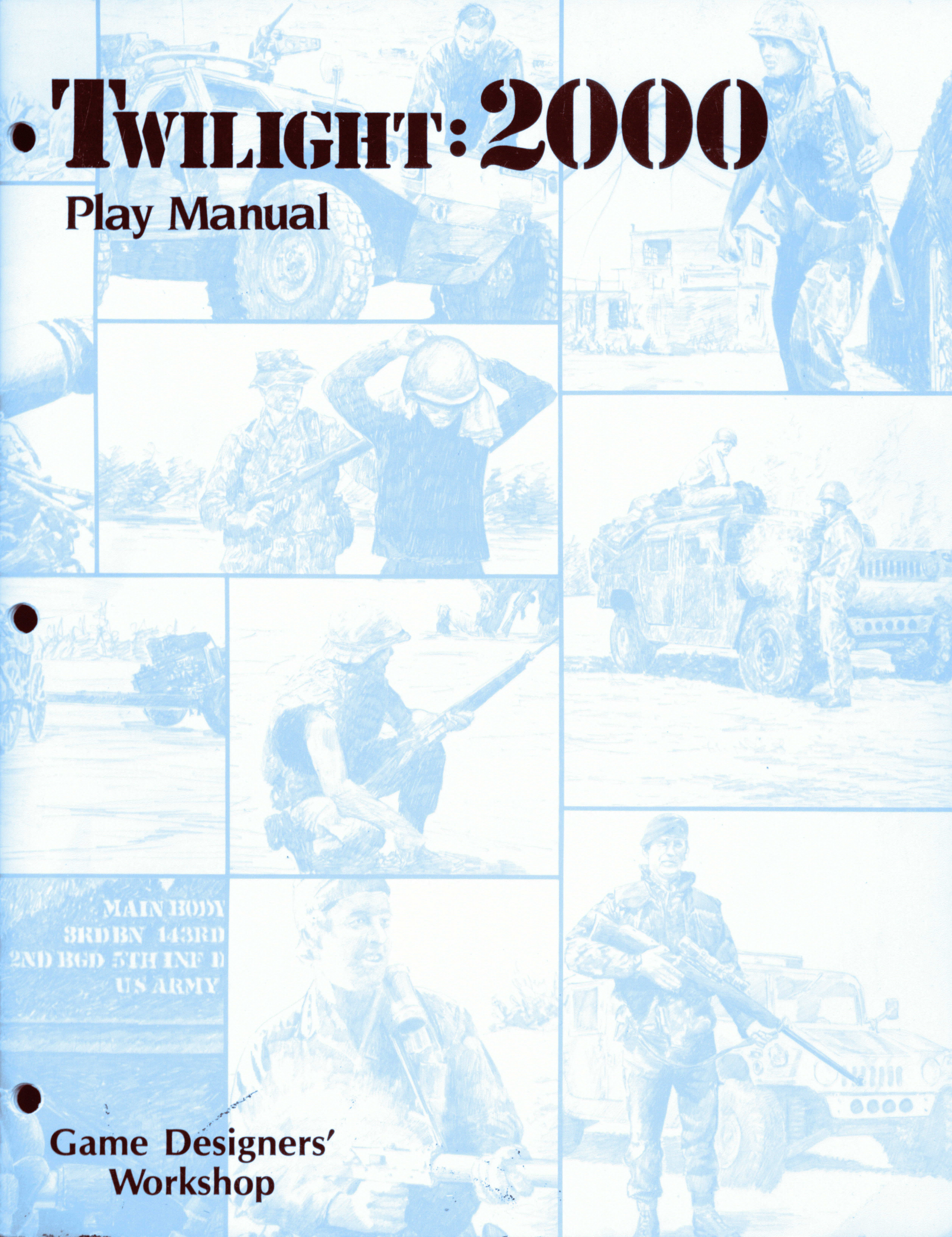
Twilight: 2000™

Game Designers' Workshop

TWILIGHT: 2000

Play Manual



Game Designers' Workshop

TWILIGHT: 2000

Play Manual

Contents

Introduction 2
A Battered World 2
Playing the Game 2
The Referee 2
Required Materials 3
Die-Rolling Conventions 3
Weights and Measures 3
A Note on Gender 3
Players 3
Character Generation 4
Basic Attributes 4
Other Physical Characteristics 5
Military Experience 5
Coolness under Fire 5
Reds 6
Age 6
Rank 6
Army, Nationality, and Language 6
Service Branch and Specialty 7
Obtaining Skills 7
Base Hit Numbers 8
Body Combat Damage 8
Equipment 8
Skills and Attributes: Part One 10
Time and Travel 11
The Day 11
Encounters 11
Combat Turns 11
Travel 11
Terrain and Travel 12
Fatigue 12
Upkeep 14
Food Requirements 14
Foraging 14
Fishing 14
Hunting 15
Fuel 15
Vehicle Maintenance 15
Animal Maintenance 16
Combat, Part One 17
The Combat Turn 17
Movement 17
Actions 18
Coolness under Fire 18
Order of Attacks 19
Body Combat 19
Melee Combat 20
Fire Combat 20
Direct Fire 21
Indirect Fire 23
Thrown Weapons 24
Hand Grenades 24
Direct Fire Deviation 24
Anti-Tank Missiles 24
Damage 24

Credits

Design: Frank Chadwick.

Additional Design and Development: John Astell, John Harshman, and Loren Wiseman.

Research Assistance: Marc Miller.

Art Direction: Paul R. Banner.

Cover and Interior illustrations: Steve Venters.

Playtesting: Wayne Roth, Kevin Brown, University of Illinois Strategic Games Club, and Champaign Military Games Club.

Copyright © 1 984 by Game Designers' Workshop. All Rights Reserved.

Twilight: 2000 is Game Designers' Workshop's trademark for its role-playing game of survival in a devastated world.

GDW Game Designers' Workshop
P.O. Box 1646
Bloomington, Illinois 61702-1646

INTRODUCTION

The year is 2000 AD. For five years the armies of the world have fought back and forth across an increasingly devastated planet. Chemical weapons, biological agents, tactical and strategic nuclear weapons, every horror from a technological cornucopia of destruction was used. And in the wake of war came famine and plague, until well over half of the planet's population had been carried away.

But the war goes on.

Most civilian governments have collapsed under the burden of massive casualties and a total breakdown of the communication and transportation systems. Only the military has survived as a cohesive force. For many soldiers, particularly those out-side their own national borders, surrounded by a foreign and increasingly hostile population; the army has become their country.

But even the pressures of unit loyalty and wartime discipline have not been sufficient to prevent the gradual disintegration of the armed forces. The countryside is infested with bands of murderous marauders, made up largely of deserters, preying on soldier and civilian with equal ferocity.

In the spring of the year 2000, the German 3rd Army launched its final offensive against Poland. It was postponed due to late rains—the soldiers were delayed in getting their fields planted. The objective was to clear the Baltic coast of Polish and Soviet forces and thus gain control of the plentiful Baltic fishing and the Vistula River barge traffic.

When the offensive finally got under way it was spearhead-ed by the U.S. Eleventh Corps, because the U.S. troops were less tied to their garrison areas than were the Germans. The initial drives were successful, with two U.S. divisions breaking loose and conducting deep penetration raids into the enemy rear area. While the 8th Division (Mechanized) headed for the port of Kalilininggrad and a link-up with the Free Latvian Army, the 5th Division (Mechanized) headed southeast toward Lodz. Then, everything started to come apart.

The last battle-worthy remnants of the Polish army counterattacked, and battered themselves to pieces against the NATO troops. When the dust had settled, though, the last heavy equipment of Eleventh Corps was burning junk. The remnants of four Soviet armies went on the offensive against the base camp areas of 3rd German Army, and German troops began drifting west to bolster the defenses of their homes. Finally, two additional Soviet armies, the 4th Guards Tank and 22nd Cavalry, rolled across the Polish frontier from Byelorussia and hit the U.S. 5th Division. With a combined strength of 21,000 men and almost a hundred modern tanks, the two Soviet armies plowed 5th Division under near the Polish city of Kalisz, 200 kilometers southwest of the ruins of Warsaw. As division headquarters was being overrun, the CO's last radio message was, "You're on your own. Good luck."

A BATTERED WORLD

Twilight: 2000 is a role-playing game dealing with survival in a war-ravaged world in the near future. Players take on the parts of soldiers cut off from home and attempting to survive in a hostile environment. Initially, characters will represent survivors of the U.S. 5th Division (Mechanized), all but wiped out in central Poland. However, as the game progresses other characters from different nationalities and backgrounds may be added to the game.

The rules of the game allow the players to chart their own courses. Since they are members of a military unit, they will be reasonably well equipped and proficient at combat. They can attempt to survive by taking what they need by force, or they can attempt to befriend the local civilians, and obtain the goods they need by trade or in return for assistance. They can become a guerrilla force, attacking Soviet and Polish bases and supply convoys, become marauders attacking anyone with something of value, or head for one of the "free cities" that offer haven to any man and allegiance to no government. The choices are up to the players.

PLAYING THE GAME

Twilight: 2000 usually requires one referee and several players. Characters' chances for survival are greater if several of them pool their resources and talents and work as a team. However, it is possible to play with only one player.

THE REFEREE

The purpose of a referee is to describe the world the players are traveling and adventuring in. The referee plays the role of the non-player characters (NPCs) encountered along the way and adjudicates all conflicts and battles. It is his responsibility to keep the game exciting for the players. This requires several special qualities.

First, the referee must be imaginative. The world of *Twilight: 2000* is our own world, but changed dramatically. Much of the excitement of the game lies in those very changes. Since the world is still in the process of adjusting to its altered state, the village across the next hill should always be an unknown quantity. A wealth of background material is provided in the referee's manual, but it should be viewed only as a starting point. The referee should not be afraid to depart from it when he feels the need to; this package provides guidelines to help the referee get started, but it's his world to create and elaborate as he sees fit.

Second, the referee should have the ability to improvise. While we have attempted to make this game reasonably complete, it has also been necessary to avoid detailing a great many things just to keep it usable. After all, if we included tables for things as detailed as what a player might find going through the dresser of a militia captain, and covered everything in that detail, the referee would spend most of his time trying to find the correct table l Instead, the rules supply a broad general framework within which the referee has to improvise.

Finally, the referee must have a sense of proportion. Rewards should be proportionate to the risks the players take, neither too much nor too little. A common mistake beginning referees make is to keep player interest up by handing out very large rewards for completing the simplest tasks. Players rapidly accumulate money and equipment and come to see this as the sole purpose in the "lives" of their characters. Soon, they no longer find the game a challenge and lose interest. Alternatively, some referees delight in creating inescapable death traps for their players and feel a sense of achievement in wiping parties out. Neither approach makes for an enjoyable game in the long run.

A good referee should so structure the players' adventures that they are always aware of being extremely close to danger and destruction. Success in a task should not mean sudden security, but may mean a slightly greater margin of safety in the future. In other cases, success may be as simple a thing

as survival. The world of *Twilight: 2000* is a harsh one, but not hopeless. The assumption of the game is that players who exercise good judgment and cunning, and who make wise use of their personal strengths, can survive.

REQUIRED MATERIALS

This book details the basic mechanical rules of character generation and game play, and should be read by players and referee; during play, it should usually be in the ref's hands, since they will most often have to refer to it. The referee's manual provides background information, rules on encounters and their resolution, and suggestions on getting started; it should usually be in the players' hands—in fact, there are portions of it which the players should not be allowed to see.

The character generation and record sheets and the vehicle record sheets are used to store information about the player characters and their vehicles. The referee should make several photocopies of them before the game begins, and permission is here specifically granted to photocopy these sheets.

Players and referees need only supply paper and pencils for taking notes and a pack of ordinary playing cards for the referee to use in generating non-player characters (as explained in the referee's manual).

DIE-ROLLING CONVENTIONS

Die-rolls are used frequently in these rules for many purposes. A number of conventions and symbols are used for brevity and ease of comprehension; these are defined below.

This game includes one ten-sided die and four six-sided dice, referred to as D 1 0 and D6, respectively. If one die is to be rolled, it is called (for example) 1 D6; 2D6 means that two six-sided dice should be rolled and added together (for a result from 2 to 1 2); 3D6 means three dice, and so on. (N)D6 means that a number of dice equal to N should be rolled. 1 D1Ox1 D10 means that the roll of one ten-sided die is multiplied by the roll of another one.

Unless specifically stated otherwise, a roll of 0 on a D10 is treated as 10 (that is, the result on a D1O is from 1 to 10). However, see percentage rolls below.

Less Than and Greater Than: The symbol > means "greater than" and < means "less than"; similarly, ~ means "greater than or equal to" and _ means "less than or equal to". For example, in these rules, "if 2D1 0 ~ 8" means that the player should roll 2D10 and determine if the result is 8 or higher.

Rounding-Off: Fractions will sometimes have to be rounded off to whole numbers. If the number is to be rounded up (5.5 becomes 6), the printed value will have a line above it; for example, 2D10/7 If the number is to be rounded down (5.5 becomes 5), the printed value will have a line below it.

Percentage Rolls: Frequently, random numbers between 1 and 1 00 must be generated. Two Dl Os are used for this purpose, one of them representing the tens digit and the other representing the ones digit (the player must specify which is which before rolling). When used for this purpose, the two dice together are called a D100. Unlike the usual D1O roll, 0 is counted as 0; however, a roll of 00 (0 on both dice) is counted as 1 00. For example, a roll of 6 on the ones die and 0 on the tens die is 6; a roll of 6 on the tens die and 0 on the ones die is 60.

The most common use of the D100 is for a percentage roll: if an event has a 27% chance of success, for example, the player rolls D100 and succeeds on a roll of 27.

WEIGHTS AND MEASURES

All weights and measures in the rules are given under the metric system. There are only six units of metric measure used:

Millimeter (mm): One thousandth of a meter. There are about 25 millimeters in an inch.

Meter (m): Roughly one yard.

Kilometer (km or "klick"): 1,000 meters, roughly two-thirds of a mile.

Liter (l): Roughly a quart.

KIlogram (kg or "kilo"): Roughly two pounds.

Ton (t): 1,000 kilograms, about 10% more than a U.S. ton.

A NOTE ON GENDER

Characters may be either male or female, as illustrated by the examples in the rules. For readability, however, the rules themselves exclusively use male pronouns. Use of the pronouns he, his, or him apply to all characters, regardless of gender.

PLAYERS

The players are the heart of *Twilight: 2000.* While the referee creates the world, it is the players who travel through it and, by their actions, ultimately change it. The course of the game is a description of the adventures of a band of men and women attempting to survive and perhaps strike a blow for their beliefs. The game will take on more interest if the players seriously attempt to make their characters "come alive". When playing, they should keep in mind who their characters are and try to act accordingly. The first step, however, is to find out who the characters are, the subject of the next chapter.

Character Generation

There really weren't many of us left after Kalisz. I remember that Carson, the Major's driver, found some paint and stenciled a sign he stuck in the ground next to where we had the Hum-Vee parked.

Headquarters
3rd Battalion, 1 43rd Infantry
2nd Brigade
5th Infantry Division (Mechanized)
United States Army

When Gordon saw it, she borrowed the paint and stencils and painted the same thing on a sign we put next to our other vehicle, the old LA V-25, except instead of headquarters she painted "Main Body - The Major laughed when he saw it, but made us get rid of both of them. Security.

There was a time when none of us laughed much at all, but now we laugh again. What the hell, we're still alive.

Characters are the focus of Twilight: 2000; they are the alter egos of the players and all activity centers on them. Each character is a person within the game, interacting with other player characters (those controlled by other players) and non-player characters (controlled by the referee).

Characters are described in the game using their physical and mental attributes, their skills, and a number of other facts. All these facts are derived by a combination of die rolls and player choices. The following rules explain this process of character generation.

In order to make the long process of character generation easier, several character generation worksheets are included with this game. The worksheet is largely self-explanatory, but occasional reference to the rules is necessary, at least for the first few characters. A player should read the rules as he generates his character, filling in the appropriate blanks of the worksheet as he goes. Once the character is completely generated, the player should transfer the information in the unshaded portions of the worksheet to a character record sheet. The record sheet is a permanent record; the worksheet may be discarded. (Important: remember to save at least one blank copy of each sheet to photocopy.)

BASIC ATTRIBUTES

Each character is described, in the simplest of terms, by six basic attributes: fitness, agility, constitution, stature, intelligence, education.

Each attribute is determined by rolling 4D6 and subtracting 4 from the total. This gives a range of from 0 to 20 for an at-tribute. Any result of 0 may be rolled over.

Meaning of Attributes:

Fitness: A measure of the character's strength in proportion to his size. Together with stature, it is used to determine his actual strength. Fitness is not used after that, and strength replaces it as a basic attribute.

Agility: A measure of the character's coordination and nimbleness.

Constitution: Health and physical stamina. This affects the character's resistance to disease and also influences his hit capacity.

Stature: The physical size of the character. A large stature indicates great physical bulk. Stature helps to determine strength, but a character may be large and fat but relatively weak, or may be small and wiry but very strong. Stature also affects hit capacity and damage inflicted in body combat.

Intelligence: A measure of the ability of the character to per-form abstract reasoning. Intelligence primarily affects the ability of the character to learn; it is not the same thing as common sense. (How much common sense the character has is deter-mined by the actions of the player himself.)

Education: A measure of the extent of a character's prior education. All characters are assumed to have more than a 3rd grade education. A character's education number is the number of additional years of schooling he has attained. Thus, an education level of 9 or above indicates a high school graduate, 13 or above a college graduate, 1 5 or above a master's degree, and 18 or above a PhD.

Favoring Attributes: Before a player rolls any attributes, he may decide to favor one or more of them. A player may favor up to three attributes, but for each attribute favored he must slight another attribute. No single attribute may be favored or slighted more than once.

A favored attribute is adjusted upward to halfway between the actual results of the attribute die roll and 20, rounding fractions down [= (4D6 + 16)/2]. A slighted attribute is adjusted downward to halfway between the actual result of the die roll and zero, rounding fractions up [= (4D6 -4)/2]

For example, Monk has decided to favor fitness and slight agility. He rolls(18—4)= l4forfitnessand (13—4)=9 for agility. Fitness is adjusted upward to 17 while agility is adjusted downward to 5.

Total: The total of all six attributes is used later in the character generation process, so it should be added up now.

Strength: Strength is the average of fitness and stature, and is determined by adding the two attributes and dividing the total by two, rounding fractions down.

Abbreviations: The six attributes of strength, agility, constitution, stature, intelligence, and education are used throughout these rules. For brevity, they will be abbreviated from now on as **STR, AGL, CON, STA, INT,** and **EDU**.

OTHER PHYSICAL CHARACTERISTICS

Hit Capacity: Hit capacity is a measure of the amount of damage (hits or hit points) a character can take before suffering serious injury. Hit points can be suffered in any of seven different parts of the body: left leg, right leg, left arm, right arm, head, abdomen, and chest. The hit capacity of a character's head is equal to his CON. The hit capacity of his chest is equal to the sum of his STR, CON, and STA. Each of his other body parts has a hit capacity equal to the sum of his CON and STA.

Weight: A character's weight in kilograms is equal to forty plus four times his STA. Thus, a character with a STA of 12 would weigh 88 kilos (roughly 1 75 pounds).

Load: A character can carry a considerable amount of equipment cross-country, but there is a limit. A character may carry, without being heavily burdened, weight in kilograms equal to the sum of his STR, CON, and STA. This is called his normal load. A character may carry up to twice this amount but is burdened and has his movement reduced, as explained in later rules. A character may lift loads up to four times this amount and carry them short distances (50 to 1 00 meters).

Throw Range: The distance (in meters) a character can throw a 1 -kilogram weight accurately is called his throw range. Throw range is twice the character's STR.

MILITARY EXPERIENCE

As a kid I saw John Wayne in The Sands of Iwo Jima and Dan Daley in What Price Glory on the late show. I guess that's how I always pictured first sergeants; great big men. But our "top ,Anderson, is a little guy and kind of quiet. It seems like he 's been in forever; if we had dress uniforms, he 'd probably have hash marks all the way up his sleeve and across his shoulder blades.

One night he got talking about a p/ace in Vietnam he called "Happy Valley" and it sounded even worse than all this. I said so, and he just shook his head. "Monk," he said, "The A Shau was just one valley. This is everywhere."

Military experience represents the length of time the character has spent in combat and determines the amount of skill he has picked up while in the army. Because of the way experience is determined, a character who has rolled high attributes will have a low military experience, and a character with low at-tributes will have a high military experience. This is an intentional if arbitrary way to balance the luck of character generation. Military experience also affects several other attributes of the character, explained below.

Military Experience Base: This is a number roughly representing experience. It is determined by subtracting the basic attribute total from 1 20 and dividing the result by 7, rounding down.

Time In Combat: Time spent in combat, in months, is determined by rolling a number of D6 equal to the military experience base.

For example, Monk has an attribute total of 72, which subtracted from 1 20 results in 48. Divided by seven and rounding fractions down means that Monk rolls 6D6 for months in combat and obtains a 24. He has been in combat for 24 months.

Note that it is possible for a character to have been in combat for longer than the length of the war, although this is unlikely. Characters with more that 60 months in combat are "old timers", career soldiers who saw active duty in the numerous brush-fire wars and police actions that preceded full-scale war. Some officers and senior NCOs may even have combat experience reaching back as far as Vietnam.

COOLNESS UNDER FIRE

We've been in some tight spots now and then, but for some reason I've never lost my head. I don 't know why. Wood, who used to be a pre-med student and is the closest thing we have to a medic, says my glands produce too much noradrenaline. He says that's why I don 't panic during the fireworks but shake like a leaf when it's all over. Well, I've seen people panic under fire. They don't shake afterwards; mostly they lie very, very still. I think I'll keep my glands the way they are.

Coolness under fire is largely a function of experience in combat, and affects how well a character functions in the stress of a life-threatening situation. To determine coolness, divide the time in combat by 1 0 and drop fractions. Roll 1 D6 and add the result to the total obtained. Now subtract the total from 1 0. The resulting number is the coolness under fire rating of the character. A low coolness rating is better than a high one. All negative results are treated as a coolness rating of zero.

Example: Monk has served 24 months in combat. Dividing this by 1 0 and dropping fractions results in a 2. He rolls 1 D6 and obtains a 6 for a total of 8. Subtracting this from 1 0 yields a coolness rating of 2, a very good rating.

RADS

We accidentally moved through an old impact crater once. Didn't bother most of us, but Anderson and the Major both got sick for about a day. Not super sick, but nausea and weakness. Wood says there 's nothing to worry about because none of us have anywhere near a bad dose, but we've got to be careful, because exposure is cumulative. The Major and Anderson have been here from the start and have just picked up more than the rest of us.

