopy. In sparse tree areas, this canopy is broken; a vehicle in the air may see through the canopy (and be seen) for a radius on the ground equal to one fifth its altitude above the ground; for example, a vehicle at 250 mm altitude can see (and be seen by) a unit on the ground up to 50 mm away from the point directly below the vehicle. Trees vary in height, but average about 10 to 30 mm; the leaf canopy may begin at varying heights, but should average half the height of the trees. In many cases, the canopy at the edge of a densely wooded area reaches down to the ground, blocking the line of sight completely.

Undergrowth has no effect on the line of sight.

4. Buildings: Buildings block the line of sight. Troops in buildings may be able to see over obstacles because of their higher positions. Buildings are 4 mm tall per story; a soldier on the third floor of a building would therefore be 10 mm above the ground (4 mm each for the first two stories plus 2 mm for his own height).

5. Smoke Screens: There are two types of smoke screens, dense and mist. The line of sight terminates 3 cm after first encountering a dense smoke screen and 15 cm after encountering mist. Smoke screens are 15 mm high.

B. Concealment: Terrain features which do not block the line of sight may make a unit harder to see. Personnel and light weapons are concealed if they are in an area of trees or undergrowth, or are being seen through smoke. Vehicles and heavy weapons are concealed in areas which contain both sparse trees and dense or sparse undergrowth.

Units may also be camouflaged. If a unit is in concealment at the beginning of the game, the referee may declare that it is camouflaged. If so, it remains camouflaged until it moves for the first time.

C. Hidden Units: In some terrain, units may choose whether they are hiding or exposed. This choice is possible for personnel and light weapons in buildings, gullies, or field fortifications, or directly behind walls or hillcrests. Vehicles and heavy weapons may make this choice if directly behind hillcrests or stationary in buildings. The decision is made in a unit's movement phase and applies until the next movement phase. Units which are exposed are visible but concealed. Units which are hiding may not be spotted; if already spotted they remain spotted as long

as they do not move, but are concealed. Hiding units may not spot, fire, or perform any other activities requiring observation of the area; they are keeping their heads down. If a unit is exposed and becomes suppressed, it immediately hides.

D. Spotting Procedure: Units which have not been spotted by the enemy may be kept off the board; their positions (and movements) should be recorded and known to the referee. This may be done on a small map of the area, with written descriptions, or by using small cards or markers on the battlefield in place of the unit. In the last case the players should also have several dummy markers to confuse the enemy.

When a unit is spotted, it is placed on the battlefield; if it later becomes unspotted (that is, no enemy unit is in a position to see it), the unit may again be removed from the battlefield. A unit which has not been spotted may not be fired upon (although see reconnaissance by fire, rule 16D).

1. When Spotting Occurs: Spotting attempts by both sides occur in each movement phase and fire phase. A unit which is spotted during a movement phase may be fired upon in the next fire phase. A unit which is spotted during a fire phase may not be fired upon in the same fire phase. A unit may be spotted in its movement phase at any point in its movement; it may be spotted even if it doesn't move; it may be spotted in the fire phase only if it fires.

2. Spotting Procedure: Whenever a unit is in the line of sight of any enemy unit there is a chance it will be spotted. To attempt to spot, roll two dice and consult the spotting table; the dice are rolled once for each unit (each vehicle, crew-served weapon, or infantry stand) the player is attempting to spot, regardless of how many units are in a position to see it.

To spot units on the ground, in NOE mode, or performing a popup, use the ground spotting table. The dice roll to spot a unit on the ground depends upon its distance, its concealment status, and whether it moved in its last movement phase.

Vehicles and heavy weapons may be spotted with a DM of +1. Units firing are spotted with a DM of +2 during the fire phase; some weapons have a pronounced "signature" and are easier to spot when firing; signature DMs are listed in Book 3.

To spot units in terrain following or high flight mode, use the air spotting table. Units in the air spot other units in the air on a roll of 3+, as do any units using radar to spot. The referee may also declare some high vantage points on the ground to have this excellent visibility also. All DMs from the ground spotting table are used; vehicles in terrain following mode have a DM of -2.

SECTION III: FIRE COMBAT

Rule 15: Introduction to Fire Combat

There are two varieties of fire: direct fire and indirect fire. Direct fire is aimed at targets the firing unit can see; indirect fire is aimed at targets the firing unit cannot see, and the procedure is therefore more complex. Rules 16 through 19 cover direct fire, while rules 20 through 26 cover indirect fire. The rest of the rules are applicable to both.

Although they differ in many respects, the basic procedures for both types of fire are similar. A die roll is necessary in order to hit the target, with many possible DMs for specific circumstances; after a target has been hit, the damage inflicted on it is determined: the weapon's penetration value and the target's armor value are

used as DMs on a second die roll on one of the damage tables; if the target's armor sufficiently exceeds the weapon's penetration, it will not be damaged.

A wide variety of weapons is available, ranging in size from the body pistol to the 30 centimeter hyper-velocity gun, and in sophistication from the bolt action rifle to the rapid-pulse fusion gun. Their various characteristics are listed in Book 3, along with rules for constructing many weapons types to order. In Book 3, and elsewhere in these rules, weapons are divided into three major categories: infantry weapons, light crew-served weapons, and heavy crew-served weapons. Any troops carrying infantry weapons are referred to herein as (no surprise) infantry. The characteristics of all weapons used in a game should be recorded on cards, in order to avoid the need for constant reference to the book.

Rule 16: Direct Fire Procedures

Direct fire combat takes place during both fire phases of a turn. The following general rules govern direct fire.

A. Movement Effects on Firing: A unit's ability to fire in a fire phase may depend upon whether (and how far) it moved in its last movement phase. Effects, if any, are either a total inability to fire in that phase or an unfavorable DM on the roll to hit, as detailed below.

1. Infantry: If troops on foot move at all in their movement phase, they fire with a DM of -2 in the next friendly fire phase and may not fire at all in the next enemy fire phase. Some infantry weapons are designated heavy recoil weapons; troops armed with these, if they move, may not fire at all in the next friendly fire phase or enemy fire phase.

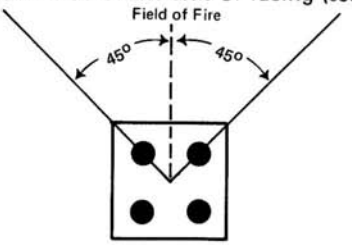
2. Vehicles: Most vehicles may fire regardless of whether or not they move. However, some vehicles are restricted in their ability to fire if they move; this information is given in the vehicle listings in Book 3. A vehicle which does not move is unaffected; separate effects may apply to vehicles which move half their allowances or less and to those which move more than half their allowances. Effects may consist of a DM to fire during the next friendly fire phase, and a DM or a complete inability to fire during the next enemy fire phase. For example, a vehicle listing might read "move half or less: -2 EFP; move more than half: -2 FFP, no fire EFP". This indicates that if the vehicle uses half its movement allowance or less, it receives a DM of -2 when firing in the next enemy fire phase and no penalty during the next friendly fire phase. If the vehicle uses more than half its movement allowance, it suffers a DM of -2 to its fire during the next friendly fire phase and may not fire at all in the next enemy fire phase.

3. Crew Served Weapons: Some towed or carried weapons require time to ready them for firing. This time, in complete turns, is listed in Book 3 with the other data for the weapon. No movement or fire is allowed while a weapon is setting up. The same amount of time is required after a weapon has set up to ready it for movement again. Complete turns are counted from friendly movement phase to friendly movement phase: if a weapon requires three turns to set up, it is ready after having spent three consecutive friendly movement phases in the same position.

Vehicle-mounted weapons require no set-up time for direct fire.

B. Who May Be Attacked: In order to be attacked, an enemy unit must be in the line of sight of the firing unit, it must be spotted before the fire phase, and it must be in the firing unit's field of fire. Line of sight and spotting are covered in rule 14.

The field of fire is defined as an arc of 45° to either side of the axis of facing (see diagram at right). Vehicles with turrets or other 360° traversing weapons mounts may have them facing in a different direction from the facing of the vehicle. In a unit's friendly fire phase, it may fire and be fired upon at any position (or positions) it occupied during its movement. In the enemy fire phase, it fires and is fired upon at its current position. Thus a vehicle executing a popup fires and is fired upon from its highest position in the friendly fire phase and from its NOE position in the enemy fire phase.



C. Allowed Number of Attacks and Danger Space: During the course of a single fire phase, most weapons are capable of engaging only one target. One target is a single stand of troops (team or individual), or one crew-served weapon or vehicle. A weapon's crew is considered to be the same target as the weapon. Different weapons carried by a team or vehicle may fire at different targets, but a single person may help to fire only one weapon in a phase (thus if a soldier is armed with a rifle and is also part of a tac missile team, he may fire either the missile or the rifle, but not both).

Some weapons with high rates of fire are capable of engaging more than one target in a phase. However, the time required to select a target and re-position the weapon after firing means that all targets engaged must be within a narrow arc, called the danger space. The number of targets each weapon can fire at in a phase, if greater than one, is listed in Book 3. Some weapons have two rate of fire settings, single shot and automatic; if there is only one listing for number of targets it applies to automatic fire.

One of the targets being engaged is designated the prime target. The danger space is a line 2 cm wide (and 2 cm high) from the center of the firing unit through the center of the prime target. Other targets which the danger space passes through are engaged, up to the allowed number of targets. The target closest to the prime target is attacked first, then the second closest, and so on. The high rate of fire (and its hit bonus) results in a loss of precision in aiming any single shot; thus, friendly units in the danger space are attacked in the same way as enemy units. The full allowed number of attacks must be made if there are enough units in the danger space. If firing during the enemy fire phase, enemy units which moved through the danger space at any time during their movement may be attacked; if firing during the friendly fire phase, friendly units which moved through the danger space may have to be attacked. Previously unspotted units in the danger space are also attacked; the procedure is the same as for recon by fire, below.

Flechette rounds constitute a special case. The weapons data for a flechette round, instead of listing allowed number of targets, gives the length of the danger space of the round in centimeters. The firing player announces the point along its flight that a flechette round will explode and release its flechettes. The danger space of the round starts at that point and affects all units along its danger space.

D. Recon by Fire: Generally, units may not fire at enemy units that have not been spotted. However, if a player has reason to believe that enemy troops may be in an area (the referee's judgement is necessary to avoid abuse), he may direct fire into that area. Fire is against a single area 2.5 cm square. If enemy units are in the

area, one of them is attacked. Fire is resolved by the referee (with the dice rolled out of the player's sight) with a DM of -4. If the result is a hit and there are troops present, the hit is resolved and the troops are spotted. If there are no troops present or the result is not a hit, the player does not discover anything.

E. Ammunition: In the basic game, for the sake of simplicity, all weapons are assumed to have an unlimited supply of ammunition available. The only restriction is on small arms: for those weapons capable of firing more than one type of ammunition, the player must write down, before the game begins, which single type each weapon is using. The available ammunition types are listed in Book 3. The advanced rules in Book 2 introduce considerations of ammunition supply and depletion.

Rule 17: Direct Fire Hit Determination

The likelihood of hitting a target is primarily a function of the range to the target and the type of weapon being fired. This is modified by a number of factors, including the skill of the firing soldier and the movement and cover status of both the firing soldier and the target.

A. Range: Each weapon has three ranges: effective range, long range, and extreme range. Range is determined by measuring the distance from the center of the firing unit to the center of the target in centimeters. This is then compared to the weapon's listed ranges to determine the range used to resolve the fire. The first number listed in each range column is the maximum distance the weapon may fire to qualify for that range. For example, an ACR (advanced combat rifle) firing high explosive ammunition at any target up to 30 cm away is at effective range. Any target over 30 cm and up to 60 cm away is at long range. Any target over 60 cm and up to 90 cm away is at extreme range. A weapon may not fire beyond extreme range.

B. Required Die Roll: The basic die roll to hit at effective range is 8+, at long range 10+, and at extreme range 12+. One additional hit is achieved on the target for each two higher than the basic hit number rolled (with DMs). For example, if a soldier fired at effective range and rolled a 13 (a DM would be required here), he would get three hits on his target. The following DMs are used:

1. Weapon Skill: Weapon skill is assumed to parallel the quality of the soldier. Elites add 3 to all fire die rolls, veterans add 2, and regulars add 1. Recruits do not add anything to the die roll. When firing crew-served or vehicle-mounted weapons, the troop quality of the gunner is considered.

2. Automatic Fire: Certain weapons receive an automatic fire bonus, as indicated by a plus sign and a number following the penetration value on the weapons table. For example, a submachinegun receives an automatic fire bonus of +4 at effective range, +3 at long range, and +1 at extreme range.

Shotguns and flechette rounds recieve an automatic fire bonus even if they are not automatic fire weapons. This represents the effects of multiple pellets fired from the weapon. Those weapons which receive this bonus and also are capable of automatic fire (as indicated by the presence of an asterisk after the auto fire bonus number) double their auto fire bonus when firing on the automatic fire setting. Thus, a 4 cm RAM grenade launcher firing flechette rounds on the automatic fire setting will receive a DM of +8, or enough to ensure a hit at most ranges unless other factors adversely modify the die roll.

3. Concealment: If a unit is concealed (for definition see rule 14) all fire against it is with a DM of -1.

4. Evasion: If the target is evading, the fire is resolved with a DM of -1. An evading target may also receive the benefit from concealment, if appropriate.

5. Movement: If the firing unit moved in its previous movement phase, it may be subject to a DM on its fire. See rule 16.

Fast-moving vehicles are more difficult to hit. Vehicles travelling at over 100 kph receive a DM on fire against them, as stated on the DMs to fire chart. The DM depends on the actual distance moved, not on a vehicle's available or expended movement allowance.

6. Size: The basic rolls to hit are designed for man-sized targets. Most vehicles and heavy weapons are considerably larger, and are easier to hit. A weapon may fire at a vehicle either low (at the chassis) or high (at the turret or superstructure). There are different DMs for the two areas; see the listings in Book 3.

C. Explosive Rounds: The procedure for resolving hits by HE rounds includes an additional complication. Each HE round (of sufficient size) has a burst size, listed in Book 3; the burst area is a square with each side of the indicated size. The normal die roll to hit is for a contact hit, and is directed against the intended target. Regardless of whether the round hits its target, each unit within the burst area (including the target unit) is subjected to a fragmentation attack. When firing at personnel, the center of the burst area is the center of the stand. Each individual in the burst area is attacked; the roll is 8+, with all DMs as above. Weapons with no listed burst sizes do not make fragmentation attacks.