Since nuclear weapons were used earlier in the war, some exposure to radiation is unavoidable. Rads are a measure of the extent of exposure a character has suffered. (No character will begin the game with serious or lethal exposure levels, for obvious reasons.) The number of reds a character has been exposed to should influence his willingness to take risks in potentially contaminated areas.

To determine the exposure level of a character in rads, roll a number of D6 equal to his military experience base.

AGE

Most of us are pretty young, all but the Major and Anderson. The Major once said this was a young man 'a war, and Anderson said, "So name one that wasn't. We call him "Sergeant Anderson, United States Army, Retired"~ He must be pushing fifty. I found out he really was retired but got back in when all this started. He says he got reactivated, but I don't think they do that. I think he pulled some strings to get back in. Other than that, though, he seems reasonably sane.

Age helps players to visualize their characters as actual people rather than numbers on a piece of paper. To determine age in years, divide the number of months in combat by 1 2, rounding fractions up. Add the result to the character's EDU, plus 8. If the character has 49 or fewer months in combat, add 1D6 to this. If he has 50 or more months in combat, add 2D6 instead. If he has 60 or more months in combat, add 3D6. If he has 70 or more months in combat, add 4D6.

For example, Monk has been in combat for 24 months and has an EDU of 8. 24 divided by 1 2 equals 2. He adds this to 8 (EDU) and 8 (constant) for a result of 1 8. He then rolls 1 D6 and obtains a 2, making his age 20.

Anderson has been in combat a total of 73 months and has an EDU of 9. 73 divided by 1 2 equals 6.08, which rounds up to 7. He adds this to 9 (EDU) and 8 (constant) for a result of 24. He then rolls 4D6 and obtains a 22, making his age 46.

RANK

Back at Kalisz, when everything was falling apart and there were Soviet tanks all over the place, this crazy artillery captain comes running up to the LA V-25 and tells us he 's taking us under command and we 're going to ride shotgun for his ammo carriers. In a pig's eye we were! Just when things looked like they might get ugly the Major got back from the QM depot with our rations, and that was the end of that. That captain wanted our LAV big time, but the Major had the rank and that's all she wrote.

Although player characters are under no game obligation to obey other characters of higher rank, rank can be important when dealing with non-player characters.

First, determine whether the character is an officer or enlisted man. Roll 2D6 and add 1 6. If the result is less than or equal to the sum of the character's INT and EDU, he is an officer. (Note that characters with a combined INT and EDU total of 1 7 or less cannot be officers.)

Next, determine the character's rank. Divide his time in combat by ten, rounding all fractions down. Roll 1 D6. If the result is 1 or 2, subtract one from the total. If the result is 5 or 6, add one to the total. Consult the rank table to determine the character's rank.

Example: Monk has an EDU of 8 and an INT of 11 for a total of 19. He rolls 2D6 for (5 + 16)= 21; he is not an officer. He has served 24 months in combat. Divided by 1 0 and rounding down, this results in 2. He rolls 1 D6 and gets a 5, so his rank is increased to 3. He is a sergeant.

ARMY, NATIONALITY, AND LANGUAGE

We picked up Jones right before we jumped off on the Baltic push. There wasn't time to get him back to a British unit then, and I wouldn't know where to look for one now. I call him British, but he says he's Welsh, and calls himself "Jones the Machine gunner"~ I guess half the people in Wales are named Jones, to hear him tell it. He told me a joke once about a KGB agent who was supposed to contact and activate a mole, an agent who had spent years getting accepted by the locals. So the KGB agent walks into the Welsh village where the mole lives and asks at the local pub where he can find him. He describes him to the bartender, who says, "Ah! It's Jones the Spy you're wanting!"

I think it was probably funnier if you were Welsh. Fortunately, he knows German and a smattering of Polish, which has saved our butts more than once.

Army and nationality are chosen by the players, using the army/nationality/native language chart. Native language depends on nationality.

Players may choose to be Americans or Europeans, at their option. Since all armies practice considerable local recruiting and have picked up deserters from the other side, a U.S. unit could

contain virtually any nationality. However, it is recommended that at least half of the unit be American. Europeans, although they are with the group, are not technically in the U.S. Army; the unit is technically under the command of the highest ranking American, despite the ranks of any European characters.

Army: Players now choose their army. Americans are automatically in the U.S. Army; Europeans choose any of the remaining armies as the one the character originally served in (everyone is now in the U.S. Army, more or less). The character's army affects the nature of the equipment he starts with.

Nationality: Players now choose their nationality from the ones available for their army. For example, a character in the British Army may be English, Welsh, Scottish, or Irish, while a character in either German army is always German. In most cases, this is actually the ethnic or linguistic group the character is from. This affects his native language. Because there are so many nationalities in the Soviet Union, there is a separate Soviet nationalities list.

Native Language: A character's nationality determines his native language. All characters receive a 1 00% skill level in their native language. Characters of certain nationalities have a chance of having a second native language as well. The third column of the chart lists possible second languages and the percentage chance that the character speaks them. For example, a Hungarian character has a chance of speaking German or Romany in addition to Hungarian. Players make percentage rolls for each language, in order, stopping at the first success or after failing to receive all of them. The character receives a 1 00% skill level in his second native language too.

Soviet Languages: Former members of the Soviet army are treated differently. The player chooses his nationality and receives a 1 00% skill level in that language (Each of the listed nationalities is also a language except for Ukrainian and Byelorussian, and in many cases it also corresponds to one of the major political divisions of the Soviet Union.) If any nationality other than Russian, Ukrainian, or Byelorussian was chosen, the player also rolls 1 D 1 0 and multiplies the roll by 1 0 (if an officer) or 5 if enlisted). The result is his skill in Russian.

In addition to native languages, players may purchase additional language skills as explained later in the rules.

SERVICE BRANCH AND SPECIALTY

Bobbi Lee joined up with us back around Frankfurt-on-the-Oder and she 's walked point ever since. The Major says he 's never seen anyone with an eye for an ambush like she has. Well, he's seen more than I have. All I know is that we've never gotten cracked with Bobbi Lee on point. She says it's because her brothers used to take her coon hunting. Maybe. But I've got a feeling that Ranger patch on her shoulder has something to do with it.

Each character belongs to a particular service branch and has a specialty within that branch. Branches, specialties, and information about those specialties are

In aircraft mechanic skill would be written as ACM37. The LNG skill is a special case; each language is a separate skill, and a level of 66 in Gaelic would be written as LNG(Gaelic)66.

Skill Points: Each character has skill points in three areas: military skills, education skills, and background skills. Military skill points are determined by multiplying the listed on the service branch/specialty table.

A character may attempt to choose his area of specialization; his service branch is determined by his specialty.

The table lists the options available and the die roll or higher on 2D6 needed to be accepted into that specialization. If the character fails to achieve the needed die roll, he may at-tempt a different specialization, but suffers a die roll modification of -2. If he fails again, he suffers a die roll modification of -4 on the next attempt, and -6 on the next attempt. If he has not succeeded by then, he must choose one of the specialties in the support services branch.

Some of the specialties have a minimum requirement for acceptance. A character must have a score of 1 2 or higher in the listed attribute (or, in the case of special forces intelligence specialist, both listed attributes) to be accepted into the specialty in question.

Each area of specialization has benefits: it either provides automatic skills, allows easier access to certain skills, or both.

OBTAINING SKILLS

Me, I'm a grease monkey. That's why they call me "Monk"~ I keep the Hum- Vee purring and the LA V-25 limping along (so far). I guess I've always loved engines, which is why I'm so good with them. Admittedly, with the LA V-25 it's definitely a love-hate relationship. Gordon 's an engineer, and even though there's not much to work with in the way of construction material, she's kept us from driving over a couple bad bridges I figured would've supported us. And I'll never forget the time a year ago in Germany when she got us out of that FASCAM minefield those yoyo [5] *in the First Cay dumped right on top of us. I figure Wood has saved everybody's life at least once; last winter when I took one in the side and it got infected I'd have been gone except for him. Carson, the Major's driver, is a maniac behind the wheel and a deadly rifle shot, and Griffith, our master scrounger, could find roast chicken and mashed potatoes in the Sahara. We're a team. We complement each other. I guess that's why we're still alive.*

Player characters will have to carry out many difficult and dangerous tasks over the course of the game. Skills in various fields of knowledge will determine their success or failure.

Players obtain skills initially in two ways: automatic skills and acquired skills. Automatic skills include knowledge of the character's native language (or languages), certain combat skills all recruits are taught in basic training, and skills supplied by his specialty. Acquired skills are purchased with skill points.

All skills are listed on the skill list, together with standard abbreviations, special requirements of purchase, and descriptions.

Skills are purchased in levels, or percentages. A level of 37

character's military experience base by 40. Education skill points are determined by multiplying the character's EDU by 20. Every character receives 300 background skill points.

Automatic Skills: Every character begins with the following automatic skills: CRM2O, MC2O, BC2O, WVD4O, TW2O, and SWM2O. (These skills are already printed on the character generation worksheet.) Characters receive additional automatic skills from their specialties. For example, an infantryman receives CRM2O; together with the CRM2O every character receives, this gives him a total of CRM4O.

Buying Skills: In general, each skill point may be exchanged for one level of skill expertise Thus, twenty skill points would buy a level of 20 in one skill, or a level of 1 0 in two areas, etc. There are several restrictions and complications.

Buying Languages: Each language is a separate skill. All languages, which characters may buy, are given on the language list, along with the groups and families to which they belong.

Skill Areas: The three types of skill points buy different skills. The second column of the skill list states whether a given skill may be bought with a given type of points (M for military, E for education, B for background). For example, BC may be bought with any of the three types of points, while BIO may be bought only with education points. Points of different types may be freely combined to buy skills within these restrictions.

Low Levels: If a player buys any amount of a skill, he must buy enough to have a skill level of at least 10.

High Levels: All skill levels in excess of 50 cost double. Thus, buying a skill level of 60 would cost 70 points, not 60 points. A character may not initially have a skill level of greater than 80 except in his native languages (although later rules allow for the receipt of higher levels during the game).

Specialty Benefits*:* Some specialties allow certain skills to be bought at half-price.

Unusual Costs: Notes attached to the second column of the list describe the peculiarities of some skills: double cost, half cost, or other special restrictions.

Cumulative Modifiers: All modifications are cumulative. Thus, if a ranger character buys RCN, he gets it for one point per level up to 50 (double cost, bought for half cost) and two points per level past 50. A European intelligence analyst buying LNG(Italian) pays 1/4 point per level up to 50 (half of half cost) and 1/2 point per level past 50.

BASE HIT NUMBERS

After a character has selected the skills he desires, he should determine his base hit numbers. Base hit numbers are used in fire combat to determine the chances of hitting the target.

Each of five combat skills (CRM, HW, LB, LCG, and PST) requires the calculation of three base hit numbers, one each for close, medium, and long range. To calculate the base hit number at close range, multiply the appropriate skill by 0.6; for medium range, multiply the skill by 0.3; for long range multiply by 0.1. Round all fractions down.

For example, Carson has a skill level of CRM77. His base hit number at close range would be (77 x 0.6 = 46.2) 46, at medium range (77x0.3=23.1) 23,and at long range (77xO.1 =7.7)7.

BODY COMBAT DAMAGE

One day everyone was out foraging except for me. I was working on the LA V-25's transmission. The story of my life. First thing I know there's this Hungarian sergeant leaning under the LA V-25 and sticking a Makarov in my face. Beats me what he was doing this far north, but he was pretty skinny and raggedy looking, so I figure he was probably a deserter. Well, I was pretty tired of working on the LA V-25 anyway, so I crawled out and stood up. About then Bobbi Lee got beck to camp and I guess she wasn't expecting trouble because it's the only time I've ever seen her surprised. She dropped her M- 16, but then the Hungarian looked beck at me. Wrong move. Bobbi Lee kicked him. She kicked him in the HEAD. She kicked him so hard she broke his neck. This I do not believe she learned coon hunting with her brothers.

Body combat damage determines the amount of damage a character will inflict on an opponent if he hits him during body combat. Body combat damage is determined by adding the character's STR and STA, multiplying by his body combat skill, and dividing by 200, rounding fractions down. The result is the number of hit points the character will inflict (plus a roll of 1 D6 per attack).

Example: Bobbi Lee has a strength of 1 2, a stature of 7, and a body combat skill level of 75. 12 plus 7 is 19, times 75 equals 1,425. 1,425 divided by 200 equals 7. 1 25. Therefore, Bobbi Lee will inflict 7 plus 1 D6 hit points per body combat attack.

EQUIPMENT

Right there at the end at Kalisz things got pretty hot and we ended up having to make a run for it across about 200 meters of fire-swept open ground. Well, we made it, somehow, and even the Hum-Vee didn't take much damage. But the alcohol still on the trailer behind the LA V-25 got all shot up. That's bad news, because we can 't run these vehicles on bat droppings and gasoline's scarcer than politicians these days.

L got it mostly patched up, but the tubing had been shot away and fell off the trailer. I told the Major we needed tubing for the still or we'd have to start walking. He called Griffith over and told him we needed some tubing for the still "What kind?" he said. "Copper would be nice," I said. "Right." And he was gone. Eight hours later he's back with fifteen feet of copper tubing and an almost-new truck battery with a full charge on it as a bonus. I don't know how he does it.

Soldiers accumulate gear, particularly in as fluid and changing a situation as this one. Each character begins the game with a set of fatigues, combat webbing, a rucksack, and a personal weapon. The personal weapon depends on the character's army, and should be selected from the personal weapons list. Thus, a Czech character could choose any of the personal weapons listed under Czech personal weapons. Each officer also receives a pistol in

addition to his personal weapon. Note that an American officer may choose either a 9mm Parabellum or a 45 automatic.

Vehicles: Next, characters should roll for vehicles, using the vehicle table. Only a party of two or more characters will have vehicles. Each group of characters receives one D6 die roll for vehicles for every two characters in the group (rounding fractions up). Players may combine their dice into 2D6 or 3D6 rolls if desired (but not 4D6 or more); many of the more desirable vehicles are only obtainable with rolls greater than six.

For example, a party of seven characters would have four D6 rolls for vehicles. They could use them as four rolls of 1 D6, two rolls of 2D6, one roll of 1 D6 and one roll of 3D6, or any other combination desired.

Each vehicle begins the game with a full tank of fuel, either methanol or ethanol at the option of the players, and a full load of ammunition as given in the vehicle's entry on the equipment list. (Type is up to the players, but the referee should restrict the quantities of rare ammunition chosen.)

Vehicles and their characteristics are given on the equipment list. The players should fill out a vehicle record sheet for each vehicle they own, using the equipment list and the vehicle damage location charts.

BuyIng Equipment: Finally, each character can buy equipment at the beginning of the game. This is not meant to represent the actual purchase of equipment; instead, the money for buying equipment allocated to each player is a representation of the value of the equipment he has accumulated over time.

Players may buy equipment separately, or may pool their resources to buy equipment. Note that motorcycles do not appear on the vehicle table and thus cannot be obtained with a vehicle die roll. They may, however, be bought.

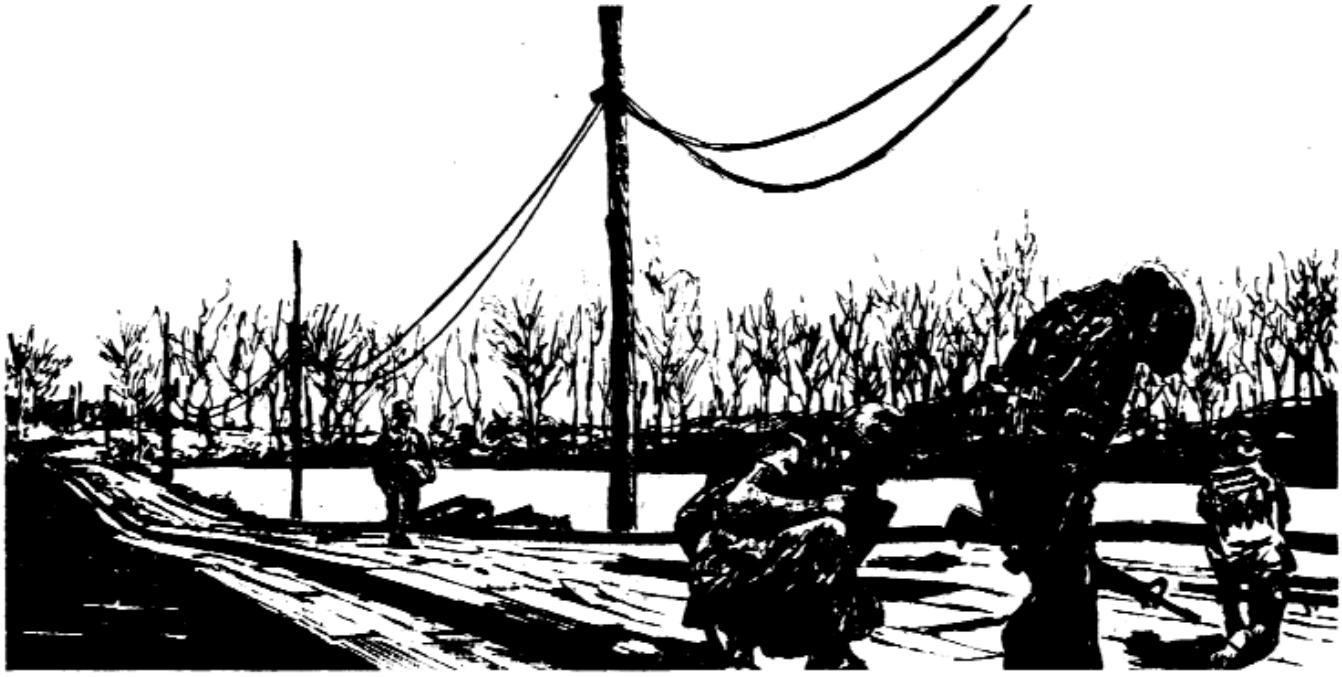
To determine a character's equipment purchase allowance in dollars, multiply his months in combat by 500 if enlisted or 1000 if an officer.

All items of equipment are listed on the price list, along with their rarities and prices. They are described in greater detail on the equipment list. An Eastern Bloc character may not buy equipment listed as rare in the East; other characters may not buy equipment listed as rare in the West. A character may, if he desires, take up to 1 0% of his total equipment allowance in gold coins, in the hope of using them later to purchase additional supplies.

Since the characters start the game on the run, no equipment may be bought which cannot be carried in the characters' vehicles. Vehicle cargo capacities are given on the equipment lists; armored vehicles may carry an extra 1 0% of vehicle weight fastened to the outside of the vehicle. All equipment and all passengers (but not crew) must fit within those limits.

Characters may not initially outfit themselves with pack animals. (They may have had them, but had to leave them behind during their escape from the encirclement.)

Additional Characters: During the course of the game, it may be necessary to generate additional player characters. This may be due to other players wishing to join the group, or as a result of one of the players having his character killed and generating a new character to rejoin the group. In this case, it is possible to meet a new group or just a single character; a single character could not have a vehicle (except for a motorcycle) and thus probably will not be able to carry all of the equipment he could purchase. The referee should allow the character to purchase his full allotment of equipment, but join the group only with the equipment he can carry on his back. The rest may be in a hid-den cache some distance away, and the trip by the group to the cache can constitute a small adventure itself. Naturally, the cache should not be too close to where the new character joins the group, and placing the cache in a dangerous area will add interest to the mission.



Skills and Attributes: Part One

The main use of skills and attributes is in determining the success or failure of actions the characters attempt. Actions depending on the use of skills and attributes are called tasks.

Some tasks are obviously impossible, such as building a new truck engine from scratch. Other tasks, such as filling a gas tank with gasoline, are so simple that it is assumed any character can carry them out successfully. In between these two extremes, however, lie a multitude of tasks, which the referee will be called on to adjudicate. Some tasks used repeatedly during the game (such as foraging or firing a rifle) are covered in detail in the rules. Others are up to the referee to determine.

When determining the success of a character's attempt to carry out a task, the referee should ask himself two questions: how difficult is the task, and what skills or attributes are important to the task?

Each task is a percentage roll against the character's relevant skill or attribute.

Percentage Rolls Using Attributes: To convert an attribute to a number suitable for a percentage roll, it should first be multiplied by five.

Difficulty: While there are numerous shades of difficulty in tasks, for game purposes all tasks are broken down into three categories: difficult (DIF), average (AVG), and easy (ESY). For example, a mechanic needs to repair a villager's tractor. The referee first decides roughly what the vehicle's problem is (not strictly necessary, but it helps both players and referee visualize the situation) and then decides if repair is difficult, average, or easy. If the engine needs a short length of wire cut and fitted into place, the mechanic's job is easy. If it needs a hole in a metal tube soldered, the task would be average. If the engine needs a new timing gear filed from a piece of sheet metal, the task would be difficult. The referee may further decide to break the task into two parts. Using the above example, the referee may decide that the vehicle needs a part the mechanic does not have and cannot make. In this case, determining the problem would be an average task, but repair would be difficult, and perhaps impossible (which might lead to an adventure to locate and obtain the proper part).

Useful Skills and Attributes: The referee must decide which skill or attribute is important to performance of the task. In the above example, the mechanic's MEC skill is obviously the important one. For ease of description, in the remainder of this rule, skills and attributes are collectively called assets.

Abbreviations: The chance of success in a task is completely described by its difficulty and the asset used. The many tasks described in these rules are expressed in an abbreviated form as difficulty: asset. For example, ESY:SWM refers to an easy task using swimming skill as an asset.

Determining Success: Once difficulty and the relevant asset have been determined, the task is resolved as a percentage roll against the character's asset. If the task is AVG. roll against the asset itself. If the task is ESY, multiply the asset by two; if it is DIF; divide the asset by two, rounding fractions down.

Thus, returning to the mechanic in the example above, if he had a MEC skill level of 40, he would have a 20% chance of succeeding at a difficult task, a 40% chance at an average task, and an 80% chance at an easy task.

For another example, suppose a character wants to break down a door. The referee decides this is DIF:STR. The character has STR1 3; multiplying by 5 gives 65; dividing this by two gives the character a 32% chance of success.

More Rules: The chapter entitled *Skills and Attributes: Part Two* in the referee's manual goes into greater detail and explains a number of specific tasks.

Time and Travel

A typical *Twilight: 2000* adventure may take several days or several weeks. A campaign will last months, and perhaps even years. An encounter can last a few minutes and a firefight can be over in seconds. Obviously, the variety of possible activities in the game cannot all be done at the same rate of passage of time, and thus a variety of time scales are used.