Plasma and fusion guns also have burst sizes and make fragmentation attacks.

D. Hit Assignment: If the dice throw, as modified, is equal to or greater than the required number to hit, the indicated number of hits are scored on the target. If the target is an individual, all hits are on that individual. If the target is a team of more than one individual, the hits are distributed evenly, with uneven numbers of hits distributed randomly by die roll. For example, if five hits were received by a four-man fire team, each man would be hit once and a die roll would determine which soldier received the fifth hit. All stands which are touching each other and are under the same degree of cover and concealment are considered as a single target when resolving hits. Weapons units are treated the same as personnel units except that the weapon itself is treated as another individual when allocating hits. All hits against a vehicle hit the vehicle.

E. Damage: For each hit a target receives, the player determines if it has been damaged, and if so to what extent. For damage procedures see rules 28, 29, and 30.

Rule 18: Grenades

Grenades may be thrown or fired from a grenade launcher or specially equipped rifle. In most cases, grenades function in the same manner as other direct fire weapons. HE grenades with a listed burst size function as normal HE rounds. HE grenades without a listed burst size work differently. There is only one roll to hit. The first hit received is a fragmentation hit, the second is a contact hit, and all further hits are fragmentation hits. For example, if a 14 is rolled in an attack at effective range, the target would receive 4 hits: one contact hit and three fragmentation hits. These hits are distributed randomly among the soldiers on the target stand. Penetration values for the two types of hits are different, as listed in Book 3.

Rule 19: Tac Missiles

Several types of tac missiles are included in the Book 3 equipment lists; in most respects they function like other direct fire weapons, with the exception that each missile fired counts as a separate attack. Therefore, regardless of how high the die roll to hit is, at most one hit may be achieved. The various types of tac missiles have different capabilities and limitations. These types are explained below.

A. Operator Guided: An operator guided missile is flown to the target by the gunner. The gunner must be able to see the target to direct the missile, and thus operator guided missiles are like other direct fire weapons with the following exceptions:

1. The hit bonus for operator guided missiles is (instead of an auto fire bonus) an accuracy bonus for precise guidance. Only one operator guided missile may be fired by a single gunner in a phase, since he is required to control the round until it hits its target. Operator guided missiles have only a single range (effective range) listed.

2. The command link between the gunner and the missile is listed as being wire, radio, laser, or maser. Wire guided missiles are not subject to jamming. Radio guided missiles may be jammed (see rule 11); the range to the jammer is calculated from either the target or the launcher, whichever is closer. Laser guided missiles are affected by smoke, but may fire at targets protected by anti-laser aerosols; see rule 27. Maser guided missiles may not be jammed.

3. Operator guided missiles may not be fired by a vehicle performing a popup, nor may they be fired at a vehicle performing a popup, unless the vehicle is visible in its NOE position.

B. Target Designated: Target designated tac missiles will guide themselves to targets which are "painted" by a spotting laser. The procedure for designating targets by laser is explained in rule 27. The designator must have a clear line of sight to the target and laser designation may be prevented if the target is concealed by smoke or anti-laser aerosols; again, see rule 27.

The following special rules apply to laser designated missile fire.

1. The gunner may fire an unlimited number of missiles in a fire phase (one per launcher under his control), provided a separate laser designator is available for each target. More than one missile may be fired at the same target and guided by the same laser.

2. There is no die roll to hit; a laser guided missile will always hit its intended target unless shot down by a point defense system (see Book 2) or obscured by smoke or aerosols (see rule 27).

3. Target designated missiles may be fired from a popup, but may not be designated from a popup. They may not be fired at a vehicle performing a popup unless the vehicle is also visible in its NOE position.

C. Homing: Homing missiles contain sensors designed to detect and home in on sources of magnetic or thermal emissions. The following special cases apply:

1. Only a single range band, effective range, is listed for homing missiles. All fire is considered to be at effective range. Homing missiles may be fired only at vehicles. The gunner may fire one missile per launcher under his control.

2. There is a DM on the roll to hit equal to twice the difference in tech levels between the target vehicle and the missile; the DM is positive if the missile has a higher tech level and negative if the vehicle has a higher tech level.

3. If the target vehicle has ECM capability, subtract 2 from the die roll to hit. If the target vehicle has extensive ECM capability, subtract 4. This DM is reduced by 1 for each tech level by which the missile exceeds its target, down to a minimum ECM value of zero.

4. Homing missiles may be fired from popups, but may not be fired at vehicles performing popups unless the vehicle is also visible in its NOE position.

D. Teleguided: Teleguided missiles are essentially the same as operator guided missiles, except that the gunner does not have to have a clear line of sight to the target after the missile is fired; a TV camera in the missile's nose presents him with a continuous target picture. Therefore teleguided missiles may be fired freely by and at vehicles executing popups. Teleguided missiles are possible only with radio command links.

E. Target Memory: Target memory missiles contain both a TV camera and thermal and magnetic sensors, and are more commonly called "fire and forget" missiles. The following special rules apply:

1. The missile has an accuracy bonus, similar to that for an operator guided missile. The gunner may fire one missile per launcher under his control.

2. Target memory missiles are easier to confuse by movement than other types. Book 3 lists a movement multiplier for each missile; the target vehicle's speed is multiplied by this number before determining the DM for target movement on the DMs to fire chart.

3. Target memory missiles may be fired from popup, but may not be fired at a vehicle performing a popup unless the vehicle is also visible in its NOE position.

G. IR Follow-up: An IR follow-up missile will follow another missile launched in the same phase within 5 cm of it, hitting the same target in the same spot. The listed penetration of a follow-up missile is for both the lead missile and the follow-up missile, and thus only one attack is run for both missiles with a single larger penetration. If the lead missile misses or is shot down, the follow-up missile will miss; if the lead missile hits the follow-up missile also hits.

The lead missile of a follow-up missile system may have any of the guidance types listed above. The follow-up missile may be fired by the same gunner (from a different launcher under his control) or by a different gunner. Even if the gunner may usually fire only one missile per turn (operator guided and teleguided), he may also fire a follow-up missile.

Rule 20: Indirect Fire Procedures

Indirect fire is defined as fire directed at any position the firing unit cannot see. Indirect fire may be performed by any weapon listed as indirect fire artillery in Book 3; these weapons are chemical propellant artillery (mortars, howitzers, and field guns) and mass driver guns. In most cases, these units will not be present on the battlefield, but will be firing from several kilometers away. A unit may fire indirectly only if it receives a fire mission order in the command phase (see rule 21).

A. When Units Fire: A unit which is ordered to conduct indirect fire will fire only once per turn, in the enemy fire phase. Indirect fire is resolved at the beginning of the fire phase, before any direct fire is resolved. In addition, units moving into or through the beaten zone of friendly artillery are attacked during the movement phase; units in the beaten zone at the beginning of the phase are not attacked.

B. Targets: Indirect fire is aimed not at a specific vehicle or stand, but at an area,

and will affect any and all units in the target area. The center of the target area is designated by the person who ordered the fire mission; see rule 21. This point may deviate from its intended position; see rule 22. The size of the target area depends on the number of rounds fired and their degree of dispersion; see rule 23.

C. Set-Up: Weapons must be set-up before they are capable of indirect fire. The time required to set-up, in complete turns, is listed in Book 3. No movement or fire is allowed while the weapon is setting up. For towed weapons, the same amount of time is required to ready the weapon for movement after it has been set-up.

Vehicle-mounted weapons, as noted in Book 3, require only half the set-up time as a towed weapon, and require no time to prepare for movement.

D. Off-Map Artillery: Much of the time, because of its great range, artillery will not have to be present on the playing surface, being able to perform its mission from several kilometers to the rear. The following rules are required:

1. Placement: Before the game the referee should draw small maps of the terrain beyond each end of the playing surface, showing roads and major obstacles to movement. A convenient method is to draw the map on graph paper at a greatly expanded scale (which will depend on the distance that must be accommodated). The referee will then inform each player how much, if any, artillery he has and where it is located (or players may be allowed to determine some of this themselves). The artillery's position on the map will determine its range to targets on the battlefield. Artillery will be located in positions close enough to the battlefield for reasonable accuracy but far enough to be safe from shorter-ranged weapons.

2. Displacement: A player may find it desirable to move his artillery to a different location. This may be to put it in range of some newly-located target or to move it out of a position already located by the enemy. The player may move it to another location off the playing surface or he may move it onto the battlefield. Moving units pay the same movement costs as they would moving on the battlefield; distance moved on the map depends on its scale. Units which set-up or leave firing positions must pay the regular set-up time costs.

3. Fire: Units which are off the battlefield may not be spotted and may not be fired at by direct fire. They may be spotted only by counter-battery radar and may be fired at by indirect fire. See rule 26.

Rule 21: Fire Missions

Artillery may conduct indirect fire only if it has received a fire mission order during the command phase. Once it has received the order, the weapon crew will begin to carry it out; actual arrival of the fire at the target will always be delayed by at least one turn. When the fire arrives it may miss the target area (see rule 22), and another order may be necessary to correct the aiming point.

A. Ordering a Fire Mission: A fire mission consists of an order to an indirect fire unit, specifying its target and other necessary information. This order takes one turn, during which time neither the officer/NCO or forward observer (FO) giving the order nor the unit receiving the order may perform any other action. Even high initiative units require orders to perform indirect fire missions. A fire mission order may not be given to a unit while it is performing another fire mission, although it may be ordered to stop its current fire mission. A fire mission order may not be given to a unit unless it has already set-up for indirect fire.

1. Who May Order a Fire Mission: Any officer may order a fire mission from

any unit; a high initiative officer may order any fire mission; an average initiative officer may order fire missions which are consistent with the orders he has been given. Any high initiative forward observer may order fire missions to be performed by his own company or battery. Any high initiative NCO may order fire missions to be performed by any unit normally under his leadership.

2. Requirements: To order a fire mission, an officer/NCO or FO must be in communication with the firing artillery unit. A forward observer or NCO of the firing unit must be able to see the intended target point. An officer must either be able to see the point or must be in communication with a qualified individual who can; qualified individuals are any high initiative NCO under the command of the officer or any average initiative FO of the same company or battery as the firing unit who has been attached to the officer's command. The individual who can see the target (whether or not he orders the fire mission) is called the observer.

3. Delay: During the turn the fire order is given the artillery will not fire, since it is receiving orders. After that the crews may require some adjustment time before they begin firing: high initiative crews take no time, average initiative crews take 2 turns, and low initiative crews take 4 turns. A mission is fired with the delay time of the worst crew firing. After the artillery begins firing there may be additional delay while the rounds are in flight: if the range is 5 km or less there is no delay; if the range is more than 5 and less than 10 km there is 1 turn of delay; there is 1 additional turn of delay for each additonal 10 km or fraction thereof. The total delay is the sum of all these components. Thus, if an elite crew is ordered to fire at a range of 13 km, the fire will begin arriving on the third turn following (the current turn is spent receiving the order, and the rounds spend two further turns in flight).

4. The Fire Mission Order: The order calling a fire mission must contain several components.

a. The unit firing. This may be any section, platoon, battery, or in some cases a single weapon. The various weapons of a battery may be ordered (in separate orders) to conduct different fire missions (as many as one per weapon). This capability is limited by the capacity of its fire control system. See Book 3.

b. Intended target point. This point may be marked on a map of the battlefield or may be described with reference to an easily identified terrain feature.

c. Firing sheaf. The firing sheaf is described in rule 23.

d. Ammunition type. A single type of ammunition must be selected from among those the weapon is capable of firing. HE missions must also be declared as air burst or ground burst.

e. Duration. The order must list the number of turns the mission will last. Of course, a mission may be canceled by an order before this time.

f. Turn of impact. The order must state the first turn the mission will arrive on the battlefield, considering all delays. This is an aid to the referee.

g. Laser designated rounds have further requirements. See rule 27.

A typical mission order might read, "Battery B, six cm east of map coordinate D5, converged sheaf, CBU ammunition, four turns starting turn 7".

B. Adjusting Fire: Often the first rounds of a fire mission will miss the intended target. If so, another order may adjust the fire onto the target. The individual who called the fire mission, or any qualified observer subordinate to him, may adjust fire. In order to adjust, the observer must be able to see the intended target point (but

not necessarily the point where the rounds actually hit), and must be in communication with the firing unit. The adjustment order from a subordinate may be relayed through the officer who ordered the mission, if by some chance the subordinate cannot communicate directly with the firing unit; they are both considered to be spending the turn giving the order. The firing unit may continue to fire while receiving an adjustment order. The only delay suffered is that caused by flight time, as above (thus an adjustment order given to a firing unit within 5 km of its target takes effect immediately). The effects of adjustment are covered in rule 22.

Rule 22: Deviation

Artillery fire will seldom hit its intended target on the first attempt, and thus it will be necessary to correct it onto target. Reference will be made throughout the deviation rule to the mean point of impact (abbreviated MPI). The MPI is an abstract point representing the center of an artillery mission's beaten zone (the area covered by impacting shells and their burst areas). If only one round is fired, its impact point is the MPI. If several rounds are fired they will cluster around the MPI, as determined by the firing sheaf (see rule 23).

A. General Procedure: When an artillery fire mission arrives on the battlefield, roll two dice and consult the deviation distance table. The die roll is modified by the distance to the target, the accuracy of the firing weapon, and by the quality of the weapon crew. Distance DMs are noted on the chart. The accuracy number of the weapon is listed in the weapon data charts and is applied as a positive or negative DM. Note that two accuracy DMs are given for each weapon. The first is used when the weapon is firing at up to half its maximum range, the second when firing at over half range. There is a DM of +4 for a high initiative crew and -4 for a low initiative crew; there is no DM for an average initiative crew. If the weapon has more than one stand of crewmen, use the initiative level of the highest initiative stand. If more than one weapon is firing in the mission, use the initiative level of the lowest gun crew (but with the initiative of that crew still determined by the best stand in the crew). Accuracy is also improved if the mission's observer has a map box; if so, there is a DM of +1. The result on the chart is the distance the MPI deviates, in centimeters, from the intended target point.

If any result other than *on target* is rolled, roll the dice again and consult the deviation direction table. Eight possible directions are given. The MPI is moved in the indicated direction the distance already determined. The fire is then resolved against any targets which may happen to be in the beaten zone. Note that not all possible directions of scatter have the same chance of being rolled. The axis of scatter shown on the chart is the line from the firing unit to the target.