THE DAY

The longest measure of time regularly used is the game day. Game days are used to gauge travel over long distances or progress toward completion of a major task. Referees and players will want to keep general track of weeks and months as well, to keep a broader perspective on the passage of time.

The game day is broken down into six 4-hour periods. These periods are used to schedule the activities of players during a day. When moving cross-country, it is seldom necessary to plan each day separately; instead, players should settle on a routine, such as eight hours on the road, four hours foraging and hunting, four hours of camp duties and maintenance, and eight hours of sleep. Likewise, a typical day in town might consist of eight hours each of work, recreation, and sleep. Players would then merely specify to the referee what task they were working on. Special situations, such as a forced march away from pursuers, will require alteration in the routine, and the players are free to do so. A generalized routine, however, will greatly speed play of the game.

The use of four-hour periods is for the convenience of the referee and players, to make scheduling of daily activities easy. It is not meant to unduly restrict players' activities. Thus, for example, if a group of players want to move a certain distance that is half of the distance their vehicles can move in a four-hour period, the referee should feel free to let them do so and only charge them half the normal fuel cost for a one-period move.

ENCOUNTERS

The referee will usually roll for an encounter once every four-hour period (or fraction thereof) spent moving and once per day spent stationary. The rules on encounters explain the procedures followed to determine what sort of encounter results.

Encounters with people are resolved at the time scale the referee feels is appropriate. Usually, this will consist of role-playing the encounter, with the referee playing the part of the non-player characters encountered, and periodically informing the players of the passage of time. For example, after an exchange of conversation, the referee may say, 'you've been talking to the farmer for about half an hour."

If the encounter is a violent one, the referee will begin using combat turns or even combat rounds.

COMBAT TURNS

Combat is resolved in half-minute turns, each of which is divided into six 5-second combat rounds. Each character can per-form one action (run, shoot, reload) per combat round. For long-range encounters or encounters with large parties, the referee will often use 30-second combat turns as the means of resolving the encounter. When greater detail is desired, the combat round will have to be used. The use of combat turns and combat rounds is explained more completely in the chapter on combat.

TRAVEL

Daily travel distances can vary greatly based on terrain, loads carried, mechanical breakdowns, and a variety of other factors. The travel movement table gives rough values, in kilometers traveled per period. The first number is used if traveling on a road, the second if traveling off the road.

The referee should feel free to vary this as he sees fit. Remember that players should never feel that their interaction with the world around them is purely mechanical or a function of reading numbers off a chart.

There are some complications to this. Terrain is one, as

covered in the next section. Others are explained below.

Men: Men march half the listed distance if burdened. They are also subject to fatigue (see below).

Animals: Horses and oxen should not be made to travel more than two periods per day; mules should not be made to travel more than three periods per day. They can travel more than that, but they suffer an increased chance of going lame (see *Upkeep).*

Horses and mules may be force-marched. If force-marched, a horse's travel distance is multiplied by 2, and a mule's by 1 .5. However, this also increases the animal's chance of going lame.

An animal may be burdened (carrying up to twice its load); unlike a man, its travel distance is not reduced, but burdening increases the animal's chance of going lame. A burdened animal may not be force-marched.

Animals pulling wagons or carts may not be force-marched or burdened, but may be forced to travel more than their usual number of periods.

Bicycles: A bicycle has no load of its own; a character riding a bicycle can carry his personal load. He travels at half speed if encumbered. If unable to ride (see Terrain below) a character may walk his bicycle at his off-road walking speed; its weight does not count against his load limit.

TERRAIN AND TRAVEL

Travel on a good road is largely unaffected by the terrain through which the road passes, but good roads are becoming scarce. Furthermore, the roads are still fairly well settled, and often infested with military patrols and convoys. Most characters will spend much of their time on back roads and traveling cross-country. When travel on a good road is practical, however, it is done at the road movement rate. A poor road (one which is breaking up, partially washed out, or just hasn't seen a road crew in three or four years) allows travel at the full cross-country rate for vehicles regardless of terrain.

Aside from roads, there are four main types of terrain encountered in the countryside: woods, swamp, hills, and open terrain.

Woods: Woods are forested areas of considerable extent. Most wooded areas in Europe have frequent clearings and open areas and are crossed by numerous dirt roads, paths, and firebreaks. While a man can walk through virgin forest, it is an impractical means of travel for vehicles and for a party of men for any distance. Thus, all travel through wooded areas is assumed to be along only paths and roads and through clearings whenever possible. Movement on foot or by animals through woods is at the full movement rate. Vehicles travel through woods at half their off-road movement rate unless following a particularly well-traveled old dirt road, in which case they move at their full off-road movement rate. Bicycles may not be rid-den through woods except along such roads.

Swamp: Swamps are difficult to traverse. A man on foot can move at his full movement rate. Animals and all vehicles move at half of their off-road movement rate. Bicycles may not be rid-den. In addition, roll 1 D6 once each four-hour period for each non-amphibious vehicle. A roll of 1 indicates that the vehicle has become mired. Extracting a mired vehicle takes one additional period and requires the use of one or more vehicles whose combined weight equals or exceeds that of the mired vehicle.

Hills: Hills are relatively steep but regular rolling ground. All movement is reduced by half in hills. Hills may also be wooded. If so, determine the movement rate for woods first and then apply the hill terrain reductions to the result.

Open: Open terrain is generally flat or gently rolling grasslands, and for the most part consists of former cultivated lands, which have reverted to the wild but are not yet wooded. Open terrain also includes cultivated ground in the area of settlements. All movement through open terrain is at the full off-road movement rate.

FATIGUE

There are four general types of activity that a character can undertake in a four-hour period: sleep, rest, hard work, and easy work.

Sleep: No other activity is possible while sleeping. Each character must have one period of sleep per day or two periods of sleep if he has performed three or more periods of hard work. For every sleep period deficiency, the character suffers one level of fatigue. A fatigued character will recover one fatigue level for every period spent in sleep.

Rest: Rest is a poor substitute for sleep, but can help combat its lack. A character riding in a vehicle and not serving as a driver or lookout can rest. While rest does not count toward a character's sleep requirement, a fatigued character recovers one level of fatigue for each period spent resting.

Hard Work: Hard work constitutes tasks, which are extremely fatiguing. These are marching, riding an animal or bicycle, driving a vehicle cross-country, fighting, and actual physical labor (including, but not limited to, farming, building bridges and buildings, digging ditches or entrenchments, carrying out major repairs on heavy machinery, etc.). Some referee discretion is required when deciding which tasks constitute hard work. Changing a flat tire, for example, is not particularly heavy labor; changing an axle is. A few minutes of hard work in a period do not make it a period of hard work; it takes a substantial quantity, with one exception: any combat whatsoever in a period, however brief, makes it a period of hard work.

An already fatigued character may still do hard work, but suffers one additional level of fatigue per period of hard work, regardless of how many periods are spent sleeping.

Easy Work: Hunting and foraging, routine maintenance,

guard duty, setting up and tearing down camp, preparing meals, driving a vehicle on a road, and simple first aid are all examples of easy work. Easy work neither increases nor decreases the character's fatigue level.

Effects of Fatigue: A character's effective STR, AGL, CON, and INT are reduced by one for each level of fatigue. If any at-tribute is reduced to zero, the character becomes unconscious and will sleep for one complete period (thus raising the attribute back to 1).

Derived values (such as base hit numbers) are not recalculated based on altered attributes. Instead, these are affected directly. All base hit numbers are reduced by three at close range, two at medium range, and one at long range per level of fatigue. Load and throw range are reduced by two per level of fatigue. Body combat damage is reduced by one per level of fatigue. All skills are reduced by five per level of fatigue.

Example: Monk and Carson are moving overland on a several-day march. They are carrying plenty of food with them, so they don't have to spend time foraging. Their routine is:

Midnight to 8:00 AM: Monk sleeps, Carson stands guard.

8:00 AM to 4:00 PM: Both march.

4:00 PM to Midnight: Carson sleeps, Monk stands guard.

Both Monk and Carson have two periods of hard work (marching), two periods of sleep, and two periods of easy work (standing guard) each day, and thus neither of them becomes fatigued.

On the second day out, a party of intruders stumbles into their camp at 1 0:00 PM. Monk wakes up Carson and in a firefight they chase the intruders off. Starting the next morning, Carson has a fatigue level of one (three periods of hard work—marching or fighting—and only one period of sleep) while Monk is not fatigued (also three periods of hard work, but two periods of sleep).

They decide to stick to their schedule and from Midnight to 8:00 AM Monk sleeps. When he wakes up, he has met his requirement for two sleep periods. Carson, however, still has a fatigue level of one. At the end of the day's march Carson's fatigue level has risen to three, since once fatigued he suffers an additional fatigue level per period of hard work.

That night he goes to bed and sleeps for two periods. When Monk wakes him up at midnight he has a fatigue level of one, having

recovered two points. When Monk wakes up at eight the next morning, they decide not to march that day and let Carson get some rest. Both spend the day in routine maintenance and foraging, and at 4:00 PM Carson turns in. When he awakes at 8:00 PM, he is refreshed and recovered from his fatigue.

As should be clear from this example, it is difficult for only two people to make good time cross-country, keep a constant guard, and not rapidly wear themselves out.

The referee should not bother about minor sleep period deficiencies except in instances where fatigue and endurance can clearly become important to a group's activities. That is, if a group is moving fairly leisurely with plenty of time to catch up on sleep and rest, an interrupted night's sleep period is of no great concern, and should not be allowed to slow up the game by causing a flurry of paperwork and calculations on the part of either the referee or the players.

Upkeep

This chapter is concerned with the day-to-day realities of the characters' lives. Even while they are having adventures, they must still eat, find fuel for their vehicles, and take care of their vehicles and animals.

FOOD REQUIREMENTS

Each character must eat at least 3 kilograms of food every day to remain healthy. Most of this must be found in the wild. 'Civilized' food – domesticated animals, cultivated grains and vegetables, canned or packaged food, etc.— counts as 1 .5 times its weight. Thus a man could survive on 2 kilograms of such food a day. Specially fortified and pre-packaged military rations count double, and a character could survive on 1 .5 kilograms of these a day. The most common form of such rations is the MRE (Meal, Ready to Eat), although over the years they have become rare and are highly prized for their lightweight, ease of preparation (they are pre-cooked), and generally good flavor.

Effects of Starvation: If a character eats less than his daily requirement, but at least half the requirement, he suffers one level of fatigue. This fatigue remains (but gets no worse) until he eats his full requirement for as many days as he was under-fed (or 1 0 days at most). A character gains one level of fatigue for each day in which he eats less than half the requirement, until his STR, AGL, CON, and AGL are all reduced to 1; they do not fall below 1. One level of fatigue is recovered for each consecutive day of full rations.

Eventually, a character on less than half rations will starve. This takes about a month of no food or several months of half rations.

FORAGING

Characters may find food in the wild by foraging. It takes one four-hour period to forage a 1-kilometer square area. An area may be foraged only once per month. For simplicity's sake, it is best to consider an area foraged out after one forage attempt.

Only one foraging party may forage an area. The number of people in the foraging party reduces the time it takes to forage an area but does not affect the quantity of food found. If two people forage an area, for example, they can search it in half a period. (A party can break up into several smaller foraging par-ties, provided they spread out and forage different areas.) Foraging is a task (AVG:FOR) performed by the character in the party with the highest FOR. Failure means that no food is found.

The foraging table lists the amount of food, in kilograms, found by a successful forage attempt in each of the four seasons and in each of the major terrain types. If the character achieves outstanding success (see the referee's manual), double the amount of food found.

Fields: Players do not forage, per se, in fields, and no die roll is necessary. In the winter and spring, there is no food to be found in fields. In the summer and fall, there will generally be standing crops and characters can gather virtually as much food as they can carry. In one period, this will generally amount to 200 kilograms per man, and counts as hard work. An additional period is required to separate the edible parts of the crop from the chaff. This will yield a total of 50 kilograms of edible food in the summer or 1 00 kilograms of edible food in the fall. If in a hurry, the separation of edible food from chaff can be delayed until later, but the full 200 kilograms of weight must be carried until that time. Alternatively, a period can be divided into two hours of harvesting and two hours of separation, resulting in 25 kilograms of edible food in the summer and 50 kilograms of edible food in the fall.

In both cases, the resulting food is considered "wild", and thus only counts as 1 kilogram of nutrition per kilogram of bulk.

FISHING

Fish can be caught from any open water: a swamp, stream, river, pond, lake, or ocean. Fishing is a task (AVG:FSH) requiring line and hooks, a net, or a fish trap. Fishing without adequate equipment is DIF:FSH. If the task succeeds, a character can catch fish in one period equal to the amount given on the foraging table

(expressed in kilograms of edible meat). Double the total for outstanding success.

These totals are for line fishing from a shore or boat or net fishing from a shore. Double the totals for net fishing from a boat in large open waters (large lakes or the ocean).

Grenade Fishing: Any klutz can throw a grenade in a pond and kill fish. No skill is needed. When a character announces his intent to try grenade fishing, the referee secretly rolls 2D6 x 1 0. This is the total quantity of fish (in kilograms of meat) available to be caught. Each grenade will bring 1 D6 — 1 times 4 kilograms of meat to the surface. The character can keep throwing in grenades as long as he wishes. After the allowed number of kilograms of fish have floated to the surface, however, the referee will tell him, after each additional grenade, that no fish float up. Note that it is possible to have a grenade fall to turn up any fish before the fish population is exhausted. Grenade fishing cannot be used in swiftly flowing water (since the dead fish float away).

HUNTING

Many encounters will be with animals, and the procedure for resolving the encounter is explained in the referee's manual. Briefly, players will often be able to surprise and kill animals and, if so, eat them. The animal data chart lists the edible meat on the animals characters can encounter.

FUEL

After years of war and a breakdown in the world transportation system, Europe is starved for petrochemicals, and most machinery is grinding slowly to a halt. There are still isolated wells and small oil fields pumping, but the need for lubricants is so great that virtually no one can afford the luxury of actually burning the oil. As a result, the most common fuel in use is alcohol. A few vehicles were originally equipped with multi-fuel engines that could, in a pinch, burn alcohol. Over the last several years' virtually all-remaining vehicles have been converted to alcohol burners.

The advantage of alcohol is that cornhusks and waste vegetable products can be distilled into alcohol, and these are both plentiful and renewable. In addition, most units have made stills they carry on trailers or trucks, which enable the unit to live off the land in respect to fuel as well as food. The disadvantage is that alcohol has less than half the energy value per liter as gasoline. Thus, alcohol burners tend to have much higher fuel consumption to get the same performance. Since the engine has to be modified to burn alcohol, it would have to be modified back before it could again burn gasoline or diesel fuel. Certain high performance engines cannot be modified to burn alcohol. Aircraft designed to fly on aviation gas cannot get off the ground on alcohol. Thus, airpower is mostly a thing of the past (to the secret relief of many infantrymen).

Consumption: Each vehicle's entry on the equipment list gives its fuel consumption rate (liters consumed per period spent traveling or in combat) and fuel capacity (in liters). These values are repeated on the travel movement chart. Additional fuel, of course, can be carried in supply vehicles or strapped to the outside of the vehicle, but this can be dangerous in combat. The entry also states all the types of fuel the vehicle can be modified to burn. All vehicles initially should be set up to burn either ethanol (grain alcohol) or methanol (wood alcohol), whichever the players prefer. The fuel consumption of a vehicle assumes gasoline or diesel fuel. Fuels with lower energy properties are consumed at a higher rate. The fuel energy table lists fuel consumption multipliers for each type of fuel. To determine a vehicle's actual fuel consumption, multiply its listed fuel consumption by the consumption multiplier of the fuel being used. For example, the Ml tank has a fuel consumption rate of 550. Thus it would consume 550 liters of gasoline per period, or 1 650 liters of ethanol, or 2200 liters of methanol.

Changing Fuels: The fuel burned by a vehicle may be altered from its current choice to any of the other choices given in the vehicle's entry on the equipment list. This task is ESY:MEC and takes 8 hours. Vehicles which are listed as burning all types of fuels (gasoline, aviation gas, diesel, and alcohol) have multi-fuel engines and do not need to be adjusted.

Distilling Alcohol: If a character has a still, he can distill alcohol for fuel. The equipment list contains a variety of stills and their prices. The list and the alcohol output chart give the two values controlling distillation: kilograms of vegetable matter required and liters of fuel produced per day. These figures are the same whether the still is to be used to produce ethanol or methanol.

Distilling alcohol takes three days from start to finish. The first day is spent gathering material for the still, pulverizing it, and combining it with water to make a "mash". For the next 24 hours the mash is cooked over a constant low heat. It is during this time that fermentation (and other chemical processes) creates alcohol. On the third day the mash is distilled to separate the alcohol from the rest of the mash. While the still needs to be stationary for the distillation step and while gathering material for the mash, the group can move while the mash is fermenting. Alcohol making can be a continuous process, with all three steps going on at once.

Gathering Material: One person can gather, pulverize, and turn into mash 1 00 kilograms of material per period, on the average. This is halved in winter and halved in non-wooded hills. If both conditions are present, the amount gathered is quartered.

Material gathered anywhere could be used to distill methanol. Only cultivated grain (or other edible plant matter containing carbohydrates or sugars) may be used to distill ethanol. Thus the above figures on material gathered apply only to methanol. Material gathered for ethanol consists of the edible food weight foraged from a field in summer or fall. Alternatively, grain can be purchased or bartered for.

While the above rules go into some detail, considerably less detail is necessary in actually administering the process. Since the material for methanol is plentiful everywhere and easy to gather, the referee should normally allow players to run a methanol still full-time without bothering to require an exact accounting of time and material.

VEHICLE MAINTENANCE

A vehicle requires nearly constant maintenance to keep it running, even in the best of times, and these are not the best of times. People used to driving civilian cars on good roads are seldom aware of how much more punishment a military vehicle takes, even something as mundane as a cargo truck. In the world of *Twiight:2000,* a good mechanic is worth his weight in gold, and indispensable if the players have vehicles they want to keep running.

A good mechanic, for all his worth, will sometimes be considered a pest by the rest of the group. He will want to spend as much of his time as possible with the vehicles going over them and conducting minor repairs and preventive maintenance. He will be constantly searching for more spare parts, whether they are needed now or not. (Someday they'll be needed and might not be available then, so get them now is his philosophy.)

Routine Maintenance: There are very few vehicles left which are in perfect condition. Most have been repeatedly repaired and rebuilt, sometimes with homemade parts, and are generally worn out. Every vehicle has a base maintenance number. This is the number of hours per week that should be spent in routine preventive maintenance to keep it in good working shape, assuming it is in mint condition. The actual time spent in maintenance is up to the players, but should be influenced by the actual condition of the vehicle.

Vehicle Condition: Whenever characters acquire a vehicle during the game, including during character generation, the referee should determine its wear condition by rolling 1 D 1 0. The higher the wear condition, the more worn out the vehicle. Whenever characters are in a position to buy or sell a vehicle, its true value is determined by dividing its base price by its wear number. Thus, a vehicle which would normally cost $20,000 but had a wear value of 8 would only be worth $2,500.

Breakdowns: Each vehicle has the potential to break down each time it spends a period in either movement or combat. The percentage chance of a potential breakdown is equal to the vehicle's wear number.

A potential breakdown does not mean the vehicle has actually suffered a serious malfunction. Avoiding an actual breakdown is a task (AVG:MEC) performed by the character who did the last maintenance on the vehicle. If the vehicle has not been main-tamed its required amount in the last week, the potential breakdown automatically results in an actual breakdown.

If a potential breakdown does not result in an actual breakdown, the characters may continue moving. The occurrence of a potential breakdown is obvious to the characters, and the referee should tell the players that they hear ominous grinding noises in the engine, see smoke in the exhaust, etc. Once a potential breakdown has occurred there will be an additional automatic potential breakdown every period traveled thereafter until the vehicle receives its required weekly maintenance. Avoiding an actual breakdown is a task (DIF:MEC) performed by any character during intermittent short halts. The severity of breakdowns and how to repair them are covered in the referee's manual.

Preventive Maintenance: Extra preventive maintenance can reduce the risk of a potential breakdown. If a mechanic spends twice as much time in maintenance on a vehicle as required, he reduces its potential breakdown risk by 1 %. Thus a vehicle with a wear value of 4 would only have a 3% risk of a potential breakdown per period. Spending three times the required maintenance time reduces the risk by 2%; four times the maintenance reduces risk by 3%, etc. However, the risk of a potential breakdown may never be reduced below 1 %.

Increasing Wear: After a vehicle has suffered ten actual breakdowns its wear value is increased by 1. A vehicle with a wear value of 1 0 which suffers its tenth breakdown at that value is no longer repairable and is good only for salvaging parts.

Once players and the referee are very familiar with the game mechanics they may wish to keep separate track of the wear value of the components of a vehicle. That is, a vehicle which suffers repeated engine breakdowns would end up having a very worn out engine, but a sound suspension. In this case the tenth engine breakdown at wear value ten would mean the characters need to find a new engine, not a whole new vehicle. This rule is not suggested for beginning use; players and the referee have enough to keep track of as it is.

ANIMAL MAINTENANCE

Animals, like vehicles, require 'maintenance" if they are to perform properly.

Feeding: All draft animals need to graze for two periods per day. Horses and mules also require grain if they do any work that day (including being ridden). The amount of grain required is given on the animal list. If they do no work, they need not be fed grain, but must spend all day grazing to make up for it. Each day in which an animal does not receive enough to eat, it receives a hunger level increase of 1. If it is also forced to work, it receives a hunger level increase of 2. All animals start at a hunger level of 0. If an animal's hunger level reaches 20, it dies. The animal's hunger level also increases its chance of going lame (see below). For every day in which the animal gets all the food it needs and is not required to do any work, it receives a hunger level decrease of 1.

Care: Maintenance is a task (ESY:EQ) and takes 20 minutes per animal after its work is completed each day. Failure to conduct animal maintenance (or a failed roll) causes the animal to suffer a hunger level increase of 1 but not more than once per week. (The animal is not really hungry, but the effects and remedies of inadequate care are the same as for hunger. For simplicity they are treated as the same.)

Going Lame: Each period in which an animal travels, it has a 1 % chance of going lame. This is increased by 5% for each of the following: each hunger level, forced march, being burdened, and each period traveled that day in addition to the nor-mal allowed number.

If the player rolls less than half of the number required to go lame, the horse has either broken a leg or collapsed from exhaustion, and in either case must be put out of its misery.

An animal carrying no load at all has no chance of going lame.

Recovery: An animal can recover from going lame. In order to recover, it must not carry any load and may not be force-marched (although it can move at the normal travel speed). It must receive its full care and be well-fed. If so, it will recover in two weeks automatically. There is a chance it will recover in one week if the character caring for the animal does his job well (AVE:EQ). If any of the above requirements for recovery is not met, the animal is permanently lame and of no further use (except food or sale to the gullible).