B. Corrections: If no fire adjustment order is given (as described in rule 21), the fire will continue to fall where it originally hit, either until the weapons fire the number of turns specified in the original fire order or until ordered to cease fire. If a fire adjustment order is given, the deviation is rolled again. The observer must be able to see the intended target point. If he cannot see the actual MPI (because of deviation behind a hill or other obstructing feature) the roll is conducted just like the previous deviation roll. If he can see the MPI, there is a favorable DM, +1 if he has average initiative and +2 if he has high initiative. This DM is cumulative, and thus in the second turn in which corrections were given a deviation roll would have a DM of +2 if the observer was average and +4 if he was high initiative. Once

an *on target* result is rolled, no further deviation is rolled for and subsequent fires hit the target. The player may at any time declare that no further corrections are necessary, and rounds will fall on the last point hit. (For example, a fire mission is targetted on a bunker. After two turns of correction, the MPI is not yet on the bunker, but the bunker is in the beaten zone of the fire, and so is a previously unspotted enemy unit. The player decides that this is better than his original intended target, and stops correcting.)

Rule 23: Firing Sheaf and Beaten Zone

When an artillery unit fires, the area covered by its shells and their bursts is referred to as its beaten zone. For simplicity, the beaten zone of an artillery fire mission is defined as square. The size of the beaten zone is determined by the number of rounds fired, the burst area of each round, and the type of sheaf selected by the firing player.

A. Burst Area: The data charts indicate the burst size of a shell from each listed weapon, in centimeters. The actual burst area on the map is a square with sides the length given on the chart. Thus a weapon with a listed burst size of 2 cm would have a burst area covering a square 2 cm by 2 cm in size. Air burst HE missions have a burst size twice that listed, CBM missions four times that listed. HEAP rounds use the burst size to determine their firing sheaf, even though they have no actual burst.

B. Number of Rounds: The beaten zone of a unit is found by determining how many rounds are fired by the unit in a turn. The data charts indicate the rate of fire of each weapon in terms of the number of rounds fired per turn. For example, a weapon with a listed rate of fire (ROF) of 3 would fire 3 rounds in each turn in which it fired. The total number of rounds fired by a unit is determined by multiplying the number of weapons firing by the ROF of the weapon. For example, a battery of four guns, each with an ROF of 5, would fire a total of 20 rounds in a turn. A weapon with a fractional ROF fires less than one round per turn; for example, a weapon with an ROF of 1/4 fires once every 4 turns. The ROF may be modified by the initiative of the crew; a low initiative crew fires with the printed rate of fire of an otherwise identical weapon four bore sizes larger; a high initiative fires at the rate of a weapon two bore sizes smaller; the ROFs of autocannons and weapons with automatic loaders are not modified.

C. Beaten Zone: The beaten zone of a fire mission is a multiple of the burst area of a single round; the multiple depends on the number of rounds fired, as shown on the beaten zone table. If the exact number of rounds fired is not shown on the table, use the multiplier corresponding to the highest value on the table which is lower than the number of rounds actually fired. The beaten zone is a square with each side equal to the multiplier times the burst size of a single round. For example, if the battery noted above fires (a total of 20 rounds), the beaten zone multiplier used would be the one for 16 rounds, which is 4. Thus, if the weapon's single-round burst area was 2 cm by 2 cm, the unit's beaten zone would be 8 cm by 8 cm.

D. Firing Sheaf: The beaten zone table lists only the beaten zone of a normal firing sheaf (the pattern of rounds falling around the MPI). Two other types of sheaves are available, a dispersed sheaf and a converged sheaf. A dispersed sheaf's multiplier is determined as if twice the actual number of rounds had been fired. A

converged sheaf's multiplier is determined as if half the actual number of rounds had been fired (round fractions down). For example, the battery described above would have a converged sheaf 6 cm on a side (multiplier of 3) and a dispersed sheaf 12 cm on a side (multiplier of 6). The effects of different sheaf types are defined in rule 24.

A third type of sheaf, the scattered sheaf, occurs only as a result of point defense fire; see Book 2.

Rule 24: Indirect Fire Hit Determination

Five types of ammunition may be fired in indirect fire: high explosive (HE), cluster bomblet munitions (CBM), high explosive armor piercing (HEAP), incendiary, and chemical smoke. HE may be either ground burst or air burst. Incendiary and smoke rounds are treated in rules 32 and 33. The other three types are treated similarly, as described below:

A. Types of Rounds: Rounds differ in several respects.

1. Ground Burst HE: This type of round may inflict contact hits and fragmentation hits. All ground burst HE fired into dense trees becomes air burst HE.

2. Air Burst HE: This type of round (actually the same round as ground burst with a different fuse) inflicts fragmentation hits only, but its burst size is twice that specified for the weapon.

3. HEAP: This type of round inflicts contact hits only.

4. CBM: This type of round inflicts both contact hits and fragmentation hits. Its burst size is four times that specified for the weapon.

B. Hit Procedure: Each target in the beaten zone rolls once for each applicable hit type (contact or fragmentation). Unlike direct fire, each individual soldier is a separate target.

1. Contact Hits: Roll for each target in the beaten zone. On a modified die roll of 11+ it receives one contact hit. Only CBM rounds may achieve more than one contact hit; they get one additional hit for each 2 higher than 11 rolled. The following DMs are applied, and are cumulative: converged sheaf, +1; dispersed sheaf, -1; scattered sheaf, -2; CBM ammunition, as listed for the weapon.

2. Fragmentation Hits: Roll once for each target in the beaten zone (even those which have already received contact hits). On a modified die roll of 10+ the target receives one fragmentation hit. The round achieves one additional fragmentation hit on the target for each 2 higher than 10 rolled. The following DMs are applied, and are cumulative: converged sheaf, +2; dispersed sheaf, -1; scattered sheaf, -2; CBM ammunition, as listed for the weapon.

C. Damage: For each hit a target receives, the player determines if it has been damaged, and if so to what extent. For damage procedures see rules 28, 29, and 30.

Rule 25: Direct Fire by Indirect Fire Weapons

Indirect fire weapons are also capable of direct fire. Most weapons have direct fire information listed for them in Book 3, and their fire is resolved as described in the direct fire section. Weapons which do not have any direct fire information (mortars and any other weapon without direct fire control) may still conduct direct fire, but the fire is resolved like indirect fire; that is, the unit is firing with the same high angle involved in indirect fire, but the gunner is directing the fire himself, without fire mission or adjustment orders. An intended target point is selected, in

the phase in which the weapon is fired, and deviation takes place. In the next fire phase (not necessarily the next turn) the fire may be corrected. Instead of a DM for observers there is a DM to the deviation die roll of +2 per phase of firing, including the first.

Indirect fire weapons with direct fire statistics may choose to fire in this manner instead. Some types of ammunition (notably CBM) have no direct fire statistics and may only be fired directly in this manner. When using indirect fire information to fire directly, a weapon's rate of fire is cut in half.

Rule 26: Counter Battery Fire

If counter battery radar is available, it can be used to locate enemy indirect fire weapons. Location of the site of the enemy weapons allows a player to use that site as the intended point of impact of an artillery fire mission.

A. Location: The die rolls to locate various types of weapons are listed for radars of each tech level in Book 3. If the rounds fired have variable ballistics (see Book 3) there is a DM (either + or -) of twice the difference in tech levels between the radar and the weapon; if the rounds fired do not have variable ballistics, the weapon's tech level is considered to be 7 (even if it is actually less). There is an additional DM of +2 per turn after the first that the weapon fires from the same position. Each radar in use is allowed one die roll per turn against each firing position.

B. Fire: Counter battery fire requires a fire order, just like any other fire mission. All usual indirect fire procedures are followed, with these additional accuracy DMs: +1 per turn that the weapon fires from the same position after it has been located, plus the accuracy DM listed for the radar in Book 3 (if more than one radar has found the weapon, use the best DM and add +1 for each additional radar). However, no fire adjustment orders are possible unless a friendly observer is able to see the target.

C. Off-Map Artillery: For missions against artillery not on the battlefield, deviation is resolved in a simplified manner: do not roll for the direction of deviation; if the deviation distance is less than half the size of the firing sheaf, the enemy battery is in the beaten zone; resolution proceeds as for any other fire mission. If the enemy unit has moved since firing, it may not be hit if it has moved a distance equal to more than half the size of the beaten zone; otherwise, it may be hit as if it had not moved.

Rule 27: Lasers

Lasers are used in a number of different roles in combat: as weapons, communications links, rangefinders, tac missile command links, and target designators. Most of these functions are subsumed in other rules; however, a few points require special consideration.

A. Laser Target Designation: Target designated tac missiles and artillery rounds are capable of seeking a target which has been illuminated with laser light by friendly troops. Laser carbines and rifles, or vehicle-mounted lasers of similar power, are used; when designating targets they are on a low power setting and do no damage. The procedures differ somewhat for direct and indirect fire.

1. Direct Fire: Each laser paints a target (a specific stand, weapon, or vehicle) within its extreme range. Before firing any missiles, the player must state which missiles will follow which lasers; any number of missiles may be designated by a

single laser. There are restrictions on who may designate targets. In order to designate for a gunner, a soldier must be in communication with him. The gunner may designate for himself. Anyone in the same vehicle or in direct verbal communication may designate. Any high initiative soldier or any average initiative soldier who has been ordered to do so may designate. In addition, any soldier being led by an officer/NCO capable of designating may designate.

2. Indirect Fire: For indirect fire with laser designated rounds, a fire mission order is given as usual, rounds are fired, and deviation is determined. After the MPI has been determined, the actual point of impact will move up to 35 cm in the direction of the spot being designated by the laser. Note that the original MPI is the point at which the rounds will fall if laser designation ceases; fire adjustment orders will change the original MPI. A fire order for laser designated rounds may contain two additional pieces of information.

a. Designating Laser: The order must state which lasers will designate for the mission. Each laser capable of designating should be identified by a unique code (a single letter is enough). More than one laser may be stated in an order; in this case there are two different options. The rounds fired by the mission may be divided evenly among the lasers mentioned; or all rounds may be assigned to each laser mentioned, in which case only one may designate at a time (the rest are backups in case the first laser is silenced before the rounds arrive). If a laser listed in the fire order is not operating, its rounds will fall at the original MPI.

There are restrictions on who may designate targets. The designator need not be in communication with the firing unit. The individual who called the mission, or anyone capable of adjusting fire for that mission, may designate, as may any soldier in direct verbal communication with or being led by one of these. Of course, only a laser specified in the fire mission order may designate in any case.

b. Point Attack: Instead of specifying a sheaf, the mission may be declared a point attack. All rounds will impact exactly on the target designated by the laser. Each round is resolved individually, as a normal sheaf with the burst size of a single round; in addition, if the target is a vehicle, building, or fortification, it receives one automatic contact hit per round. If the target is more than 35 cm from the original MPI, the rounds land instead in a converged sheaf.

B. Obscuration: In addition to the usual blocks to the line of sight, there are three forms of obscuration which have a special effect on lasers: dense smoke, anti-laser aerosols, and prismatic anti-laser aerosols; mist smoke has no effect. All these are completely transparent to lasers of tech level 13+. At lower tech levels, lasers may be stopped.

1. Release: Units may release aerosols from aerosol bottles. One bottle protects one stand or vehicle; stationary units are protected for four turns, moving units for one turn. Both players may release aerosols at the start of either player's movement phase; in addition, if a vehicle has laser sensors, it will automatically release one aerosol bottle each time the sensor successfully detects a laser. Smoke is fired by artillery (see rule 33).

2. Effects on Non-Weapon Lasers: Lasers which are not being used as weapons (communicators, target designators, etc.) may go through up to 1 cm of smoke without effect and are completely stopped by any greater amount. Weapons equipped with laser rangefinders (all those with tech level 7-12 direct fire control) suffer a DM to hit of -1 at effective range, -2 at long range, and -3 at extreme range

if the laser is blocked. Units protected by aerosols may not be designated by laser target designators, and all non-weapon laser fire in or out is blocked. However, an operator guided missile with a laser command link may still hit a vehicle protected by aerosols.

3. Effects on Weapon Lasers: Smoke, aerosols, and prismatic aerosols are treated as armor against laser weapons (including laser carbines used as weapons). Each centimeter of dense smoke has an armor value of 25 against lasers of tech level 7-8, and 20 against lasers of tech level 9-12. An anti-laser aerosol protecting a unit has an armor value of 50 against tech level 7-8 lasers, and 45 against tech level 9-12. A prismatic aerosol has an armor value of 80 against tech level 7-12 lasers.

C. Laser Sensors: Certain vehicles are equipped with laser sensors which will detect the fact that a laser is contacting the vehicle. The vehicle listing will indicate the die roll necessary to detect the laser; if successful, the unit firing the laser is automatically spotted. In addition, if the target vehicle is equipped with anti-laser aerosols, it may immediately discharge them if contacted by a non-weapons laser. Laser sensors will not enable discharge of aerosols against a weapons laser; the laser does its damage before the sensor can react.

Rule 28: Personnel Wounds

Once a target soldier has been hit, it is necessary to determine what, if any, damage was done. This is done by rolling two dice, modifying the roll as explained below, and comparing it to the results listed on the damage table.

A. Cover: If the target soldier is under cover, he is partially protected from fire. Personnel are under cover if inside a building or fortification, behind a wall or hillcrest, or in a gully, or, if they did not move in their previous movement phase, in an area of trees or a boulder field. A unit under cover must declare in its movement phase whether it is hidden or exposed. If it is hidden, it may not fire, attempt to spot, or observe for artillery fire, but all hits against it strike the cover. If the unit is exposed, it may fire and observe normally, and half of all hits against it (rounded up) strike the cover. See B3 below for effects.

A unit under cover from direct fire may not be under cover from indirect fire. A unit is under cover from fragmentation hits by ground burst HE and CBM only if its cover provides 360° protection; it is under cover from all contact hits and from fragmentation hits by air burst HE only if it has overhead protection (in which case all such fire strikes the cover).

B. Dice Roll Modifications:

1. Weapon Penetration: Each weapon has a penetration rating listed for it at each of its ranges. This is the number in parentheses on the weapons chart. For example, a carbine has a penetration of 2 at effective range, 1 at long range, and 0 at extreme range. Add the penetration number to the die roll.

2. Armor: A variety of body armor types are available, each with an armor class rating. Battle dress, for example, has an armor rating of 10. The armor class of the armor being used is subtracted from the dice roll.

Example: A soldier fires an advanced combat rifle (ACR) using discarding sabot ammunition at a target in combat armor, not under cover. The firing player obtains a hit and rolls a 9 on the damage table. To this, the penetration of the weapon (4 at effective range) is added and the value of the combat armor (8) is subtracted, for a net DM of -4, thus reducing the roll to a 5 and causing a light wound.