Combat: Part One

The world of *Twilight: 2000* is a dangerous place, with the threat of violence always just around the corner. It won't always be possible for characters to talk their way out of a difficult situation (sometimes they may not even be given a chance to try!) and so a resort to combat is often the only means of surviving.

The general heading of combat includes attacks against people, animals, and vehicles using firearms, melee weapons (such as knives), bare fists, grenades, even rocks. Regardless of the type of attack made or the type or target, the results of an at-tack can always be determined by answering three questions:

1 Did you hit the target?
2. If so, where did you hit it?
3. How much damage did you do?

To resolve a combat attack, players and referee roll dice to determine the answers of each of the above questions. Specific rules vary and there are many complications, but the three main steps are always there.

This chapter covers everything relating to the first two questions and to the third question except for the complicated question of damage to vehicles. That and others of the more complex combat-related rules, such as those covering explosions and chemical rounds, are contained in the referee's manual.

THE COMBAT TURN

Each combat turn is thirty seconds long and is divided into six 5-second combat rounds. One action can be performed by each player in each combat round. Each action takes only one combat round to complete.

Many combats can be resolved using the combat turn instead of resolving each combat round in order. Each player should tell the referee what he is doing during the turn; then the referee resolves the fire of hostile NPCs while telling the players what they see and and when to resolve their own fire.

MOVEMENT

Movement during combat can be resolved in whatever detail the situation warrants. In many cases, no map at all is needed: long range sniping between parties on foot, for instance. In others, the referee can do well enough by just drawing a map and positions on a piece of paper. If greater detail is needed, the referee can make a map beforehand and the positions of characters and vehicles can be represented by pins, drawing on plastic overlays, counters, or miniature figures. Any scale may be used; movement rates and weapon ranges are given here in meters.

Combat movement rates, in meters per combat round, are given on the combat movement table.

People: People may move at four different rates: crawl (2 meters), walk (8 meters), trot (1 5 meters), or run (30 meters). A character who is burdened travels half this fast. These rates affect characters' ability to fire small arms, as shown on the weapons chart. Characters who are crawling are prone.

Animals: Animals have three different rates: walk, trot, or run (some animals do not run). Horses and mules may be ridden in combat. Anyone may ride a walking animal safely. Riding a trot-ting animal is safe for anyone with any EQ skill and is ESY:AGL for other characters. A character with EQ skill has a maximum safe speed on a horse equal to 20 **+** (EQ/5); round fractions up. Riding at the safe speed is automatic. A character may ride at greater than the safe speed, up to 40 meters per round (full gallop) at the risk of falling off. Avoiding a fall is AVG:EQ or DIF:AGL, rolled once per turn. A fall results in 1 D — 3 hits with location rolled on the damage location chart.

Bicycles: The listed speeds are the safe speeds on and off-road. A character can attempt to go up to twice the safe speed (AVG:AGL). Failure results in falling off; no damage results. if the character is encumbered he travels at half speed and may not go faster than that. Vehicles: The listed speeds are the safe speeds on and off-road.

A vehicle may travel faster than this at the risk of a mishap (see below).

Mishaps: A character may drive a vehicle (including a motorcycle) at up to three times the safe speed but runs the risk of a mishap. Driving at up to twice the safe speed is AVG; the skill used Is TVD, WVD, or MCY, depending on the vehicle. Driving at up to three times the safe speed is DIF. The roll is made once per turn.

If a mishap happens, the vehicle has become stuck in a pothole or ditch or bottomed out in rough ground; the vehicle is stuck in place. Once per turn, the driver may attempt to get it moving again (DIF:TVD or DIF:WVD); this occupies his time for the en-tire turn. A mishap on a motorcycle means that the rider has fallen off; the motorcycle and (probably) the rider are undamaged; he can get back on and continue. If a catastrophic failure happens (see the referee's manual), a serious mishap happens. Serious mishaps include breaking an axle, throwing a track, rolling the vehicle, or in some other way putting it out of commission until major repairs are undertaken. The referee should determine the exact nature of the mishap according to circumstances. On a crowded road, there may be a collision. A light vehicle is easy to overturn, a tank almost impossible. Passenger injuries are also up to the referee.

ACTIONS

A character may perform one action in each combat round (or sometimes two actions). Actions are chosen at the beginning of each round. First, the referee should decide what each NPC is doing, and then each player should decide what his character is doing. These decisions are revealed simultaneously. The possible actions are listed below.

Fire: With some weapons, this may be combined with a walk or trot.

Aim: Aiming improves the chance of hitting if done just before firing.

Reload: It generally takes one combat round to change a magazine.

Recover Spent Brass: The empty cartridge cases from firing are valuable and can be used in trade. A character can spend one round to recover all the brass from a single magazine directly after reloading. If this is not done, the brass falls on the ground and later takes several minutes to gather up, if it can be found at all. Characters firing 4.7 CIs ammo or mortars have nothing to recover. Brass from vehicle-mounted weapons is automatically recovered.

Melee: Attacking with a melee weapon. This action may be combined with a walk or trot.

Body Combat: Attacking without a weapon. There are four types, which must be specified: *strike, grapple, escape,* and *div-in$_9$ blow.* This action may be combined with a walk or trot. A diving blow may also be combined with a run.

Crawl: 2 meters.

Walk: 8 meters.

Trot: 15 meters.

Run: 30 meters.

Go Prone: A crawling character is prone. This action is used if a character wants to become prone without moving. A prone character can stand up at any time by walking, trotting, running, or engaging in body or melee combat.

Drive a Vehicle or Ride an Animal: Speed (safe or not, on or off road) must be specified.

Hesitate: This action involves doing nothing. A character is forced to take a certain number of hesitation actions in each turn, depending on his coolness under fire. See below.

Communication: Often players will wish to discuss their plans during combat. The referee should be careful to keep these discussions within the bounds of reality. For example, one player 50 yards away from another would not be able to carry on a normal conversation in the middle of a firefight unless both had radios. Also, it takes time to talk, particularly on the radio. Thus, the referee should allow conferences when it's possible for players to converse, but should not allow them to fire or do other difficult actions at the same time (except for simple messages like "look out behind you!"). Two players in the same foxhole could probably converse fairly easily while reloading; two players running across a field firing submachine guns could not.

COOLNESS UNDER FIRE

A character's coolness under fire determines his susceptibility to hesitation and panic.

Hesitation: Not everyone responds as quickly under fire as the best, and this is taken into account with hesitation actions. In each combat turn, a character must perform as many hesitation actions as his coolness under fire rating divided by 2, rounding fractions up. He may conduct these at the beginning, mid-die, or end of the turn or spread them out in any sequence he desires.

For example, a character with a coolness rating of 5 would have to spend three combat rounds per turn hesitating, while a character with a coolness of 0 would not spend any rounds hesitating.

Repetition: A character is not required to take any hesitations in a turn if he does exactly the same action repeatedly for the entire turn. For example, a player wishes to crawl down a ditch, which is 36 meters long. He can crawl two meters per round, but he normally has to take three hesitations per turn. This would mean that he could only crawl three times, or 6 meters, per turn. Since he has made the decision in advance that he will just crawl, however, he is able to crawl six times, or 1 2 meters, per turn. He is thus able to crawl the length of the ditch in three combat turns instead of six.

As a second example, a player normally must take two hesitations a turn but wants to give covering fire for another player. He decides in advance that in the turn he will fire each combat round. In this case, he is not required to hesitate. However, if his weapon held less than six shots when he started, he could not reload his weapon without hesitating, as reloading is a different action.

If a repetitive action becomes impossible before the turn is over (as was suggested in the above example), the character must hesitate for the remainder of the turn.

Vehicle Drivers: Drivers hesitate like other characters, and when one does his vehicle does not move. This may be overcome in two ways. First, another character in the vehicle may give him a clear destination; he could say, for example, "Get over behind that barn." While the driver is moving toward the destination he is not subject to hesitation. Once there, he will again be subject to hesitation. Also, if his orders are changed on the way to the destination, he is subject to his regular amount of hesitation for one combat turn before the new orders take effect.

Second, a character with better coolness can give the driver constant directions. The other character may not do anything else, but as long as he continues to give instructions, the driver hesitates only when the character giving him orders does. Regardless of these two conditions, if the driver panics

(see below) he suffers the mandatory hesitation, which results.

Knockdown: Whenever a character suffers hit points during a combat round greater than or equal to his STA, he is knocked down. (There are other ways to be knocked down too; see later rules. The effects are the same.) A knocked down character's next action must be a hesitation if he has any hesitations remaining that turn. Body armor does not affect hit points for knockdown purposes. For example, a character with STA8 who received 9 hit points in a combat round is knocked down, even if his body armor absorbs all 9 hits and he suffers no actual damage. A character is knocked down even if he is already prone, or even sitting in a vehicle, since knockdown also represents the shock of being fired upon.

Panic: Whenever a character is surprised (attacked from an unexpected direction or as defined in the encounter chapter of the referee's manual) or is knocked down, there is a chance that he will panic. This is not blind panic, which sends him running for cover, but rather causes him to momentarily freeze or become confused. To determine if a player panics, roll 1 Dl 0. If the result is equal to or less than his coolness rating, he panics, and must immediately hesitate for a number of rounds equal to his coolness divided by two, rounded up. This is true even if he has already used up his hesitations for the turn. Once all of his hesitations have been used (and assuming he is still alive), he returns to normal. Note that players with a coolness rating of zero never panic. Although all hesitations must be taken immediately, only the first hesitation is actual shock paralysis. On the second hesitation the character may go prone or duck into cover that is within 2 meters of him and remain stationary there until all his hesitations have been used.

Bailout: If an armored vehicle is penetrated by fire (receives hits equal to its armor value), there is a chance that each character inside will panic and bail out. The roll is the same as for panic, above. If he fails the roll, he must immediately climb out of the vehicle, seeking cover within two meters, and once out must take all his hesitations. When his hesitations are done, he may get back in. It takes one round to get out of or into a side or rear door, and two rounds to get out of or into a top or turret hatch.

Charge: If a character on foot is being charged by a vehicle (not a bicycle) or running horse within 1 00 meters (that is, he is about to be run over by something large and fast), he must check for panic. If he panics, he does not hesitate; instead, he runs. Subtract two from the panic roll if the character has a weapon with a good chance of stopping the attacker and is prepared to fire it.

ORDER OF ATTACKS

Most fire and thrown weapon combat in a round is simultaneous. Melee, body combat, and all fire combat aimed at anyone attempting melee or body combat, however, are resolved in a sequence.

These attacks are resolved one at a time, in order of the skill levels of the characters making the attacks (starting with the highest). If two characters have the same skill level, each has a 50% chance of going first. If a character is put out of action by an attack earlier in the round, he may not attack in that round.

These attacks happen first in the round. After they are over, remaining fire and thrown weapon attacks are resolved simultaneously; that is, anyone put out of action still gets to attack in that round.

Example: Monk is out of ammunition and next to Gerhard, who has a pistol. Gerhard is trying to shoot Monk while Monk is at-tempting to strike Gerhard with his rifle butt. The appropriate skill levels used to determine which character attacks first would be Gerhard's PST skill level versus Monk's MC skill level. If Gerhard's skill level is higher than Monk's, he will get a shot off before Monk is able to swing his rifle butt at him.

BODY COMBAT

Characters must be within 2 meters of each other to make body combat attacks. There are four types of body attacks: strikes, grapples, escapes, and diving blows. Strikes and div-ing blows attempt to do damage to the target while grapples and escapes attempt to seize and hold the target or to escape from a hold. A character may make only one body combat at-tack per combat round.

Strike Attacks: A strike attack is a task (AVG:BC). Success means that the attack hits.

Blocks: If a character successfully hits an opponent, the opponent may be able to block the blow. The opponent may do so only if he is conducting a melee or body combat attack that combat round. If so, he attempts to block (in addition to his at-tack). Blocking is also a task (DIF:BC or DIF:MC). Success means that the attack has no effect. Note that two characters may both attack and attempt to block each other.

Aimed Attacks: A character may decide to concentrate his attacks against one particular body part (DIF:BC). If the attack succeeds, the die roll for location (see below) is not made; the attacker chooses the hit location.

Hit Location: Hit location (if the attack succeeds and is not blocked) is rolled on the hit location chart (biped or quadruped).

The die roll for hit location is not made for a surprise strike (an unexpected attack from behind). The attacker is allowed to pick his target.

Damage: Damage inflicted from a strike is equal to the attacker's body combat damage rating plus a roll of 1 D6.

Armor: Armor absorbs hits equal to its armor level from each strike attack and suffers no damage. Half of the damage absorbed (rounding fractions down) is inflicted on the attacker on the body part (right arm, left arm, right leg or left leg) used in the attack. Thus, if Monk punched Gerhard in the torso and

caused 8 points of damage, but Gerhard was wearing an armor class 4 flak jacket, Gerhard would only suffer 4 hits, while Monk's right arm would suffer 2 hits.

Grappling: Grappling is a task (AVG:AGL). It is somewhat simpler than a strike to resolve. Blocking is not possible; there is no hit location; and armor has no effect.

While grappling "damage" is calculated in the same way as for a strike the results of the attack are termed controlling hits. They are not damage, but rather a measure of the extent to which one character has physically controlled another (with a hammer lock, pinning him to the ground, etc.). Once a character has inflicted controlling hits on another character equal to or in excess of that character's STR, the target character is totally controlled and ceases struggling. The controlled character may not move; the controlling character may not move without releasing control (all controlling hits disappear). Until that time, however, the character may attempt to escape or grapple with the original attacking character. If both characters grapple, the first one to achieve hits equal to his opponent's strength controls the other.

Escape: An escape attempt is resolved in exactly the same way as a grapple; however, if the attempt is successful, hits are removed from the accumulated total, which the other player has already built up.

Diving Blows: A diving blow is an attempt to throw oneself at the enemy and knock him down. Blocking is not possible and armor has no effect.

Avoidance: If a character is surprised (an unexpected attack from behind) the attack always hits. If he is not surprised, he may avoid the attack (AVG:AGL). If the blow is avoided, the attacker is knocked down. If the attack is not avoided, it automatically hits.

Effects: If a diving blow hits, either the attacker or defender is knocked down and suffers hits. If 1 D6 + 2 x STA of the attacker is greater than STR + STA of the defender, the defender is knocked down and suffers hits equal to the difference. Otherwise, the attacker is knocked down and suffers hits equal to the difference. If the defender is surprised, only his STA is used in the comparison.

MELEE COMBAT

Range: There are two general categories of melee weapons:

short and long range. Characters must be within two meters of each other (the same as for body combat attacks) for short-range attacks, and three meters for long-range attacks. If a character with a short-range weapon (including body combat) encounters a character with a long-range weapon, the short-range weapon may not attack in the first round of contact (although a short-range melee weapon may block).

The ranges of melee weapons are given on the melee weapon chart.

Hit Procedure: A melee attack is a task (AVG:MC). In the case of a surprise attack (unexpected attack from behind), no roll is made; the attack automatically hits.

Modifiers: Certain melee weapons add a modifier to the character's MC skill, also shown on the melee weapon chart. This modifier is added to or subtracted from the character's skill; however, it may never reduce the character's skill below level 10.

Blocks: If the target of a melee attack is also armed with a melee weapon and is making a melee attack that combat round, the opponent may attempt a block (in addition to his attack).

A block is a task (DIF:MC); if successful, the attack misses.

Hit Location: Hit location is rolled on the hit location chart.

Exceptions: The die roll for hit location is not made for a surprise attack; the attacker picks his target. The attacker may at-tempt to pick his target in any melee attack; this is a task (DIF:MC). If he hits, he chooses where he hits. Additionally, the referee should feel free to mandate certain hit locations if the situation warrants it. If an injured player crawls up to an enemy with a knife, he is unlikely to hit him anywhere but in the legs. Likewise, a character mounted on horseback and swinging a club is not going to hit the leg of a man on foot.

Damage: Damage inflicted from a melee attack varies with the weapon used. The melee weapons chart gives the number of dice rolled for damage for each weapon.

Some melee weapons have the notation + 5". These weapons inflict damage equal to the indicated die roll plus the STR of the character using the weapon. Weapons with the notation + ½S" inflict damage equal to the indicated die roll plus half the STR (rounding fractions down) of the attacking character.

Armor: Armor absorbs hits equal to twice its armor level from each melee combat attack, and suffers no damage.

FIRE COMBAT

Fire combat may be conducted at considerably greater distances than either body combat or melee combat. Fire combat weapons (and hand grenades) are listed on the weapons chart. The weapons chart gives a number of pieces of information for each weapon (or type of round, if the weapon can fire more than one type): rate of fire, magazine size, range, damage, and armor multiplier are explained in this chapter. Knockdown and burst radius is explained under Explosions in the referee's manual. Indirect fire range is explained under Indirect Fire, later in this chapter. There are two varieties of fire combat: direct fire and indirect fire. Both types share certain basic concepts, explained below.

Human Limits: A single character can fire only one weapon at a time (even a tank gunner who has a cannon and a machinegun in his turret). If a character has no applicable skill, he cannot fire a weapon.

Rate of Fire: Rate of fire (abbreviated ROF) is the number of shots a weapon *can* fire in a single combat round. A weapon may fire any number of shots in a round from zero up to its full ROF. (A shot is usually a burst of three bullets or rounds, although for some weapons it is only one round. Everything in these rules is described in terms of shots, not bullets or rounds.) A weapon may fire several times in a combat round, until it uses up its rate of fire or until it has used up all the shots in its magazine. For example, if a weapon with a magazine of 5 shots and a ROF of 3 fired 3 shots in one round, it could fire only 2 shots in the next round before exhausting its magazine.

ZSU-30-6 and M988: The ZSU-3O-6 mounts a 6-barreled gatling gun. Its ROF of 5 applies to each of the 6 barrels. The ZSU-30-6 can fire up to 6 shots at a single target while using up only one on its ROF (although it uses 6 shots of ammunition). The M988 has a double-barreled gun, which acts the same way, except that it fires up to 2 shots at a target.

Reloading: A character may generally remove a used magazine and insert a new one in one round; some weapons take longer and these are noted on the weapons chart. If loading takes more than one round, a hesitation in the middle merely postpones the loading. Some weapons have a loader and a gunner; the gunner may aim the weapon while the gunner loads it; he may also do anything else not involving the weapon being loaded, including firing a different weapon. If a weapon has a listed ROF of 0, that means that loading and firing are a single action, taking one round to complete (mortars and hand grenades fall into this category).

DIRECT FIRE

Direct fire is the most common type. In direct fire, the target is a person, animal, vehicle, or building visible to the firing character.

Hit Procedure:

Skill Needed: The skill used depends on the weapon fired. All pistols use PST. All rifles, submachine guns, machineguns, crossbows, and rifle grenades use CRM. Rocket launchers and anti-tank missiles use HW. Large-caliber guns, howitzers, and the 82mm mortar use LCG. Longbows use LB. Grenade launchers use either CRM or HW, whichever is greater. (Note: all weapons capable of indirect fire use IF when firing indirect fire.)

Base Hit Number: Unlike most tasks, skills are not used directly in fire combat. Instead, the base hit number is used. Each of the direct fire skills has three base hit numbers: one each for close range (skill x 0.6), medium range (skill x 0.3), and long range (skill x 0. 1); round all fractions down. The hit number us-ed depends on the range.

Range: Every weapon has its own value, in meters, for close range; this is listed on the weapons chart. Medium range is twice this. Long range is twice medium range (four times close range). Extreme range is twice long range (eight times close range).

Shotguns: Shotguns may fire only at close or medium range. *Aimed Shots:* All base hit numbers assume a quick shot (the most common type in a combat situation). A character may, if he wishes, instead take a carefully aimed shot. This involves spending one combat round aiming. The shot (which is fired in the next combat round) is resolved with the character's base hit number doubled. Many weapons are capable of firing more than one shot per combat round. If a character spends a corn-bat round aiming, he may still fire multiple shots in the next combat round, up to the weapon's rate of fire, but only the first shot counts as an aimed shot. The aimer must be able to see the target when aiming.

Extreme Range: There is no base hit number for use at extreme range. The long-range hit number is used for extreme range too. There are restrictions on extreme range fire.

A tripod-mounted or vehicle-mounted machinegun or automatic grenade launcher may always fire at extreme range, and the hit number is doubled if it is an aimed shot.

A sniper rifle may be fired at extreme range only if firing an aimed shot; the hit number is doubled.

Pistols, submachine guns, and all other rifles and machineguns may fire at extreme range if firing an aimed shot and firing from a rest (a bipod, tree limb, wall, etc.); the hit number is not doubled.

Large caliber guns may fire at extreme range only if firing an aimed shot using a range finder; the hit number is half the long range hit number (including half the rangefinder bonus—see below), with fractions rounded down.

Other weapons may not fire at extreme range: rifle grenades, bows, rockets, anti-tank guided missiles, grenade launchers (other than those on tripod or vehicle mounts), howitzers, and mortars.

Rangefinders: Vehicle-mounted and towed large caliber guns and howitzers have rangefinders, which provide a firing bonus to the gunner's base hit number. This bonus may only be used for aimed shots and only when shooting at vehicles or other large targets (such as buildings). The entry in the equipment list for each vehicle or towed gun gives its rangefinder bonus. This bonus is added to the base hit number at close, medium, and long range. Half the bonus is added at extreme range.

Movement by Firer: No hand weapon may be fired while the firer is crawling or running. Most weapons, however, can be fired while walking or trotting. The weapons chart indicates the effects of walking or trotting on the base hit number of a character firing each type of weapon. These are listed after the category heading of the weapon type and apply to all weapons in that category. W means the weapon can be fired while walking without modification; 1/2W means that the hit number is halved; if neither of these appears, the weapon may not be fired at all while walking. T and 1/2T mean the same things for trotting.

For example, the character noted above has a base hit number of 42 at medium range using CAM skill. Assault rifles are halved if fired while trotting while submachine guns are unaffected if fired while trotting. Thus, if the character were trotting, he would have a base hit number of 21 if firing an assault rifle or 42 if firing a submachine gun.