3. Cover: If a shot hits the protected portion of a man under cover, he receives the benefit of the cover's armor value as well as his personal armor. See multiple armor DMs, below. If a shot hits the exposed portion of a man under cover, he gets no benefit from the cover; instead a DM of +2 is applied to the die roll, since the exposed areas (notably the head and upper torso) are more susceptible to injury than the body as a whole. This DM is not added if it would alter a no effect result to a wound.

4. Multiple Armor DMs: If a target is protected by more than one type of armor (for example, a soldier in a stone building who is also wearing battle dress), he receives the benefit of both; however, since armor value is determined on a logarithmic scale, the two are not simply added together. The larger armor value is increased by from +1 to +8 (if at all). To determine how much the larger armor value is increased, subtract the smaller armor value from it; using the remainder, consult the armor combination table to determine the modifier.

For example, suppose a soldier is in a building of armor class 25, wearing battle dress of armor class 10. The difference is 15; consulting the armor combination table gives a modifier of +2, so the total armor class is 27.

C. Types of Wounds: There are three types of wounds: light wounds, serious wounds, and death.

1. Light Wound: A light wound on a recruit removes him from play immediately. A light wound on a regular allows him to remain in play to a limited extent. All of his fires are conducted with a DM of -1 and he may not move. If part of a fire team, he is removed from play as soon as the fire team moves. He is also removed if he receives a second light wound. A light wound on a veteran allows him to continue functioning with a DM of -1 on all fires; a second light wound gives him an additional DM of -1 and otherwise affects him in the same way as the first light wound on a regular. A third light wound removes him from play. A light wound on an elite allows him to continue functioning with a DM of -1 to all fire. An elite may suffer an unlimited number of light wounds and continue functioning for purposes of the game, but each wound causes an additional DM of -1 for firing.

Regardless of whether a soldier continues to function as a result of a light wound, he is considered a casualty for morale purposes.

2. Serious Wound: A serious wound removes a soldier from play. The difference between a serious wound and death is unimportant in the basic game.

3. Death: A result of death removes a soldier from play, not surprisingly.

D. Exploding Rounds: All contact hits on a soldier from exploding rounds which cause wounds become one level more serious than rolled. Light wounds become serious wounds; serious wounds become death. No effect remains no effect. Exploding rounds are HE, HEAP, KEAPER, CBM, lasers, and plasma and fusion guns. All direct fire hits not otherwise specified are contact hits.

E. Recording Casualties: Casualties should be marked on the player's unit card and shown on the figures as well. Casualty caps, washers, gummed paper reinforcing rings, or any of a variety of means are available to designate which soldiers on a stand have been hit and removed from play. In the case of individually mounted soldiers, simply remove the figure from the board.

F. Effects of Casualties: Each casualty suffered by a stand or vehicle crew gives it a permanent morale modifier of -1. Its morale and initiative are not otherwise changed. If an officer or NCO is eliminated, the stand he was on is no longer

capable of exercising command.

1. Effects on Infantry: If an officer is eliminated, the stand he was on retains its previous morale but its initiative changes to that normally associated with its initial morale. If a soldier is eliminated, another soldier may pick up and use his weapon.

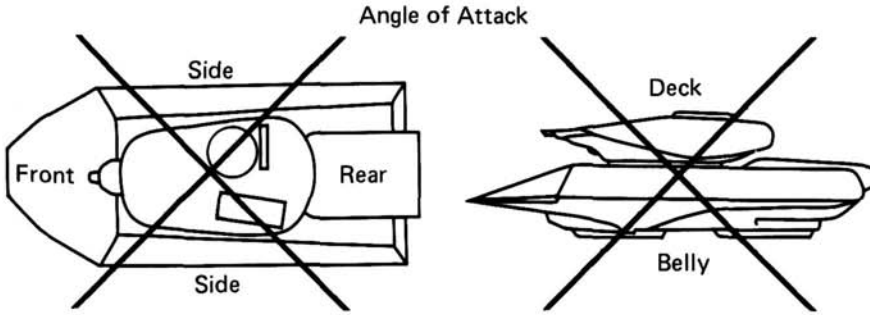
2. Effects on Weapon Crews: If a gunner is eliminated, another member of the crew must take over that position. If crew members are eliminated, a weapon's fire may be slowed. If a crew is reduced to less than its normal crew size (listed in Book 3) its indirect fire ROF is halved; if it is reduced to less than its minimum crew size, it may not conduct indirect fire and it may not achieve multiple hits in direct fire.

3. Effects on Vehicle Crews: If any crew member is eliminated, his place may be filled by another crew member. If the commander is eliminated, the crew member with the highest morale takes over; his morale and initiative determine that of the crew. The commander may command from any crew position, but he may not command while performing his other function (gunnery, for instance); none of the other crew members may do anything while the commander is not commanding. To replace a crew member other than the commander, the crew member replacing him must move to the proper station, which takes two turns. For example, if the driver is killed, the loader may replace him by moving to the driver's seat in two turns; of course, he is no longer a loader. If the driver is eliminated, the vehicle may not move. If the gunner is eliminated, his weapon may not fire. If the loader is eliminated, his weapon may be fired only in the friendly fire phase and may achieve at most one hit.

Rule 29: Vehicle Damage

In order to resolve damage to vehicles, a number of factors must be considered.

A. Hit Location: A vehicle may be hit either high or low, as decided by the player before he fires. If hit high, it has been hit in the turret or superstructure; a low hit impacts against the chassis. The vehicle data section of Book 3 indicates the different DMs to hit for high and low shots. Any shot against the bottom of a vehicle must be a low shot.



B. Angle of Attack: Since vehicles generally have varying thicknesses of armor on their various sides, the angle of attack is important. There are five possible angles of attack: front, rear, side, bottom, and overhead. The angle of fire against an armored vehicle will determine which angle of attack is used, as illustrated in the diagram above. Most shots will be against the front, sides, or rear of the vehicle;

overhead shots are generally achieved by contact hits from indirect fire weapons, shots delivered from the upper story of a building at a vehicle in the street below, or by grav vehicles against vehicles below them. Bottom shots are generally only made by mines or against grav vehicles flying directly overhead.

C. Cover: If a vehicle is under cover, it is partially protected from fire. Vehicles are under cover directly behind hillcrests or, if they did not move in their previous movement phase, inside buildings. A vehicle behind cover must declare in its movement phase whether it is hidden or exposed. If hidden, it may not fire, attempt to spot, or observe for artillery fire, but all hits against it strike the cover. If the vehicle is exposed, it may fire and observe normally, and all low hits strike the cover. Cover adds to the armor class of a vehicle, as explained in rule 28.

D. Damage Tables: Vehicle damage is a two step process. First, roll one die on the correct vehicle penetration table for the round being used. There are three tables: one for hits by HE rounds, one for KEAP rounds, and one for all other rounds (including lasers and plasma/fusion guns). Weapon penetration and vehicle armor are used as DMs on these tables. There are three possible results (in addition to no effect): major penetration, minor penetration, and from 1 to 3 surface damage results. Then roll again on the correct vehicle damage table; in the case of multiple surface damage results, roll 2 or 3 times. The surface damage table uses two dice; all others use one die. For minor penetration there are several tables, one for high hits and one each for low hits at every angle of attack. There is only one table for all major penetrations. Results are explained on the tables.

Rule 30: Weapons Damage

Hits on light and heavy crew served weapons are resolved in two steps. The procedure is similar to that for vehicles. First, roll on the vehicle penetration table; all weapons have an armor value of 10. Then roll again on the correct weapon damage table to determine the final result.

If a weapon is equipped with a gun shield, the crew is considered to be under cover against all direct fire from the front; all hits strike the shield, which has an armor value of 10.

Rule 31: Damage to Structures

Each square cm of ground area of a building has 10 structural points. Weapons hits cause damage, depending on their type and penetration. Hits from KEAP cause no damage. Hits from other rounds and from energy and laser weapons, if they penetrate, cause damage according to the table at left. The first value is the value by which the weapon's penetration exceeds the armor class of the building. For example, a building area with armor class 5 loses 2 structural points if hit by an HE round with a penetration of 15 through 19.

Penetration	*Damage*	
minus Armor	*HE*	*Other*
1 to 9	1	0
10 to 14	2	1
15 to 19	4	2
20 to 24	8	4
25+	10	6

All direct fire aimed at a building, or at a target inside the building, hits the building (whatever else it may do). If a building is in the beaten zone of indirect fire, it suffers one hit per single-round burst area it covers; for example, if the burst area of a single round is 2 cm by 2 cm or 4 square cm, a building which is 3 by 6 cm, or 18 square cm, will be hit 4 times. Each hit is against a different square

cm of the building. This figure is doubled for a concentrated sheaf and halved for a dispersed sheaf. Units inside the building roll for hits separately.

If a square cm of a building takes 10 points of damage, it collapses; each cm is affected separately, but if a cm collapses each adjacent cm takes 1 point of damage. When a building collapses, each man or vehicle inside is attacked (and automatically hit) with a penetration equal to half the building's armor class (rounded up), +1 per story above the first. Units which survive are buried; grav vehicles extricate themselves on a roll of 8+ per turn, ground vehicles on 10+, and individuals on 12+, DM +1 for each unburied individual assisting the attempt.

After a building has collapsed, some sections of exterior walls are still standing, much reduced in height, and the area is otherwise filled with rubble. The walls provide concealment and cover to infantry and light weapons; there is no cover or concealment from overhead. Movement costs are the same as for broken ground.

Rule 32: Combustion

Flammable buildings and vegetation may be set on fire by incendiary rounds, energy weapon or laser hits, or deliberate arson.

A. Buildings: Any building except a military bunker or pillbox may be set on fire; wood frame buildings are easiest and burn completely; other buildings are more difficult and only their interiors will burn. Incendiary rounds which hit wood frame buildings ignite them automatically; other types are unaffected. An energy weapon or laser will ignite a building if its penetration is at least 16 greater than the building's armor class. The procedure for determining hits on buildings is described in rule 31. Deliberate arson may be accomplished by personnel stands touching a wooden building or inside any other building on a roll of 12+, DMs +1 per person in excess of one attempting to start the fire, +1 per turn spent after the first.

B. Vegetation: The referee must determine the die roll required for vegetation to be set on fire; the roll will depend on how dry the material is, its thickness, and other imponderables. Generally, undergrowth will be easier to ignite than trees. In most cases, vegetation will not ignite sufficiently to influence the game.

C. Spreading: A fire in a wood frame building initially occupies a 1 cm square centered on the point of ignition (of course, there may be several such points); every 6 turns, one square adjacent to each square already on fire will ignite; if all adjacent squares on the same floor are already on fire, the fire spreads to the square one story up or down; if both these squares are already on fire, nothing further happens. Any other building which catches fire follows the same course, but the fire spreads every 12 turns instead of every 6. Fires in vegetation spread in a similar manner; the roll needed to ignite is the number of turns between turns of spreading.

D. Effects of Fire: Only soldiers in battle dress may enter or remain in an area which is on fire; other soldiers must leave in their next movement phase or be eliminated. Each square cm of fire does 1 points of damage to a frame building every 6 turns and 1 point to others every 12 turns. When damage equals 5 points the interior collapses; further fire damage has no effect on non-wood frame buildings. When damage equals 10 points for a wood frame building, it collapses entirely. See rule 31. Fires also create a smoke screen. See rule 33.

Rule 33: Smoke

Some weapons are listed as having a smoke round available. There are two types

of smoke rounds: incendiary and chemical smoke. Smoke rounds are delivered in the same manner as other rounds, except that each shell impact point is marked separately. Generally, a single weapon will fire only one or two smoke rounds in a turn. The fire order for a smoke mission should specify the pattern in which its rounds will fall; deviation is from the center of this pattern.

A. Types of Smoke Screens: There are two types of smoke screens: mist and dense smoke. Line of sight terminates 15 cm after encountering mist, and all targets in and behind the mist receive the benefits of concealment, whether stationary or moving. Targets which would have been concealed without the mist become completly hidden if in or behind the mist.

Line of sight terminates 3 cm after encountering a dense smoke screen.

B. Procedure: Three items of information are important to determining smoke screens: number of rounds fired, build time, and screen length.

1. Number of Rounds Fired: Each weapon may fire either one or two rounds in a turn. If two rounds are fired, they both impact in the same location. One smoke round will create mist; two smoke rounds will create dense smoke.

2. Build Time: All incendiary smoke rounds have a build time of 0. That is, they do not require any time for the smoke to build. In the phase in which the round impacts, place a smoke marker on the impact point. The marker should be labeled either mist or dense, depending on whether one or two rounds were fired. The size of the smoke marker depends on the weapon, as stated in Book 3.

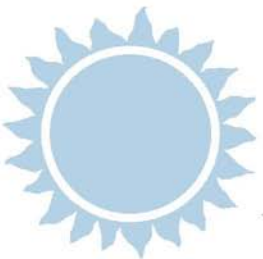
All chemical smoke rounds have a build time of 1 turn for mist and 2 turns for dense smoke. On the fire phase of impact, place a building marker at the impact point. On the same fire phase of the next turn, replace the marker with a mist marker. If two rounds were fired, on the same fire phase of the turn after that replace the mist marker with a dense smoke marker.

3. Screen Length: All incendiary rounds have a screen length of 2. On the phase of impact, one marker is placed on the table, as stated above. On the same fire phase of the next turn, a second marker is placed adjacent to and downwind of the first marker. (The referee determines wind direction, at such time as it becomes necessary or desirable to know.) Once the screen has reached its screen length, the round ceases to generate smoke and the screen begins to dissipate. On the same fire phase, of the third turn after impact, remove one marker from the upwind end of the screen. On the fourth turn, remove the other marker.

Chemical smoke rounds have different screen lengths, as noted in Book 3. The procedure used, however, is the same. Add one smoke counter of the correct type to the screen per turn until the maximum length is reached. Then remove one counter from the screen per turn until the screen is gone.

C. Fires: Brush fires and structural fires will produce mist smoke. In both cases the length of the screen is 12 cm. As with a conventional smoke round, one 2 cm square smoke marker is added to the screen downwind of the fire each turn until the maximum length is reached. Unlike a conventional smoke round, the screen is not removed after it reaches its maximum length, but rather remains in place for the rest of the game (or until the fire stops burning).

Large areas of trees and/or structures which become ignited will produce a much heavier smoke screen to a total length of 12 cm. One marker is added each turn as with any other screen. The first three markers, however, are dense smoke, while the last three are mist.



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