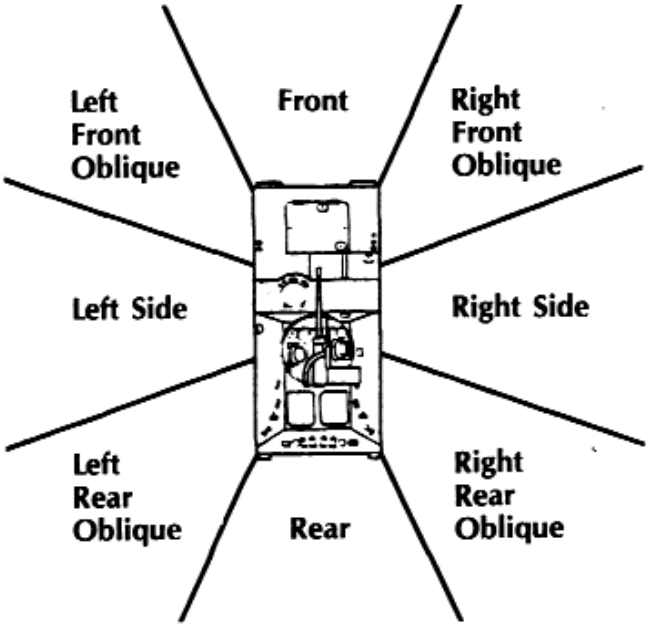
Fire from the Saddle: A character mounted on a draft animal uses the rule above, but is counted as being one movement category faster than he is; if the animal is stationary he is counted as walking, if the animal is walking he is counted as trotting, and if the animal is trotting he is counted as running (no fire possible).

Fire from a Moving Vehicle: No aimed fire is possible from a moving vehicle. There are no other restrictions.

Target Movement: If the target is moving 30 meters or more in the current round, the base hit number is halved.

Target Obscured: If the target is partially obscured (in brush, fog, mist, light smoke, etc.) the base hit number is halved.
Multiple Modifiers: If the hit number is modified several times (halved and/or doubled more than once, range finder bonus, etc.),

all modifiers are cumulative. The range finder bonus is added first, then all halvings and doublings occur, and then fractions are rounded down.
For example, A hit number of 35 with a range finder bonus of + 1 5 gives a hit number of 50. If this is doubled, halved, halved, and halved again, the final hit number is 12.
General Restriction: Regardless of the character's base hit number, all rolls of 91 or higher miss the target, and all rolls of 1 hit the target.
Firing at Riders: If the target is a draft animal and rider, motorcycle and rider, or bicycle and rider, the firer must announce which he is firing at: rider or mount. The shot is rolled as usual, but if it misses its intended target, it has a 1 0% chance (or half the hit number if that is lower) of hitting the other.
Hit Location: Hit location is rolled on the appropriate hit location chart (biped, quadruped, or vehicle).
Vehicle Hit Location: Vehicles are fired upon from one of eight target aspects, each covering a 45° arc of the vehicle. These aspects are front, right front oblique, right side, right rear oblique, rear, left rear oblique, left side, and left front oblique, as shown in the diagram below.



Once the aspect is determined, the referee rolls a D1O and consults the column of the table covering that aspect. Then the vehicle's damage location chart is consulted, as explained in the referee's manual.
Sometimes, a vehicle will be attacked from above. In this case the referee rolls 1 D6; on a 1 or 2, the hit is on the front deck; on a 3 or 4 it is on the turret deck; on a 5 or 6 it is on the rear deck.
Motorcycle Hit Location: To determine hit location on a motorcycle, roll 1 Dl 0 and consult the motorcycle hit location table.
Aimed Shots: A character conducting an aimed shot may, if he wishes, try to pick his hit location. If so, his base hit number is halved (although it is usually also doubled for aiming), but any hits automatically hit the part of the body or vehicle aimed at. This part must be one it would be possible to hit if the hit location table were used. A character firing an aimed shot with a sniper rifle may always choose a specific part of the body to aim at, without halving his hit number.
Damage: Damage inflicted from a fire attack varies with the weapon used and the range. Small arms weapons have a base damage number. At close range the weapon does four times the base damage plus 4D6. At medium range it does three times the base damage plus 3D6. At long range it does twice the base damage plus 2D6. At extreme range, it does damage equal to the base damage plus a roll of 1 D6.
For example, both battle rifles listed in the game (the G3 and the FAL) have a base damage number of 4. At close range it would cause 1 6 plus 4D6 hits of damage. At medium range it would cause 1 2 plus 3D6 hits of damage. At long range it would cause 8 plus 2D6 hits of damage. At extreme range it would cause 4 plus 1 D6 hits of damage.
Larger weapons have a damage multiplier instead of a base damage number. These weapons have their damage number preceded by x .
Weapons with a damage multiplier instead of a base damage number inflict damage equal to 4D6 times their multiplier at close range, 3D6 times their multiplier at medium range, 2D6 times their multiplier at long range, and 1 D6 times their multiplier at extreme range.
Some weapons with a damage multiplier have their multiplier followed by the letter "C". These weapons Inflict constant damage. That is, the amount of damage they inflict does not decline with range. They will inflict 4D6 times their damage multiplier at all ranges.
For example, a 25mm armor piercing incendiary (API) round has a damage multiplier of x 5. At close range it would do 4D6 x 5 hits of damage. At medium range it would do 3D6 x 5 hits of damage. At long range it would do 2D6 x 5 hits of damage. At extreme range it would do 1 D6 x 5 hits of damage. The high explosive (HE) round for the same gun has a damage multiplier of x SC, and so does 4D6 x 5 hits of damage at all ranges.
Damage to Vehicles: Damage to vehicles is considerably more complex than damage to people or animals, and is covered in the referee's manual.
Armor: Armor absorbs hits equal to its armor level from each fire combat attack. Thus, if a character was wearing an armor class 8 Kevlar jacket and was hit in the chest by a weapon doing 1 2 hits, he would only suffer 4 hits, the armor absorbing the remainder.
Each time that a weapon does as much damage in a single hit as the armor can absorb, the armor has been penetrated. A player should make a note on his character record sheet each time his armor is penetrated. After armor has been penetrated ten times it is heavily breached and is no longer useful.
Some rounds, due to a low velocity, poor penetrating shape, or other factors, are less effective in penetrating armor. These weapons have an armor multiplier listed with their fire statistics. This multiplier is applied to the armor value to determine the number of hits the armor will absorb. For example, a 22 pistol has an armor multiplier of x 4. If a character was wearing an armor class 8 Kevlar jacket and was hit in the chest with a 22, the jacket would absorb (8 x 4 =) 32 hits before the character suffered any damage.
Some rounds are particularly good at penetrating armor, and these rounds have an armor multiplier of x ½. This indicates that the armor will only absorb half as many hits as its armor value before being penetrated. For example, the 4.7mm caseless round of the German G11 submachine gun has an armor multiplier of x ½. If it hit a character wearing an armor class 8 Kevlar jacket, the jacket would only absorb 4 hits before being penetrated.
Cover: Characters and vehicles may hide behind obstacles as protection from fire. If the hit location rolled is covered by the obstacle, the shot has no effect unless it is able to penetrate the obstacle. The armor equivalent chart gives the armor values of common types of cover. For example, If a character is under cover behind a tree, the referee first decides which parts of the character's body are under cover. If the character is firing a weapon, at least his head and right arm are probably exposed. If someone shoots and hits him in the chest, the first 1 5 hits are absorbed by the tree.
Helmets: If a character is wearing a helmet and is hit in the head, there is a 50% chance that the shot hit the helmet if hit from the front, a 1 00% chance if hit from the rear, and a 75% chance if hit from the side. If the helmet is hit, the character receives the benefit of the armor of his helmet. If not, he receives no benefit from the helmet.

INDIRECT FIRE

Indirect fire is fire at a target which the firing character can-not see, following the directions given to him by a forward observer who can see the target. Only weapons with an indirect fire range (listed on the weapons chart) may use indirect fire. These are rifle grenades, grenade launchers, howitzers, and mortars.

Calling Fire: In order for indirect fire to be possible, the firing character or gun crew must be in communication (usually by radio) with a character (called a forward observer) who can see the target. The target is a stationary position; it can be a building, but it can't be a moving vehicle (although it can be the place where the forward observer believes the vehicle will be when the fire hits). Before fire begins, the forward observer must talk to the firer for 6 combat rounds. After fire has begun, the for-ward observer may want to call in corrections to make the fire more accurate. The same restrictions on both characters' actions apply as with other communication; in particular, the firer may not fire his weapon during the conversation.

Hit Procedure: The base hit number for indirect fire is half the IF of the firing character or half the FO of the forward observer, whichever is less, rounded down. Exception: indirect fire with a rifle grenade or hand-held grenade launcher (M203 or HK-69) uses one quarter the skill level. If the shot fails to hit, it deviates (hits somewhere else). The roll is made when the first shot is fired and after every correction. Once the roll succeeds, no further roll is necessary.

Deviation: If the round deviates, the referee determines the distance and direction from the target of the impact point. First the referee rolls 1 Dl 0 for distance of deviation. For grenade launchers and rifle grenades, multiply the result by 5 meters. For mortars and howitzers multiply the result by 1 0 meters. If the indirect fire weapon is firing at greater than half its indirect fire range, double the result of the deviation roll. Then he rolls 1 Dl 0 and consults the scatter diagram to determine the direction of deviation.

Corrections: If the shot doesn't hit, the forward observer may call in corrections. After each correction, add 1 0% to the chance of a hit and subtract 1 from the die roll for distance of deviation if the round misses. Thus, four corrections would raise the chance of a hit by 40% and would lower the deviation die roll by four. A deviation roll of less than zero is changed to zero. There must be at least one additional shot after each correction before another correction is possible.

Accuracy: There is a maximum limit to the accuracy of in-direct fire. The maximum chance of a hit is 75%; for rifle grenades and hand-held grenade launchers, the maximum

chance is 50%. In addition, the deviation distance roll may never be reduced by more than 5; for rifle grenades and hand-held grenade launchers the roll may never be reduced by more than 3.

Subsequent Shots: If a shot hits, subsequent shots will continue to deviate around the target because of the maximum limits of accuracy. If a shot does not hit, subsequent shots will deviate around the initial impact point (not the target). In both cases, the deviation distance roll is reduced by 5 (for most weapons) 3 (for rifle grenades and hand-held grenade launchers).

For example, Wood has an Mk-19 grenade launcher and lF6O. Carson has FO78. Carson is on a hill crest observing enemy soldiers coming up the hill. Wood is on the other side

of the hill. Carson radios Wood and tells him to fire. Wood fires one grenade with a 30% chance of hitting. The referee rolls a 45, indicating a miss. For deviation distance he rolls a 5: the grenade misses the target by 25 meters. He then rolls a 2, indicating that the grenade goes long. He fires another; this time there is no roll to hit, and the grenade deviates from the point where the first grenade hit. He rolls a 3 for distance, reduced by 5, which makes the deviation distance 0; a direction roll is unnecessary and the grenade hits in the same place.

Carson radios a correction, which takes the next combat turn. This correction increases the chance of a hit to 40%. On the turn following, Wood fires again but rolls a 60, thus missing. The referee rolls a 5 for distance. Because of the correction, this is reduced to a 4, or 20 meters from the target. He rolls a 3 for direction (long and to the right). The next turn Carson radios another correction and when Wood fires again he has a hit chance of 50%. This time he hits the target. Having hit the target, all further deviation is around the target, subtracting 5 from the distance roll.

Self-Observed Fire: The firing character may act as his own observer if he can see the target. (This is done if the target is out of the weapon's direct fire range or if the weapon is a mortar with no direct fire capability.) In this case, only the firer's IF skill is used. The rules above apply except that there is no delay for corrections; fire is corrected automatically after every shot until a hit is scored.

CLGP: Cannon-launched guided projectiles are a special type of round fired by the 1 55mm howitzer. They are laser-guided.

if the forward observer (or anyone else—no skill is required) lights the target with a laser designator, the round has a 90% chance of hitting. If it doesn't hit, roll for deviation, subtracting 5 from the distance roll. The target for a CLGP round may be a moving vehicle.

THROWN WEAPONS

Any hard object can be thrown at another character or animal. Hitting the target is AVG:TW at effective range and DIF:TW at long range. Effective range is equal to the character's throw range if the object weighs 1 kilogram or less; if the object weighs more than 1 kilogram, effective range is equal to the character's throw

range divided by the weight of the object. Long range is twice effective range. Thus, if a character had a throw range of 20 meters, he would have an effective range of 1 0 meters with a 2 kilogram object, 5 meters with a 4 kilogram object, etc.

If a thrown object hits its target it causes hits equal to the sum of the throwing player's STR plus 1 D6, regardless of the weight of the object. Thrown objects have an armor multiplier of x5.

A throwing knife will always inflict 4D6 hits, regardless of the range or strength of the thrower.

HAND GRENADES

Hand grenades are thrown at specific targets. Hand grenades may be thrown at either effective range or long range, as explained above.

If the throw misses, roll for distance and direction of deviation in the same way as for indirect fire, but multiply the distance of deviation die roll by 1 meter if within effective range and 2 meters if within long range. The total deviation may never be greater than half the range of the throw. Thus, if a grenade is thrown at a target twenty meters away, the grenade cannot deviate more than ten meters.

A player may throw additional grenades at the same target. If the target does not move, add 1 0 to the thrower's TW skill for all grenades after the first.

The referee can alter the chances of a hit based upon the difficulty of the throw; he might reduce the difficulty level by one for throwing a grenade at a large target like a tank, or increase it by one for trying to throw a grenade through the firing slit of a bunker.

DIRECT FIRE DEVIATION

Certain weapons deviate if they miss when fired in direct fire:

rifle grenades, grenade launchers, and the 82mm mortar. The die is rolled for distance and direction in the same way as for indirect fire; the distance die roll is multiplied by 1 meter.

ANTI-TANK MISSILES

There are several guided anti-tank missiles available to players. Unlike other direct fire weapons, the range given on the combat chart for an anti-tank missile is its maximum range. Within this range, the chance to hit is the same regardless of distance:

twice the firer's HW. The character must aim before firing, and (except for Tank Breaker) must continue to aim during the en-tire flight of the missile or it will miss the target. (The hit number is not doubled for aiming.) All anti-tank missiles travel 1000 meters per combat round, and thus it is easy to determine how long the missile will take to reach its target. If the character is hit by any sort of attack, he will stop aiming and the missile will miss. If the character is forced to hesitate while the missile is

in flight, the missile will miss. However, aiming, firing, and guiding the missile during flight are considered a single type of action, so a character may avoid the need to hesitate by spending an entire turn firing one missile.

Tank Breaker: Tank Breaker is a fire-and-forget anti-tank missile. That is, once it is aimed and launched it will continue to home in on the target without further guidance from the operator. The firing character must still aim before firing, but once the missile is fired he need not continue to aim. Tank Breaker may be programmed to hit the target on the aspect faced by the firing character or to fly over the target and hit it from above. If the second option is chosen, all hits are overhead hits.

DAMAGE

The ability of a character to absorb damage is measured by the hit capacities of the various parts of his body. Hits in different body parts are kept track of separately. (Note: See exception to this for NPCs below.)

Types of Hits: There are three types of hits, corresponding to three types of injuries: slight, serious, and critical. If an area of a character's body has taken hits less than or equal to its hit capacity, the area is slightly injured and such hits are slight hits. If an area has taken hits in excess of its hit capacity but no more than its capacity, the area is seriously injured and the excess hits are serious hits. If an area has taken hits in excess of twice its capacity, the area is critically injured and the excess hits are critical hits.

Slight Injuries: Slight injuries have no effect on combat, although the referee may wish to penalize actions making use of slightly injured arms or legs.

Serious Injuries: A character that suffers a serious injury must make a percentage roll against his CON to avoid losing consciousness. This roll must be repeated every combat round in which the character attempts to conduct any activity other than remaining still. A serious injury to the head automatically causes loss of consciousness. A character that loses consciousness will remain unconscious for 1D1O turns.

In addition, a serious wound to a leg or arm causes the character to lose the use of that limb until it is healed.

Critical Injuries: A critical injury to the head causes immediate death. Critical injuries to other body parts cause immediate loss of consciousness and require medical attention within 10 minutes or the character will die from loss of blood. Characters who lose consciousness due to a critical wound remain unconscious for 1 D 1 0 x 1 0 turns.

Death: In addition to critical head injuries, any character that suffers hits to his chest or abdomen in excess of four times its hit capacity is immediately killed. A character never dies (immediately, at least) as a result of hits to his arms or legs.

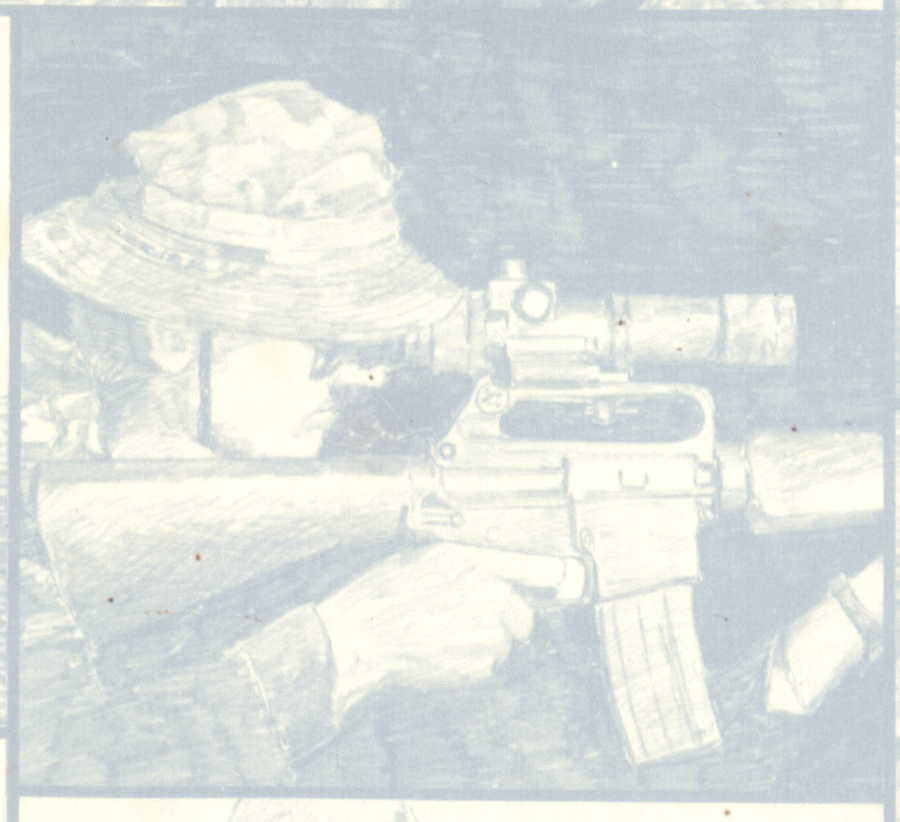
NPCs: It is not necessary to keep track of hits to NPCs or animals in detail, and this simplified rule reduces bookkeeping. (If the referee decides that a particular NPC is of special importance, he may treat him as a player character.) NPCs have only a single hit capacity, equal to 2D1 0 x 2. The hit capacities of animals are given on the animal data chart. If this capacity is exceeded, the NPC loses consciousness. If the NPC's hit total reaches double his capacity, he dies. Hit location is still rolled, for several reasons: the damage from all head hits is doubled; it is necessary to determine the effect of armor; if the NPC is behind cover, the shot may hit a covered part; and some hits against prone characters and animals are counted as misses.

Recovery: Wound recovery is explained in the referee's manual.

Scanned by
The Tick

TWILIGHT: 2000

Referee's Manual



Game Designers' Workshop

TWILIGHT: 2000

Referee's Manual

Contents

Introduction **2**
Skills and Attributes: Part Two **3**
More about Tasks 3
Skill Descriptions and Specific Tasks 4
Skill Improvement 5
Combat: Part Two **6**
Explosions 6
Explosives 6
Chemical rounds 7
Mines 8
Vehicle Damage 8
Recovery (and Post-Battle Damage) 10
Animals in Combat 11
Encounters **12**
Random Encounters 12
Settlements 14
Non-Player Characters 15
Additional Rules **17**
Radiation 17
Disease 18
Trade and Commerce 20
Visibility 21
Repairs 22
Electricity 22
Swimming 22
Chronological Background **23**
1995 23
1996 23
1997 24
1998 26
1999 27
2000 27
Poland **28**
The Land 28
Hostile Forces 28
Other Armed Combatant Forces 29
Notes to the Referee **31**

Credits

Design: Frank Chadwick.
Additional Design and Development: John Astell, John Harshman, and Loren Wiseman.
Research Assistance: Marc Miller.
Art Direction: Paul R. Banner.
Cover and Interior Illustrations: Steve Venters.
Playtesting: Wayne Roth, Kevin Brown, University of Illinois Strategic Games Club, and Champaign Military Games Club.

Copyright ® 1984 by Game Designers' Workshop. All Rights Reserved.
Twilight: 2000 is Game Designers' Workshop's trademark for its role-playing game of survival in a devastated world.

GDW Game Designers' Workshop
P.O. Box 1646
Bloomington, Illinois 61702-1646

Introduction

This manual contains the information a referee needs to create and run a *Twilight: 2000* campaign.

The first sections cover rules the referee must know in addition to the play rules. These rules include additional information on combat and tasks and cover encounters, skill improvement, and other topics.

The chronological background details the course of the war which resulted in the state of the world as presented in *Twilight: 2000.* While it is not possible to describe everything in detail, if the referee has a good understanding of the background, he is in a position to fill in details as necessary and keep his world convincingly consistent.

The general description of the situation in Poland defines the area in which the players' characters find themselves. Referees may, however, use this section along with the chronological background as a general guide and source of ideas in order to set the campaign anywhere on the earth.

Finally, there is a section on how to get a campaign started.

The most important thing for a referee to remember, however, is that which sets *Twilight: 2000* apart from most other role-playing games: change. The world of *Twilight: 2000* is constantly changing and adjusting to the effects of the war. Most role-playing games are set in a basically stable environment; the players may not be familiar with it when the game starts and may have to explore and map it, but once known it remains as it is. In *Twilight: 2000,* however, very few things will remain unchanged over the course of a campaign. A friendly village the players passed through two months earlier may be deserted ruins when they return. A well-equipped and disciplined military unit encountered at one point in the campaign may later again be encountered as a group of marauders, having murdered their officers and taken to plunder and pillage as a way of life. Peaceful areas before may later become infested with hostile troops. And gradually, over the months and perhaps years of the game, the products of an industrialized civilization will become more and more rare. Vehicles will wear out and become less common. Brass cartridge casings will begin to deteriorate after many reloadings. Oil will become scarcer. The only thing constant will be change.

Skills and Attributes: Part Two

This chapter adds more detail to the chapter of the same title in the play manual. The first section elaborates the task process; the second section explains some specific tasks and other uses of skills.

MORE ABOUT TASKS

More than One Asset: Sometimes, more than one asset can be applied to a single task. In most cases, both assets are necessary to performance of the task; whichever one the character has least of should be used to determine success. For example, the referee may decide that repairing a rangefinder is a difficult task requiring both CMP and ELC. The abbreviated form of this is DIF:(CMP and ELC).

There are other possibilities too. ESY:(BIO or MED) means an easy task in which either biology or medical skill is sufficient by itself; use the higher of the two. AVG:CVE or DIF:CBE means that the same task may be performed using either asset, using different difficulty levels. Finally, various mathematical formulas may be used: DIF:(AGL + TW) uses the sum of two assets; DIF:(MTL + MEC)/2 uses the average of two assets.

Additional Difficulty Levels: It is also possible for the referee to describe tasks more or less difficult than the three categories used here, or intermediate in difficulty. Simply multiply or divide the character's asset by larger, smaller, or intermediate numbers. For example, a "very difficult" task might require dividing the asset by three to determine the chance of success.

Opposition: In some cases attempts to complete a task will be met with opposition from other characters. There are three types of opposition.

First, a character may be trying to succeed at a task and another trying only to prevent him. One or the other must succeed. If a character were trying to break down a door, for example, an opposing character on the opposite side might try to keep the door in place. In this case, the asset used is the asset of the character making the attempt minus the asset of the character trying to prevent him. Obviously, if the second character trying to prevent him. Obviously, if the second character's asset is higher, the attempt fails automatically.

Second, two or more characters may be trying to succeed at the same task in competition, in which it is not certain that anyone will succeed. For example, two characters are racing to solve a complex mathematical problem. Both characters roll, in this case DIF:(INT and EDU), and the one who succeeds is the one who rolls the furthest below the roll he would need for success without opposition. (Of course, it is possible for all contestants to fail.)

For example, suppose two characters are rolling with 29% and 46% chances; the first rolls 2 and the second rolls 31. Since the first character rolled 27 less than required for success while the second character rolled only 1 5 less, the first character wins.

The third case is like the second, but this time one of the characters must succeed. An example would be a footrace or determining the winner of a hand of poker. Characters roll as above. If none of the characters rolls success, the winner is the character who failed by the smallest amount.

Outstanding Success: If a character attempts to complete a task and rolls less than or equal to 10% of the required roll (6 or less when 68 was required, for example), he has achieved outstanding success. How the referee handles outstanding success is dependent on the situation, but generally the task is done much more quickly than would usually be the case, or some extra bonus is awarded. A mechanic might not only repair a tractor, but improve its functioning in the process and in doing so gain particular gratitude from the villagers. The man trying to break down the door might also knock the man holding it shut unconscious, or knock it off its hinges with such noise and force that the occupants of the room are forced to roll for panic.

Catastrophic Failure: This is the opposite of outstanding success. If a character fails in a task and rolls 90 or more, roll again with the same required roll. If the character fails again, he has suffered a catastrophic failure. (If he succeeds, it's just a regular failure.) The mechanic in the previous example might not only fail to repair the tractor, but he would also break some other important part. The man trying to break down the door might hurt himself.

Catastrophic failure should not be over-used. In a great many tasks there is no obvious effect of a catastrophic failure, and it should not be rolled for. A geologist who fails to find an iron deposit should not also break his leg. Its major purpose is to deter characters from attempting tasks (especially dangerous ones) far beyond their abilities.

SKILL DESCRIPTIONS AND SPECIFIC TASKS

Many tasks and skill uses are described in other rules. Other uses are fairly obvious: most uses of attributes, for example. However, some skills require further explanation, and some common tasks are worth describing here. The following are intended as general guides only; there are too many tasks to list more than a small fraction, and difficulty may be increased or decreased by too many factors to cover in detail.

BIO: The general use of this skill is in helping civilization survive. It can give a deeper knowledge of health problems than the more immediately practical MED. It can be used to aid farming (hybridizing crops and breeding animals), to identify the nature of diseases, and so on. It can also be used to make antibiotics (DIP).

CHM: This skill can be used to synthesize many useful substances; many have military uses: gunpowder (ESY), dynamite (AVG), smokeless powder (AVG), primer (AVG), plastic explosive (DIP), blood agent (AVG), blister agent (DIP), irritant gas (AVG), HC smoke (ESY), white phosphorus (DIP). (Gunpowder can be used to make bombs, while smokeless powder and primer are needed to reload ammunition.) Catastrophic failure when making these substances is truly catastrophic. Many other things of a less violent nature can also be synthesized.

CMP: This skill will have application only very rarely. The only computers around are a few advanced, hard-wired fire control units, and understanding may help repair. The other use would be if characters become involved in espionage missions in contact with any of the few surviving high-tech enclaves.

CVE: This skill is used to construct things, mostly bridges and buildings. Pailure results in time and materials overruns. Catastrophic failure may sometimes result in collapse, but generally just in a need for emergency repairs to forestall a collapse.

DIS: The main ingredients of this skill are not greasepaint and false mustaches, but acting skill and confidence. Its most common use will be to impersonate a foreign soldier or national. In combination with LNG, it is used to mimic an accent: fooling a native speaker of the language is DIP:(DIS and LNG); fooling a non-native is AVG:(DIS-f LNG of speaker-LNG of listener); fooling someone who doesn't speak the language at all is ESY:(DIS or LNG). DIS can be used to gain a cursory examination for documents (AVG); see FRG for the importance of this.

ELC: This skill is used mostly to repair electronic devices. It can also be used to make a radio receiver (AVG) or transmitter (DIP) if parts are available.

EQ: This skill may be used to saddle-break an unbroken horse (DIP). Failure results in 1D6 - 3 hits to the rider; use the hit location chart. The attempt may by made several times a day.

FRG: The common use of this skill is to make false identity papers or orders. It can be used to forge a signature if an example is available (ESY), alter a document (AVG), or create a new document (DIP). These tasks are one level easier if the document is expected to survive only a cursory glance (see DIS).

FRM: This is another skill useful in helping civilization survive. It confers knowledge of when to plant crops, crop rotation, soil suitability, and other things more advanced than how to plow a field.

GEO: This skill is used to locate workable ore and mineral deposits. In Europe, which has been pretty well worked out, these will be small or will have ore of non-commercial grade. Coal or iron (AVG); other metals (DIP).

GS: This skill can also be used to make a crossbow or crossbow bolts (AVG).

INT: There are two major factors involved in interrogation: the state of the prisoner and the nature of the information the interrogator is seeking. Rather than try to combine the two, here are some tasks to use as guidelines. Prisoner is: demoralized and frightened (ESY), fatigued, stupid, or boastful (AVG), security-conscious (DIP). Information sought: name of unit (ESY), scraps and hints requiring player interpretation (AVG), strength and location of unit or major secrets (DIP).

LB: This skill can be used to make arrows (AVG) or bows (DIP).

LNG: Communicating in a given language is AVG:(LNG of speaker and LNG of listener). Communicating in a language the character does not speak, using his skill in another language of the same group is DIF:(LNG of speaker and LNG of listener). (Example: using knowledge of Polish to speak to a Czech.) Both the previous tasks become one degree easier if attempting to communicate very simple concepts ("I'm hungry"), especially if sign language is used to help ("Where are we?", while pointing at a map). Identifying languages: one the character speaks (ESY); a language of the same group (AVG); a language of the same family (DIP). Groups and families are shown on the language list.

LP: This skill is used to pick locks: picking simple key locks like those on desks, briefcases, and some doors, and hot-wiring cars (ESY); key locks on jail cells, handcuffs, and deadbolt door locks (AVG); combination and key locks on padlocks, safes, and strongboxes (DIP). Difficulties assume no special tools; they become one level easier if lockpicking tools are used. Locks on vaults and high-security establishments (in espionage missions particularly) require tools and are always DIP.

MED: This skill can also be used to treat animals; add one difficulty level to all tasks.

MET: The most useful task is weather prediction: weather later today (ESY), tomorrow (AVG), or the day after (DIP).

MNE: This skill is used to construct and operate a mine without mishap. Open surface mining is ESY. Deeper mining (shafts and tunnels) is AVG. The skill can also be used to make tunnels in rock (AVG but slow) or soil (DIP but fast). Catastrophic failure can be dangerous.

MTL: This skill is used to smelt ore into metal, make alloys, and forge and cast metal objects.

MTN: In addition to general expertise in moving and surviving in mountains, this skill is used to climb cliffs, rock faces, and buildings: steep slope or sheer wall with good handholds (AVG), sheer, mostly smooth wall (DIP). These tasks assume no special equipment. If equipment is used, the difficulty levels are one lower. Rappeling down is ESY. A character may also help others to climb, by climbing up first and lowering a rope; difficulty is the same as climbing with equipment.

NWH: Arming or disarming weapons from the characters own country is ESY; arming or disarming foreign weapons is AVG; repairing a weapon is DIP.

PAR: Landing safely in most terrain is ESY; landing safely in woods, cities, swamp, or water is AVG. Landing in a particular

spot is DIP with a parachute, AVG with a paraglider. Rigging or checking a rig is ESY. Flying a hang-glider is AVG. Repairing a parachute or hang-glider is ESY; making a parachute or hang-glider is DIP.

SBH: Rolls to avoid mishaps are necessary only in combat (ESY) or during unusual situations like overloaded boats, bad weather, or white water (AVG). Sail boats are one level more difficult. Operating a sail boat at all requires some skill but does not require a roll.

SCO: Avoiding a mishap while using an aqualung or rebreather is ESY:(SCD + SWM). Navigating underwater is ESY. Avoiding detection from watchers on the surface is AVG with an aqualung or ESY with a rebreather.

SCR: When a character attempts to scrounge a specific object, he looks in a particular place. The referee determines difficulty based on his opinion of the likelihood of the object being in such a place. The higher a character's SCR, the more likely he is to find useful things in unlikely places.

SKILL IMPROVEMENT

As a person grows older and more experienced, it is natural that he will polish his existing skills and learn new ones. In a sense, *Twilight: 2000* picks up the threads of the lives of the characters in mid-course. Thus, they already have considerable knowledge of the world, but as time passes they will learn more.

Experience: As players find themselves in situations which require the use of skills, they will gradually learn them. In the game, this is represented by experience points. Every time that a player uses a skill, the referee may award him an experience point in that skill. A character receives one experience point for each task successfully accomplished and an additional experience point if the task was accomplished with outstanding success. However, a character with a skill level over 50 does not receive any experience points for accomplishing easy tasks, including ones accomplished with outstanding success.

Usually, but not always, a point will be awarded only for a success. However, a referee may decide to award an experience point to a player who attempts a difficult task and only barely fails.

If multiple tasks are performed using the same skill, the referee should generally award only one experience point (two if outstanding success is achieved) per day or per encounter. If, for example, a group of characters became involved in a firefight and one character shot four opponents, the referee would probably award one experience point to the player for the encounter, not four.

The option in all cases is the referee's, but he should be guided by two simple principles. First, the reward should fit the task. Random and meaningless use of skills should not be rewarded by experience points. Rather, experience should be gained only when the task at hand needs doing. Second, skills are acquired gradually, and experience should reflect this. If players begin zooming up in skill levels, the game will soon lose its challenge.

Experience points are converted to increases in skill levels. This should occur during a lull in the characters' activities, perhaps during a day spent in rest and maintenance. When the referee thinks the time is right, the characters' accumulated experience points may be converted to increased skill levels.

To do so, subtract the current skill level from 100 and then divide this number by 100. The result is the current experience multiplier. Multiply the accumulated experience points for the skill by the multiplier to determine the skill point increase. Fractional points are dropped. However, if converting experience points to skill level does not result in an increase of the skill level by at least 1, then the character's experience points for the skill are not converted at this time. Instead, the experience points are saved until their conversion does result in an increase of the skill level.

For example, Monk has accumulated 6 experience points as a rifleman (he's been busy) by the time the referee lets his party assimilate its experience. His current skill level as a rifleman is 43. He subtracts 43 from 100 and divides the result by 100, determining that his current multiplier is (100-43 = 57; 57/100 =) 0.57. Multiplying this by his 6 accumulated experience points gives him an addition to his skill level of 3. His new skill level is thus 46.

Observation: If a player observes another player successfully accomplishing a task, the observing player gains 1 experience point. This observation must be a close-up examination of the task and must have the cooperation of the character actually performing the task. If the referee considers the skill sought to be a complicated one (such as MEG), the task should take longer than usual (perhaps substantially longer), as the character performing the task will often have to pause to explain what he is doing or to answer questions. A character may gain experience points from observation only if the observed character's skill level is at least twice as great as the skill level of the observing character.

Some skills are used for tasks which do not take specific time periods and which cannot be explained. (RON is a good example of this.) Characters may gain experience points through observation of these tasks. For example, if a group of characters encounters a group of NPCs, the characters' RCN skill is that of the character with the highest skill, modified downward for having extra people along. If the group is successful in surprising the NPC group, characters may gain an experience point in RCN through observation.

Instruction: A character may be taught a skill. Teaching a skill is AVG:INS - (5 x number of students). The instructor may teach a number of students equal to his INS skill level and must have a skill level in the skill being taught. An instructor cannot teach a student whose skill level in the subject taught is equal to or greater than that of the instructor. The task takes one period per day for one week (seven consecutive days). Successful completion of the task (rolled for at the end of the week) results in experience points for both the students and instructor. The instructor gains experience (in INS) for accomplishing a task per the experience rules. Students gain a number of experience points (in the skill being taught) based on the number of students being taught:

If the number of students is 10% or less of the instructor's skill level, each student gains 5 experience points.

If the number of students is over 10% but is 50% or less of the instructor's skill level, each student gains 3 experience points.

If the number of students is over 50% of the instructor's skill level, each student gains 1 experience point.

New Skills: A player who has a skill level of zero in a particular skill may attempt to learn the skill. This may be done either through observation or through instruction. Since the character has a skill level of zero, his experience point multiplier will be 1 and thus the first skill level he gains will be equal to his experience points.

Combat: Part Two

This chapter covers a number of topics related to combat, in addition to those covered in *Combat: Part One.*

EXPLOSIONS

Some rounds do their damage by kinetic energy only, and the rules in the play manual are sufficient to take care of them. Other rounds explode when they hit, and this section describes their effects. Any round on the weapons chart with a knockdown radius and a burst radius is an explosive round. Dynamite, plastic explosive, and mines also inflict damage under this rule.

Explosions inflict three types of damage: concussion, fragmentation, and explosive contact.

Concussion: All explosions have a knockdown radius. All characters within the knockdown radius are knocked down, but suffer no other damage from the concussion. Characters inside an armored vehicle are unaffected.

Fragmentation: Each explosion also has a burst radius. All characters within the burst radius have a 60% chance of being hit by fragments. All characters within twice the burst radius have a 20% chance of being hit by fragments. If a character rolls less than half the number required to hit (30% within the normal burst radius or 10% within twice the burst radius), he suffers multiple hits: roll 1D6 to determine the total number of times the character is hit. Roll hit location separately for each fragmentation hit.

Each fragment inflicts 4D6 hits within the burst radius and 2D6 hits within twice the burst radius. All fragments have an armor multiplier of x2.

Incendiary Fragmentation: Fragments from white phosphorus and thermite are burning particles that will cause burn damage. Instead of the procedure above, each fragment inflicts 1D6x1D6 hits out to twice the burst radius. Incendiary fragments have an armor multiplier of x 10.

Contact Damage: Contact damage is the damage resulting from a direct hit by the round, or inflicted on something touching an explosive or mine when it goes off. It is resolved in the same way as damage from a hit by a non-explosive round.

Improved Conventional Munitions: ICM rounds contain a number of grenades scattered over a wide area. While the burst radius is very large, and there is a high concentration of fragments in that area, there is little fragmentation at twice the burst radius. Thus, only characters within the burst radius of an ICM round are subject to fragmentation hits. In addition, all characters within the knockdown radius have a 10% chance of a contact hit and all vehicles within the knockdown radius have a 30% chance of a contact hit.

EXPLOSIVES

Explosives have many uses other than combat (indeed, most of their uses are not in combat), but they are treated here since many of their effects are covered by Explosions, above.

Types of Explosives: For simplicity, the game deals only with the two most common types of explosives: dynamite and plastic explosive. The units used in the game are the quarter-kilogram stick of dynamite and the one-kilogram block of plastic explosive. All demolition effects are resolved in terms of the number of demolition points used. A stick of dynamite has one demolition point; a block of plastic explosive has six demolition points. Plastic explosive is flexible and may be molded to any shape desired or broken into smaller charges of one or more demolition points. Several sticks of dynamite or blocks of plastic explosive may be joined to form larger charges.

Effects: Like anything else which blows up, explosives have a damage value, armor multiplier, knockdown radius, and burst radius.

Damage: An explosive inflicts 50 hits of damage per demolition point to any character, vehicle, or structure touching it when it explodes.

Armor Multiplier: If the explosive is merely in contact with a structure, the armor modifier of the explosion is x 4. If the charge is tamped, there is an armor modifier of x 1. Tamping consists of covering the charge so that the force of the explosion is contained and directed in toward the structure. Tamp-

ing must be done with dense or heavy material, such as rocks, sandbags, steel plates, etc.

Knockdown: A demolition charge with a demolition value of 1 has a knockdown radius of 6 meters; 6 more meters are added to the knockdown radius each time the charge is doubled. Thus, a 2-point charge has a knockdown radius of 12 meters, a 4-point charge has a knockdown radius of 18 meters, an 8-point charge has a radius of 24 meters, etc. A tamped charge's knockdown radius is halved. Thus, an 8-point tamped charge has a knockdown radius of only 12 meters.

Burst: The explosion will scatter fragments of whatever it was in contact with just like an exploding grenade or shell. The burst radius of an explosion, tamped or untamped, is the same as the knockdown radius of an untamped explosion.

Setting Charges: Each demolition charge takes fifteen minutes (30 turns) to emplace. A demolition charge is defined as one or more sticks or blocks connected to each other, up to a maximum weight of 10 kilograms. Additional explosives may be attached as extra charges, but require additional time to emplace. If several larger charges are emplaced, several characters may work on emplacing them at once.

Since setting a charge requires fuses and detonators, a character must have a demolition kit to do so.

Setting a charge is a task (AVG:CBE) with failure indicating that the charge does not go off when triggered, and catastrophic failure indicating that the charge goes off while being set.

Breaching Barriers: Breaching a barrier basically means blowing a hole in it. Demolition charges can be used to breach walls, armor plates, embankments, etc.

To determine the size of a breach a demolition charge makes in a barrier, first determine its maximum penetration, in millimeters, of the material. To determine this, take the contact damage value of the demolition charge and divide it by the armor multiplier of the material the barrier is made of. This can be found on the armor equivalent chart in the referee's chart booklet. Next, divide the result by the armor multiplier of the explosive charge (4 if the charge is not tamped, 1 if it is tamped). Finally, multiply by 10. The result is the maximum penetration, in millimeters, of the demolition charge.

Now determine the diameter of the breach. The diameter of the breach is the maximum penetration of the demolition charge minus the thickness of the barrier.

For example, a character wishes to breach a 500-millimeter reinforced concrete wall. The character is using ten 1-kilogram blocks of plastic explosive (total of 60 demolition points). This will cause a total of (60 x 50 =) 3,000 hits worth of contact damage. To find the maximum penetration of reinforced concrete, the referee first divides 3,000 by the armor multiplier of reinforced concrete (5) and obtains a result of 600. Next, he divides the result by the armor multiplier of the charge (4, since the player is merely placing the charge next to the wall, not tamping it) for a result of 1 50. Finally, he multiplies this by 10. The charge will penetrate 1 500 millimeters of the wall. Since the wall is only 500 millimeters thick, the charge will blow a 1000 millimeter (1 meter) hole in the wall.

Characters should take cover before to the blast, as a 60-point explosion has a and burst radius of 36 meters.

CHEMICAL ROUNDS:

Chemical rounds and grenades are filled with a chemical agent. The listed burst radius of the round is the width of the chemical cloud it creates. The length of the chemical cloud is four times its width. The actual cloud starts at the point of impact of the round or grenade and extends down-wind.

For example, a chemical grenade with a burst radius of 5 would have a chemical cloud five meters wide and twenty meters long.

Characters do not suffer fragmentation hits from a chemical round. As there is a small explosion and some burning when the round releases its agents, characters may suffer contact damage.

A chemical round can contain one of five chemical agents: hexachloroethane (HC) smoke, irritant, blood agent, blister agent, or nerve gas.

Hexachloroethane (HC) Smoke: HC smoke causes no damage, and is used to obscure visibility. There is no smoke during the turn in which the round lands. During the next turn there is thin smoke. For the next four turns there is dense smoke. There is then one more turn of thin smoke, and then no smoke.

Irritant Gas: There is no gas cloud the turn the round is fired. The next turn the gas cloud appears and lasts for four combat turns. Irritant gas causes no permanent damage, but can cause choking and temporary blindness. When a character first comes in contact with an irritant gas cloud he must make a panic roll. In addition, each combat round in which a character is in an irritant gas cloud the character must must make a percentage roll against his CON to avoid being overcome by the gas. If the character passes both rolls, he may function normally. If he fails the panic roll, he flees from the gas and, once out of the gas cloud, suffers the normal effects of panic. If he fails the CON roll, he is temporarily blinded and incapacitated by choking. A character who is incapacitated by irritant gas continues to suffer the effect for twenty turns.

Characters wearing gas masks are not affected by irritant gas.

Blood Agents: This category covers a variety of inhaled poisonous gases. The first turn the round lands there is no gas cloud. The gas cloud appears on the second turn and lasts for twenty turns.

Each combat round that a character is in the gas cloud of a blood agent he receives 2D6 hits to his chest. A character in a blood agent cloud can hold his breath for six combat rounds (one turn), and only suffers 1D6 hits per combat round while doing so. (The agent can enter the bloodstream through the eyes as well as through inhalation, but in less damaging concentrations.) Characters wearing gas masks are not affected by blood agents.

Blister Agent: The gas cloud of a blister agent is the same as for a blood agent. Blister agent has the same effects on characters in gas masks as does irritant gas on unmasked characters. If a character is not wearing a gas mask, blister agent has the same effects as both irritant gas and blood agent. Characters in both masks and protective suits are unaffected by blister agent.

Nerve Gas: Nerve gas attacks the central nervous system of the victim, eventually causing convulsions and respiratory failure. It can be inhaled or absorbed through the skin. The gas cloud of a nerve gas round is identical to that of a blood agent round.

Each combat round that i character is in the gas cloud of a nerve gas he receives 2D6 hits to his head and 2D6 to his chest. If wearing a gas mask, he suffers only damage to his chest. If wearing a chemical protection suit but no gas mask, he suffers full damage. If wearing a chemical suit and a gas mask, he is not affected.

Once the damage level of a character reaches serious injury to either the head or chest, he continues to suffer damage from the gas even if no longer in the gas cloud. This damage will continue until the character either dies or receives an injection of atropine. A character who has suffered serious injury requires one atropine injection to arrest the effects of the nerve gas. A character who has suffered a critical injury to the chest requires two injections of atropine to arrest the effects. Once injected with atropine, the character is incapacitated (disoriented, confused, and incapable of any movement other than crawling) for four hours.

Residual Contamination: The ground covered by cloud of blister, blood, or nerve gas will remain contaminated for several hours after the cloud disappears, and vehicles exposed to the cloud will remain contaminated for several days. Natural weathering will reduce this, and a rainstorm or thorough washing of the vehicle will remove the contamination.

While an area or vehicle is contaminated, unmasked characters who walk through a contaminated area or stand near a contaminated vehicle suffer 1D6 hits worth of damage to the chest every turn (not round).

MINES

Mines are placed in the ground and detonated when a man or vehicle passes over them. Anti-tank mines are detonated only by the pressure of a vehicle.

Detonation: A character walking through a minefield has a 10% chance of triggering a mine per 5 meters traveled through the minefield. A vehicle has a 20% chance of triggering a mine per 5 meters traveled.

Damage: Detonation of a mine has the same effect as any other explosion, causing knockdown, fragmentation, and contact damage. However, all contact damage to personnel automatically hits one of the legs of the character who detonated the mine. (Determine which leg randomly.) Contact damage to a vehicle is treated as a suspension hit. If, after suspension damage is taken, there is any remaining energy to the explosion it is resolved as a hit on the lower hull. (See vehicle damage below.)

Detection: Detection of a minefield is ESY:(CBE or RCN). Detection of a camouflaged minefield is AVG:(CBE or RCN). Conditions of reduced visibility (fog, night, smoke, etc.) raise an ESY task to AVG and an AVG task to DIP.

Marking and Removal: Once a minefield is discovered (either by detection as described above or by someone setting off a mine) characters may either probe for the mines and mark their location or may attempt to remove them. Probing and marking mines is ESY:CBE or AVGiRCN. Failure of the task indicates that a mine has been accidentally detonated. Removal is AVG:CBE or DIF:RCN. Failure, again, indicates accidental detonation.

In each five square meter area (1 x 5 meters) there will be 1D6 mines. Marking or removal is a separate task for each mine. Marking mines allows characters to crawl or walk through the minefield without hazard. Trotting through a marked minefield is AVG:AGL; running through a marked minefield is DIF:AGL. Marking a minefield does not reduce its hazard to vehicles.

Removing mines allows vehicles and personnel to move through the minefield without hazard.

Paths marked or removed must be 1 meter wide for walking characters or 5 meters wide for vehicles.

Claymores: The claymore mine is a directional anti-personnel mine. It is not buried, but instead is generally emplaced at or near ground level and detonated either by remote control or a 30 meter tripwire. Personnel passing over the tripwire have a 60% chance of detonating the mine. Knockdown and contact damage are resolved normally. Fragmentation, however, is suffered only in the direction of the blast (pre-determine when the mine is emplaced). The burst area is a 30° cone, which means that at any given distance from the mine, it is half that distance wide. For example, at a distance of 50 meters the cone is 25 meters wide; at a distance of 100 meters it is 50 meters wide. Characters within 50 meters have a 60% chance of a hit and characters within 100 meters have a 20% chance of being hit by fragments, provided the character is in the fragmentation cone.

VEHICLE DAMAGE

Because vehicles have differing armor in different locations, and have different internal layouts, each vehicle has its own damage location list. After determining which part of the vehicle was hit by consulting the vehicle hit location table, consult the vehicle's damage location list.

Damage Location: The entries on the left side of a vehicle's damage location liar correspond to the hit locations determined from the hit location table (except for the suspension, which is dealt with separately below).

Armor Penetration: After each location there there is a number in parentheses. This is the armor value of that part of the vehicle. If the shot which hit the vehicle caused more hits than the armor on that part of the vehicle absorbs, the shot penetrates into the vehicle and can cause interior damage. If it caused hits equal to the number the armor absorbs, it penetrates the armor but does no interior damage. If it caused hits less than the armor absorbs it bounced off.

If the shot penetrates, the armor absorbs hits equal to its armor value times the armor multiplier of the shot. The hits inflicted by the shot, after the armor value has been subtracted, are known as the shot's *remaining energy.* The shot's remaining energy is the maximum amount of damage it can inflict on occupants and interior components of the vehicle.

Interior Damage: On the right side of each vehicle damage location list is a string of letters. Each letter represents a particular occupant or component of the vehicle that the shot may damage. These letters are presented in a specific order, that being the order in which a shot penetrating the listed vehicle part will pass near of through them. If the hit is in the hull back (HB) or turret back (TB) reverse the order of components hit. If the hit is in the hull side (HS) or turret side (TS) and the shot was from the right, reverse the order. If the shot is entering from the top of the vehicle, the referee randomly selects the order of components or occupants hit.

The referee rolls a die once for each occupant or component listed. There is a 50% chance the listed component or occupant will be hit. (Roll 1-5 on 1D10 or 1-3 on 1D6). The only exception to this is that a shot will always hit the engine.

The order of occupant/component listing is important, since each time the shot hits an occupant or component it will inflict damage. All of the damage it inflicts is subtracted from its remaining energy, and thus it is possible that it will exhaust its remaining energy before it has had an opportunity to hit every component or occupant.

After all components and occupants are rolled for, the shot strikes the opposite side of the vehicle. If its remaining energy is less than the armor on that side absorbs, it does no further

damage. If it is equal to or greater than the hits the armor absorbs it penetrates that side and exits the vehicle. This is important since, like other forms of armor, ten penetrations of a particular vehicle part result in the armor of that part being heavily breached and thus no longer able to provide protection.

For example, suppose a shot hit the front part of the side of the hull of a BMP-B from the left, and caused 25 hits. The vehicle damage location list for the BMP-B reads:

F:HS(15) D,C,R,E

This means that the hull side front has an armor value of 15, and thus the shot will penetrate with a remaining energy of 10. It then has a 50% chance of hitting first the driver, then the commander, and then the radio. After that, if there is any energy remaining, it will automatically hit the engine.

If the shot had hit the right side of the vehicle, it would first have automatically hit the engine, and probably would not have any remaining energy to hit any other component.

Component Damage: Each time that a component of the vehicle is hit by a shot, there is potential for it to suffer damage. Determining component damage is done in four steps.

First, consult the damage multiplier table in the referee's chart booklet. Find the multiplier of the component hit by the shot.

Second, compare the remaining energy of the shot to the component's damage multiplier. If the damage multiplier is larger than the remaining energy, the shot does no damage to the component, nor does its flight through the vehicle continue.

Third, if the remaining energy is greater than the damage multiplier, the referee rolls 1D10 to determine the extent of damage to the component. The result times 10 is the possible percentage damage to the component. Thus, if a three were rolled the shot could do up to thirty percent damage.

Fourth, determine the actual number of hits the component suffers. For every ten percent damage taken, the component suffers hits equal to its damage multiplier. If, for example, the engine (damage multiplier of 50) took 20% damage, it would suffer (2 x 50 =) 100 hits. The number of hits suffered is subtracted from the remaining energy of the shot.

If the number of hits suffered is more than the remaining energy of the shot, the component only suffers total hits which are evenly divisible by the damage multiplier. Thus, if a component with a damage multiplier of 5 could take up to 80% damage but the round only had 27 hits of remaining energy, the component would suffer 25 hits (50% damage), and the left over hits would be lost.

Any component which takes 10% damage or more is inoperable, but may be repaired at a later date. (Exception: see Ammunition Hits and Fuel Hits below.) Any component which takes 100% damage is permanently destroyed. Subsequent hits on the vehicle have no chance of striking that component.

A component cannot absorb more energy that the total of its remaining damage potential. If, for example, a component had already suffered 90% damage and was hit by a shot which could do 50% damage, the component only suffers 10% damage (thus totally destroying it) and the shot then continues to the next interior target.

Occupant Damage: Occupants include the passengers and crew of the vehicle. Crewmembers hit by fire are determined by the seat in which they are sitting, not their formal title. Thus, if the character who is usually the vehicle's gunner is driving it, he is vulnerable to a driver hit, not a gunner hit. A vehicle with a crew of 1 has a driver. A vehicle with a crew of 2 has a driver and commander. A vehicle with a crew of three has a driver, gunner, and commander. A vehicle with a crew of four or more has a driver, a gunner, and a commander; the rest of the crew are loaders. Everyone in the vehicle in excess of the crew is a passenger.

Each time that the damage list calls for a particular occupant type to be rolled for, the referee rolls once for each person in the vehicle who fits the description. Thus, if a shot has a chance of hitting passengers, and the vehicle currently has four passengers, the referee rolls once for each passenger. The referee determines the order in which the passengers are rolled for. He may do this randomly or may ask the players to provide a seating chart for the vehicle and determine the order of rolling from this. (Note that a passenger does not have to be directly in the path of flight of the shot to be hit, as there is usually considerable fragmentation inside a vehicle when it is penetrated, and these will bounce around inside.)

Each time an occupant is hit, the referee rolls for hit location on him and then rolls 1D6 x 1D6 to determine the number of hits. Thus, it is possible for the character to receive a serious wound or even be killed, but it is also possible to receive only a superficial wound from even a large caliber round. The number of hits suffered is then subtracted from the remaining energy of the shot. If the remaining energy of the round is less than the number of hits the referee rolled, the character instead takes only hits equal to the remaining energy of the round.

Stores: It is impossible to provide exact damage tables for every item the players might have stored in a vehicle, and if it were the resulting list would be too cumbersome to use. The referee should use the damage multiplier table as a rough guide to determining a damage multiplier for the stores in a vehicle in the event that a shot hits them.

Ammunition Hits: Hits on a vehicle's ammunition have the potential to destroy the vehicle (leaving no salvageable parts) and kill its occupants. Small arms ammunition (ammunition for pistols, rifles, submachineguns, shotguns, and machineguns) will not explode. Grenades, anti-tank missiles, and large caliber rounds will, however. Whenever a vehicle takes an ammunition hit, the percentage damage suffered is also the percentage chance that the ammunition will blow up. The referee makes the die roll and, if the ammunition blows up, the vehicle is

destroyed and its occupants killed. If it does not blow up, the percentage damage taken is the proportion of the ammunition on board which has been rendered useless.

For example, a M113 has eight belts of .50 caliber machinegun ammunition on board and takes an ammo hit. The referee rolls a 4 indicating 40% damage and a 40% chance of an explosion. However, .50 caliber ammunition does not explode and so the M113 loses 40% or its ammunition, or 3.2 belts (which the referee decides to round down to 3 belts) leaving it with 5 belts of ammunition. If the vehicle were carrying ammunition which could explode, there would be a 40% chance of an explosion.

M1 Ammo Storage: Ammunition for the M1 and M1E1 is stored in a large armored compartment in the rear of the turret. The compartment is constructed with heavy armor plating between the ammunition and the crew compartment, but relatively light overhead plating. The result of this construction is that the force of an ammunition explosion will be directed up and away from the tank, not into it. Thus, if the ammunition on an M1 or M1E1 explodes, the vehicle is not destroyed, but instead loses all ammunition currently on board and loses its ammunition storage compartment. (In the future, all ammunition must be carried as stores.)

Fuel Hits: A vehicle which takes a fuel hit has its fuel tanks pierced and loses fuel. The percentage damage suffered is a permanent reduction in the capacity of the fuel tank until repaired. Thus, a 120 liter fuel tank has its capacity reduced by 12 liters for every 10% damage suffered. This also indicates the amount of fuel immediately lost from the hit. Thus, if the tank mentioned above only had 30 liters of fuel in it, a 10% loss would reduce it to 18 liters remaining.

There is also the possibility of fire resulting from a fuel tank hit, provided there is any fuel in the tank. Each fuel type has a flashpoint percentage listed on the fuel flashpoint table. If a vehicle suffers a percentage damage result from a fuel hit which is equal to or in excess of the flashpoint of its fuel, the vehicle begins to burn. This damage need not be the result of a single shot; cumulative damage to the fuel tanks during a single firefight will eventually cause the vehicle to catch fire.

Escape: If a vehicle catches fire, the crew and passengers may be able to escape. If the fire is the result of cumulative damage, the crew and passengers may escape by leaving the vehicle immediately. If the fire is the result of a single hit which inflicted sufficient damage by itself to reach the fuel's flashpoint, the fuel explodes. Each crew member and passenger may attempt to escape (AVG:AGL). Success indicates that the character escaped unharmed. Failure indicates that the character escaped but is burned. Roll 1D6 for number of body parts burned, then roll location of the body parts, and then roll 1D6 x 1D6 for each burned body part to determine the number of hits. Catastrophic failure indicates that the character does not escape and is killed.

All vehicles which catch on fire are totally destroyed, leaving no salvageable parts.

External Stores: Stores (cargo) may be carried on the outside of a vehicle. This is usually piled on top or in racks on the sides of the vehicle. Players must specify where their external stores are located, and the referee should direct them, if they have a great deal of external stores, to split it up and locate parts of it on several different parts of the vehicle.

Passengers may also ride on the outside of a vehicle, generally sitting on the deck.

Any time that a vehicle part is hit, there is a 50% chance that the shot first strikes the external stores located on that part of the vehicle. There is also a 50% chance for each outside passenger to be hit. Hits are resolved in the same way as interior damage, and hit points are subtracted from the round's remaining energy before attempting to penetrate the vehicle's armor.

Exterior Fuel Tanks: If a vehicle's fuel capacity is listed in two parts on the equipment list (150-1-30, for example), the vehicle has an exterior fuel tank. The first part is the capacity of the interior tank, and the second is the capacity of the exterior tank. Fuel in exterior tanks is used first. Exterior fuel tanks are located on the right and left sides of the hull back (R: HB and L:HB). If this part is hit, the exterior tank is automatically hit. If the tank contains any fuel, the effects are the same as a hit on the interior fuel tank. It's a good idea to empty any exterior fuel tanks before going into combat.

Motorcycles: Hits on motorcycles are considerably simpler than hits on other vehicles. Instead of a hit location chart and damage location list, there is a single chart which combines both functions: the motorcycle damage location chart. The direction from which the motorcycle is hit is unimportant; simply roll 1D10 and consult the chart. The chart specifies a hit on a particular component of the motorcycle. Resolving component damage to motorcycles is done in the same way as explained above for other vehicles.

RECOVERY (AND POST-BATTLE DAMAGE)

Recovery: A character may recover from one slight hit per body part per day. A character may recover from one serious or critical hit per body part per week. All serious and critical hits must be recovered before any slight hits may be recovered. Recovery of hits takes place at the end of the day's sleep period (or at the end of the sleep period of the last day of the week).

If a character has medical attention, his rate of recovery can be accelerated. A character with MED skill must check the character every day, change his bandages, administer antibiotics, etc. This requires the character with medical skill to spend one half hour per day per injured body part with the wounded character. If treating serious or critical wounds, one hour per day per body part is required for treatment. At the end

of every sleep period when the character would recover one hit, the character recovers two hits if the medic succeeds at AVG:MED.

A character may automatically recover two slight hits per body part per day or two serious/critical hits per body part per week if given constant bed rest and medical care. Bed rest for this purpose requires daily good quality food, and rest in a clean bed in a building in reasonably good repair. (Drafts, leaky roofs, damp rooms, and sleeping bags on rough, cold ground are not sufficient.)

Moving the Wounded: A critically wounded character suffers one additional hit for each period in which he is moved, either by hand or in a vehicle.

Infection: Every time a character suffers a hit from melee combat, fire combat, or burn damage there is a chance of infection. After every firefight (or accident), each injured body part has a 20% chance of becoming infected. If a medic treats the wound within 8 hours, the chance of infection is 10%. If a medic treats the wound within 8 hours using an antibiotic (any variety) the chance of infection is 1%.

Any time a character's wound is infected, healing (in all body parts, not just the infected one) stops until the infection is dealt with. In addition, for each week an infection lasts, the character takes an additional 1D6 hits to the injured body part.

A character with a critical hit resulting from infection loses consciousness and remains that way until all critical hits (even those not caused by the infection) are recovered, or until he dies.

If, for example, a character receives two hit points in the left arm, and that wound becomes infected, no healing takes place. After one week, the character takes an additional 1D6 hits in that arm, after two weeks another 1D6, and so on. Obviously an infection is a major danger.

Treatment of Infection: A medic may attempt to treat an infection once per week. Treating an infection is AVGiMED. A successful treatment means that part is no longer infected and healing may take place that day. If any antibiotics are used in the treatment, the task becomes ESY:MED.

ANIMALS IN COMBAT

All animals attack as if engaging in melee combat. That is, an animal attack cannot be blocked by a body combat attack, but may be blocked with a melee weapon. A bear attempting a grappling attack, which is resolved as a body combat attack, may not be blocked with either body combat or melee skill.

The animal data chart gives the base hit number, melee damage, and hit capacity for all animals.

Morale: Whenever an animal first suffers damage from combat there is a chance it will flee. The original chance of the animal attacking (see Encounters) is also the chance that it will continue the attack once wounded. By the same token, whenever an animal is killed or rendered unconscious there is a chance (the same chance) that the rest of the animals in the attacking group will flee. This die roll is made each time an animal is killed.

Dogs: The first round in which a dog attacks, it is allowed two simultaneous attacks: a diving blow and a melee attack. However, no more than two dogs can make diving attacks per character per combat round. Any remaining dogs will just make a melee attack. Once a dog has made a diving blow or a regular melee attack it may not try any further diving blows.

Bears: A bear makes two melee attacks per round, one with his claws and one with his jaws. After the first combat round, the claw attack becomes a grapple. Once a bear has subdued its victim, the jaw attacks automatically hit and do double damage.

Encounters

RANDOM ENCOUNTERS

As the characters travel, they will encounter a variety of people, animals, and settlements. While many of these encounters will be mandated by the referee (pursuers overtaking them, a partisan band the referee wishes them to meet, a town or city on the map they travel to), many more will be random encounters.

Frequency of Encounters: The referee should roll once on the encounter table every four-hour period in which the characters travel and once per day in which they do not. If the group itself is not moving but breaks up into hunting parties, foraging parties, scrounging parties, etc., the referee rolls once per period per party for an encounter. In addition, he will roll once per day for an encounter at the party's camp.

Once the specific encounter is determined, the referee must determine the range of the encounter and checks for spotting and surprise.

Range of Encounter: The range of the encounter depends on the type of terrain in which it takes place. The referee rolls 1D10 and consults the encounter range table. The die roll is multiplied by the value listed on the table to determine the range at which one or both groups may see each other. This die roll in general is an easy way of determining how open the terrain is in that particular area. For example, if the referee rolled a 5 on an open terrain encounter, this is an encounter range of 1 500 meters and means that the local terrain was such that the first opportunity for the two groups to see each other occurs at a range of 1 500 meters.

Spotting and Surprise: When a group of characters encounters a group of NPCs, each group has a chance of spotting the other (AVGiRCN). Spotting a group moving in vehicles is (ESY:RCN). Spotting a stationary and camouflaged group is (DIF:RCN). The roll is made only once per group, using the highest RCN in the group. The skill level used is reduced by 1 for each character in the group and by 5 for each vehicle in the group, and is increased by a like amount for numbers of characters and vehicles in the group encountered. However, the RCN skill used may never be more than halved or doubled by these modifications.

If neither group spots the other, the referee repeats the roll once per combat turn until one or both groups succeed in spotting the other. When spotting takes place, the range of the encounter has been reduced by the distance traveled by the two groups since the first spotting opportunity. If the two groups close to the minimum possible encounter range (the base range multiplier shown on the chart: 10 meters in woods, 30 meters in swamp, 100 meters in hills, etc.), both groups automatically spot each other.

If both groups spot each other at the same time, both groups are surprised (and roll for panic). If one group spots the other without being spotted in return, that group is not surprised. Once a group has spotted the other group and has not been spotted in return, it may either wait (allowing the other group to approach closer), attempt to evade (move away from the spotted group), or attack:

If the group attacks, the other group is surprised.

If the group waits, the other group continues to have one opportunity per combat turn to spot. If the other group succeeds in spotting before being fired on, it is not surprised.

If the group attempts to evade, the other group has one opportunity to spot each combat turn until the referee decides the group has moved far enough away from the opposing group to be safe. This distance may vary, but will usually involve moving beyond the original encounter range rolled. Thus, in the example given above where the encounter range was 1500 meters, once the group had moved to a distance of greater than 1 500 meters from the encountered group, without having been detected, it would have successfully evaded.

Types of Encounters: The encounter table specifies the type of encounter. There are several types: animals, settlements, craters, derelicts.

Animals: If the group encounters animals, the referee only rolls to see if the group spots the animals. In this case, the task is

AVG.-RCN. The skill level of the player with the highest recon skill is used, but 5 is subtracted from the skill for every extra person with him. If spotting is successful, the group surprises the animals; if unsuccessful, the animals surprise the group. If characters are in camp or near vehicles, they will never surprise animals, and all animal encounters become no encounter. (The referee may occasionally throw in a comment such as "while your vehicles were moving through the woods, you flushed a flock of birds, but they were too far away to get a shot at.") Most animals, if they surprise the group, will flee, and the group will not have an opportunity to attack. Some animals have a chance of attacking, as listed on the animal data chart. If these animals surprise the group, the referee rolls to determine whether they will attack. If so, a combat follows; if not, the animals will flee and there will be no encounter.

Settlement: If a settlement is encountered, the players automatically spot it at the range rolled by the referee. The referee rolls only to see if someone in the settlement (usually a guard) spots the group. Settlements are described below. i *Craters:* The group automatically spots a crater at the encounter range; no die roll is required. The encounter range is the distance from the edge of the apparent crater to the group. For an explanation of the effects of nuclear craters, see the section on radiation.

Derelict Vehicles: If a derelict vehicle is encountered, the encounter range is the distance at which the group automatically spots the vehicle. It is unoccupied.

When characters encounter a derelict vehicle, the referee must determine what type of vehicle it is and what condition it is in. First the referee decides the nationality of the vehicle. He can either arbitrarily decide this or resort to a die roll. The nationality of the vehicle will depend greatly on the location of the encounter. For example, in an area where there was recently a large battle between U.S. and Warsaw Pact forces, he might decide that the vehicle is U.S. on a roll of 1-2 on 1D6, Soviet on a roll of 3-4, and Polish on a roll of 5-6. In a more remote area he might reduce the chance of it being U.S. and increase the chance of it being either Polish or Soviet, v The nationality of the vehicle tells the referee which chart to roll on to determine the exact vehicle encountered. If Polish or Soviet, roll 2D6 on the vehicle column of the encounter equipment table. If U.S., roll either 1, 2 or 3D6 (referee's option) on the vehicle table in the player's chart booklet.

The referee then determines the condition of the vehicle. First, roll 1D6 for number of damaged components. The referee then decides which specific components are damaged. He can decide this himself or look at the components of the vehicle (as listed on the vehicle damage location list) and roll dice to decide. He then rolls 1D10 times 10 for each damaged component; the roll is the percentage damage to the component. If the ammunition or fuel are damaged, the percentage damaged rolls should be made first. If either the ammunition exploded or the fuel burned there is no point in rolling further; the vehicle is a total loss. Once percentage damage to components is determined, roll 1D10 to determine the wear value of the vehicle, which will be important if the players decide to repair it and use it themselves. Finally, the vehicle will have been stripped of its important non-damaged components. Specifically, the gunner's machinegun, radio, commanders machinegun (or similar weapon in the weapons mount), range finder, missile launcher, fuel, and undamaged ammunition will all probably have been taken from the vehicle. In very rare cases, the vehicle will not have been stripped. This will never be the case on a road or in open terrain. However, there is a 10% chance in hill terrain and a 20% chance in woods and swamp that the vehicle has been abandoned and has not been stripped.

As with every rule covering the world the players travel in, the purpose of this rule is to help the referee, not restrict him. He should always feel free to depart from its exact procedure when he thinks it will help the game. For example, it's possible to find an abandoned vehicle bogged down in a swamp but otherwise in perfect condition. Another possibility is that the vehicle just ran out of fuel and the crew walked away from it, unable to carry much of anything with them.

People: There are a variety of encounters with people listed on the encounter table: refugees, merchant groups, military convoys, and armed groups. If an armed group is encountered, the referee must determine the type of armed group, based on the type of territory in which the encounter occurs. Army territory is territory under control of an army unit. An army unit usually controls all territory within 20 kilometers of the settlements or camps at which it is based. Marauder territory is all territory where marauder bands roam at will.

The encounter statistics table is used to determine the exact composition of the party encountered. The table lists the RCN value of the encountered party, the base unit encountered, and any special weapons or vehicles the encountered group may have.

The referee first examines the base unit description. If there are several different base unit descriptions (as there are in most cases), he rolls 1D6 to determine the actual type of base unit. He then rolls 1D10 to determine the number of base units in the group.

For example, the characters encounter an army unit. The referee consults the encounter statistics table and finds that there are three possible army base units: infantry, cavalry, and motorized. He rolls 1D6 and rolls a 3, indicating the characters have encountered cavalry. He then rolls 1D10 and obtains a 9. Since the base unit description lists a total of 10 men, the characters have encountered a group of 90 cavalry.

Some base unit descriptions direct the referee to make additional die rolls for special weapons or vehicles. Each is a 2D6 roll made on the encounter equipment table. Continuing the example above, the referee would make nine 2D6 rolls on the special weapons column of the table. The special weapons rolled would be added to the unit and some of the soldiers would serve as gunners for them.

If a convoy or group of merchants is rolled, the referee also determines the nature of the cargo carried. This can be made once for the entire group or once for each base unit, at his discretion. If a medical cargo is rolled for a military convoy, the truck or wagon carrying it has, in addition to medical supplies, 1 doctor (MED80), 1 nurse (MED50), and two medics (MED30). The medics are armed with assault rifles, while the doctor and nurse are armed with pistols.

The listing below provides a brief description to assist the referee in determining how the group encountered will react to the characters.

Army: This is a patrol of the Soviet Army or the Polish Army. It will probably be searching for stragglers or marauders, be on routine patrol, or be under orders to march to a particular location for one reason or another. Under almost all circumstances, it will be hostile to the characters and attempt to attack or capture them. ^ _„_

Marauders: A group of bandits, deserters, and criminals who live by plunder and for whom murder and pillage have become a way of life. Marauder groups will usually be hostile to the characters. Marauders may attempt to waylay the characters in order to acquire their equipment; especially if there seems to be a good chance of doing so at little cost. In some circumstances, a marauder band may be friendly (wanting to trade, acquire information, gain recruits, etc.), but marauders are notorious for their betrayals.

Hunters: Local civilians out hunting for meat for their families. They will usually be poorly armed by military standards. If attacked they will put up as stiff a fight as they can, but they are not looking for trouble and will not attack unless provoked. They may be a good source of information if they're willing to talk, but usually they will want to be left alone. If the referee wishes, an encounter with hunters may occasionally turn out to be an encounter with some other group (such as partisans or marauders) disguised as hunters.

Stragglers: These are most likely Soviet or Polish stragglers, but they could be soldiers from the 5th Division or even from some other NATO unit left behind two years earlier. They are almost always poorly equipped, few in number, and not in much condition to put up a fight. They may or may not be hostile, at the referee's discretion.

Military Convoy: A military supply convoy of the Polish or (more likely) Soviet Army. It will be guarded but is a rich prize if it can be captured. It will be hostile to the characters but usually not actively so unless provoked or unless it seems to be a greatly superior force. Instead, it will report the character's presence to the army unit controlling the territory, if any.

Merchants: A merchant group from a city, trading manufactured goods for food and raw materials. Merchants are usually the toughest fighters from a city or town (necessary these days to stay in business) and will be wary of strangers. However, they will trade with anyone, no questions asked, and will be willing to swap information.

Refugees: Displaced persons, victims of some disaster (more likely man-made than natural). They will be hungry, tired, and poorly armed, and are of no real threat. They will tend to be very wary of anyone they meet. They are a potential source of information and a possible adventure. They may attempt to enlist the aid of the characters in righting some wrong, avenging an outrage, or regaining their lands and possessions.

SETTLEMENTS

There are four sizes of settlements in the game: villages, towns, cities, and major cities. Of these, only towns, cities, and large cities are shown on the map. Villages are found due to a settlement result on the encounter table. Players and the referee may wish to make a note of villages encountered for future reference.

Size and Defenses: The settlement size table is used to determine the population and defense strength of a settlement. Cross-index the roll of 1D10 with the appropriate settlement type to determine the total population of the settlement. The armed population of the settlement is a percentage of the total population, as given on the table.

In cities and major cities, the armed contingent is usually organized along military lines with military equipment (assault rifles, some machineguns and mortars, perhaps some heavier equipment) and usually represents the remnants of the ORMO (People's Militia). Villages and towns are not equipped as well (mostly just small arms). Usually, no more than 10% of the armed strength of a settlement is under arms and ready for defense at any given time, and this would drop to 5% at night. The rest can be called to arms given advanced warning, but this could take up to a day in a major city.

Settlements usually have three to four times the number of buildings as are required to house the inhabitants, and these vacant buildings are in poor repair. Many have fallen down or are infested with rats or other small animals. The inhabitants will usually live in one part of the settlement, although cities and major cities will have subdivided into several smaller communities separated by belts of rubble and abandoned buildings. These smaller communities may or may not share a common municipal government.

In the cities and major cities, urban life tends to be brutal and unpleasant. While some merchants and small factory owners are very wealthy, living in comparative luxury surrounded by hired guards and servants, starvation, crime, and disease are often rampant, particularly in cities without a cohesive municipal government. Only the very brave and well-armed venture out on the streets at night.

While most cities still pay lip-service to loyalty to the central government, the fact is that for the most part there is no central government. When army units pass through, the cities usual-l(y cooperate grudgingly, although communities are increasingly fighting back against forced requisition of supplies, setting up autonomous areas, and looking to their own protection.

The reception that U.S. soldiers can expect to receive is varied. Some settlements will welcome them as liberators. Some will consider them fellow victims of the war and help them. Some will hate them for what the "enemy" has done to them. Some will fear that cooperation with them will bring reprisals from the Warsaw Pact armies. Some will view them as just another group of soldiers, the color of the uniform having lost all meaning. And some will fight them out of duty and patriotism.

In general, the small villages are the most independent. Each looks out for itself and will treat all travelers with a mixture of welcome and caution. Many have been victimized by marauding bands of deserters and so are suspicious of small bands of armed men, but they will seldom react with immediate hostility unless

provoked.

Ruins: Many settlements on the map are marked as being in ruins. These settlements were destroyed in the nuclear exchange or were devastated by the conventional fighting back and forth across Poland. These ruins are seldom, if ever, totally uninhabited. Small groups of a dozen or so people may still be combing the ruins, living off (increasingly scarce) stocks of canned food discovered in the ruins. Bands of marauders may be camped in the ruins. In major cities, small communities may scrape a meager subsistence by cultivating the former municipal parks. Almost any sort of encounter is possible in the ruins of a city.

NON-PLAYER CHARACTERS

A variety of non-player characters (NPCs) will be encountered in the course of adventures. These are characters which the referee will play, either in cooperation with or opposition to the players.

Motivation: In many cases, the motivations of NPCs are either obvious or unimportant. An enemy soldier, a merchant in a bazaar, a common field hand, the general range of background characters do not require the referee to determine motivation. Usually motivation is only determined for the leader of a group of NPCs or a solitary NPC with which the players will have important or extended dealings.

To determine the motivation of an NPC, draw two cards from a standard deck of playing cards. The highest value card is the NPC's primary motivation, the other is his secondary motivation. The particular motive is determined by the suit of the card. The values are classified as low (2, 3, or 4), middle (5, 6, or 7) or high (8, 9, or 10). Aces and face cards are special results explained later.

CLUBS: Violence: The NPC has a greater likelihood of reacting with violence than most people. At low levels this indicates the NPC is not frightened or intimidated by threats of violence and will not hesitate to use violence if the situation seems to warrant it. At middle levels the NPC is aggressive and inclined to view violence as the preferred means of resolving disputes. At high levels the NPC loves a good fight and either is or wants to be a warrior. Even a high violence rating does not, however, necessarily indicate that the NPC is brutal or a bully. For example, an NPC with a high violence level and a high fellowship (hearts) level could be described as friendly, good-natured, loyal —a good man to have with you in a fight.

DIAMONDS: Wealth: The NPC wants to be rich. At low levels the NPC will generally sell items for gold, even if alone in the wilderness. At middle levels the character will probably only accept gold or will strike very hard bargains in barter. This sort of character is very easy to bribe. At high levels the NPC can be expected to accept bribes, deal only in gold, and may attempt treachery if he believes the players have considerable wealth and he can get his hands on it.

HEARTS: Fellowship: The NPC is highly influenced by his love of people. He tends to be friendly, loyal, and just. At low levels the NPC will be amiable, talkative, and cooperative with most people he meets. At middle levels he will have a strong sense of duty and loyalty to the group he belongs to. At high levels he will have a strong commitment to justice and the welfare of all he meets. He will look for the good qualities in anyone he comes in contact with but will react with anger to injustice and brutality.

SPADES: Power: The NPC seeks personal power and influence. At low levels this manifests itself mostly as boastfulness and a desire to impress the NPC's peers. At middle levels it indicates a wish to be in a position of real responsibility in an organization. At high levels it indicates a desire to manipulate and control the people around him, to become a ruler of men.

Special Cards: Aces and face cards are special cards, each with its own special meaning. If a special card is drawn, it is automatically the primary motivation or most prominent characteristic of the NPC. If two special cards are drawn, the NPC has two competing primary motivations or dominant characteristics. The meaning of the special cards are shown below.

Heart Ace: Justice. The NPC sees justice as the greatest virtue in a person and the only important consideration in deciding on a course of action. He will display great justice in his dealings with others, will have no respect for cheats, and will wholeheartedly assist any attempt to right an injustice.

Heart King: Honor. The NPC is scrupulously honest in his dealings with everyone, and his word of honor is his absolute bond. If he believes that he is honor-bound to do something, either because he has promised or because his position carries an obligation to do so, he will attempt to carry out the task even if it means his own death. He has utter contempt for liars or people who break their word.

Heart Queen: Love. The NPC loves a person so completely that he would willingly sacrifice himself for that person. This could be a spouse, parent, child, or friend.

Heart Jack: Wisdom. The NPC is very wise and always exhibits good judgment and offers sound advice.

Club Ace: War Leader. The NPC is an unusually good leader in combat situations. He has an instinctive grasp of tactics, a good eye for terrain, and never panics in a fight. In game terms, treat the character as having a coolness rating of 0. In addition, the referee should assume that the NPC can anticipate many situations in combat and will make the best allowances for them possible.

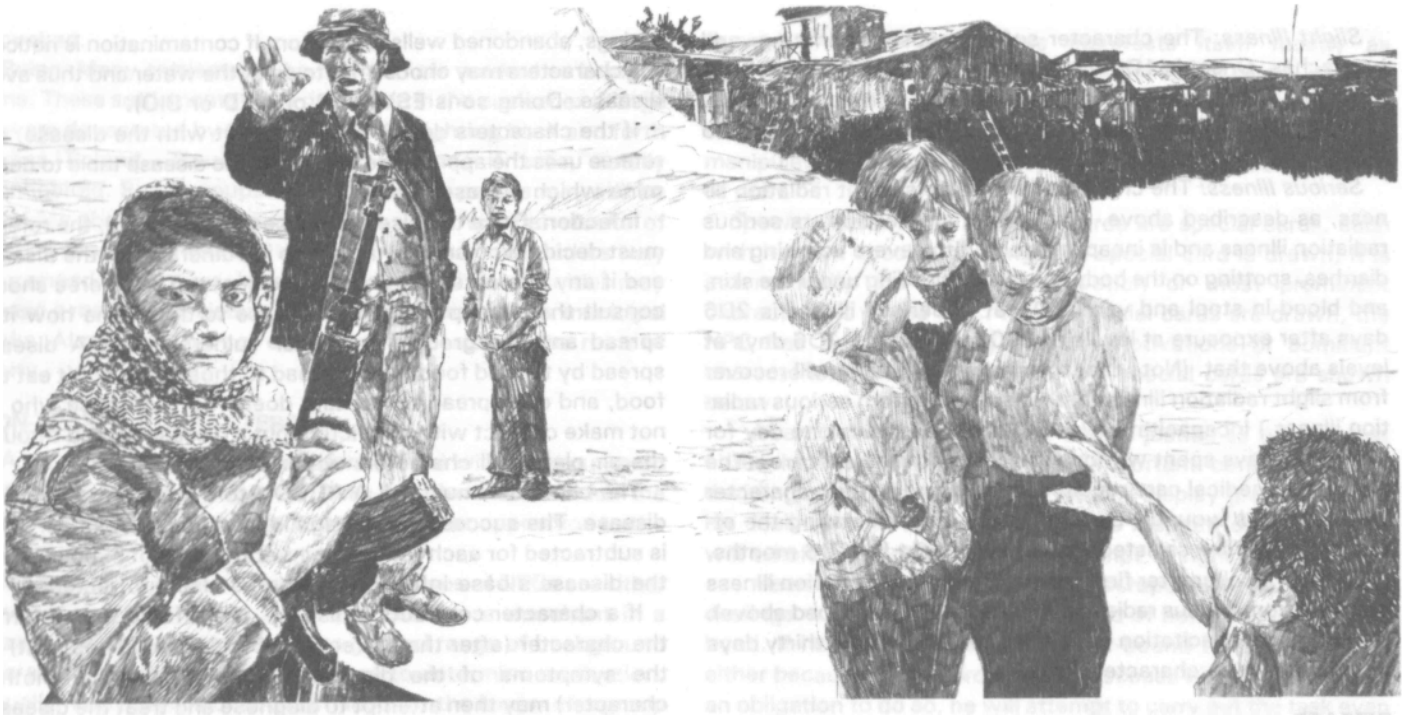
Club King: Brutal. The NPC is a sadistic brute who enjoys inflicting physical injury on others. He is likely to use torture whether or not there is anything to be gained from it.

Club Queen: Stubborn. The NPC is stubborn and pig-headed and will be extremely difficult to persuade once he has made up his mind. He is set in his ways and resists change of any sort.

Club Jack: Murderer. The NPC either has committed murder or is planning a murder. Murder in this sense does not mean a simple killing, but rather means the secret and intentional killing of an acquaintance for reasons of personal gain. Although the world is a very violent place in the year 2000, murder is still rare.

Diamond Ace: Generosity. The character is generous to a fault and will gladly give away anything he has to someone in need, even if this leaves him with nothing. In less extreme cases, he will be inclined to make very generous trades and will always refuse payment for help with a task other than one directly related to his normal livelihood. For example, a generous farmer would give the group all the food they needed and accept in return whatever he felt they could easily afford to trade or pay. If they needed help repairing a vehicle, he would help them and refuse to accept payment for it.

Diamond King: Selfishness. The opposite of generosity, a selfish NPC will never help without demanding payment and never give away anything. He will also demand higher payment



Additional Rules

RADIATION

Nature has a way of repairing itself, and two years after a major nuclear exchange most of the severe radiation hazards will be gone. The most dangerous areas are the actual blast craters of warheads that, by accident or design, detonated following a ground strike. Since most weapons achieve their best destructive effects from air burst, ground strikes would be rare if not for the sheer volume of warheads exchanged.

A major city has a 50% chance of containing 1D6 impact craters. A city has a 25% chance of containing 1 impact crater. Occasionally, craters are found in the countryside, the site of a tactical strike against an army unit, and the crater may have derelict (and radioactive) vehicles and equipment nearby. Most craters are due to tactical and small strategic nuclear weapons, although an occasional crater, usually in a major city, is due to a larger strategic nuclear weapon.

For tactical and small strategic weapons with yields ranging from 100 to 750 kilotons, the apparent impact crater is about 100 to 400 meters in diameter and is 20 to 70 meters deep. For larger strategic devices with yields ranging from 1 to 10 megatons, the apparent crater is from 200 to 800 meters in diameter and from 50 to 1 50 meters in depth. The term "apparent" is used deliberately; it refers to the diameter of the apparent (visible) crater. An area of about twice the visible diameter has been completely shifted and disrupted and is as radioac-tively dangerous as the visible crater itself.

In the two years following the strikes, erosion has reduced the apparent diameter to some extent and has reduced the depth considerably. Many smaller craters are shallow depressions in the ground, but the lack of vegetation should alert characters to the potential danger if they do not have geiger counters or other radiation monitoring equipment.

Every impact crater had an initial radiation level of about 6,000 rads, an immediately fatal dosage. However, most radioactive contamination quickly falls off over time, and the main danger from the impact crater will be from heavily irradiated metal remaining in the crater area. A character in a crater area suffers 1D6 rads per minute. If riding in an open vehicle, this is reduced by half, and if riding in an enclosed armored vehicle it is reduced by a factor of ten. If travelling in a radiologically shielded vehicle, it is reduced by a factor of 100. The referee may choose to ignore the accumulation of fractional rads.

Effects of Exposure: Exposure to lower levels of radiation will produce temporary illness, while higher levels can kill. All exposure is cumulative. When a character's accumulated rads reach or surpass 50, he must be checked for radiation illness. Thereafter, each time the character accumulates one or more rads he must be checked for radiation illness. However, the character is checked for radiation illness only once per day, on each day that he accumulates additional rads.

The radiation illness chart gives the multipliers used to determine the chances of illness and death from exposure to radiation. The character uses the rad level on the chart that is closest to without exceeding his accumulated rad level. For example, characters with rad levels of 75 and 99 use the 50 line, while a character at 802 uses the 800 line. Possible effects are checked for in the following order: death, serious illness, slight illness. There is no need to roll for a lesser effect if a more serious effect is achieved. A dash (—) on the chart means the effect does not apply at that rad level.

Multiply the character's CON by the multiplier to determine his percentage chance of avoiding the effect. Roll D100. If the number rolled is equal to or less than the percentage chance the character avoids the effect. Otherwise, he is affected. For example, a character (CON of 10) has a rad level of 75 and must check for radiation illness. The 50 rads line is used, and there is no chance for death or serious illness at this level. However, slight illness is possible, and the character has a (9.5x 10 =) 95% chance of avoiding it.

The referee checks for radiation illness for the character but does not inform the player of the result. Instead, the referee informs the player of his character's symptoms as they occur.

Slight Illness: The character suffers nausea, vomiting, and headaches. Onset is 1D6 hours after exposure. Character has strength, agility, and intelligence halved for duration of illness. Symptoms will last for one day at lower exposure levels, two days if exposure is 600 rads or higher.

Serious Illness: The character first suffers slight radiation illness, as described above. Then the character suffers serious radiation illness and is incapacitated, with severe vomiting and diarrhea, spotting on the body caused by bleeding under the skin, and blood in stool and vomit. Onset of serious illness is 2D6 days after exposure at levels of 300 rads or less, 1D6 days at levels above that. (Note that the character usually will recover from slight radiation illness before suffering from serious radiation illness.) Incapacitation lasts 1D6 weeks, plus one day for every two days spent without bed rest and medical care. (The amount of medical care required is the same as for a character with a serious wound.) General illness, approximating the effects of slight illness listed above will persist for 1 D6 months.

Death: The character first suffers from slight radiation illness and then from serious radiation illness (both as described above). During the incapacitation period (and usually within thirty days of exposure) the character dies.

DISEASE

There are three ways to contract diseases in *Twilight: 2000:* as a result of an encounter with people, as a result of an animal encounter, and as a result of drinking contaminated water.

Each time one of the above is encountered, roll 2D6. The disease table indicates the required die roll, or higher, which indicates the presence of a disease in the various encounter situations. The referee may dispense with checking for disease as circumstances dictate. For example, a brief encounter with people is usually too short to allow disease to spread.

People: Most diseases occurring through contact with people are spread through contaminated food and water or by close contact with a carrier (who may not necessarily show symptoms of the disease). In some cases, individual communities of people may develop partial or total immunities to one or more diseases, which do not affect them, but have devastating effects on strangers who have not built up such immunities.

For the purposes of disease, there are two types of people, those who live in settlements and those who do not. People in settlements usually use preventative sanitation, while people living in encampments are less likely to have good sanitation procedures. The referee determines which type of people are met for each encounter, according to his judgment. Refugees and stragglers usually use the encampment section, while merchants and army groups usually use the settlement section. Marauders and hunters have good chances of being from either. Also, people receiving good medical or biological advice tend to take care of health and sanitation matters. If such advice is judged present, an encampment may be treated as a settlement and a settlement may be treated as disease-free.

If the characters notice the presence of disease in people in time, they can avoid contact and thus chance of catching the disease. Doing so is ESY:(MED or BIO).

Animals: Contact with diseased animals can come from acquiring draft animals or through hunting. If the presence of disease is noted in time, contact and thus disease may be avoided; ESY:(MED or BIO). When hunting this task is AVG:RCN.

Water: This encounter includes only water consumed away from a settlement. It includes water from rivers, streams, lakes, springs, abandoned wells, and so on. If contamination is noticed, the characters may choose not to drink the water and thus avoid disease. Doing so is ESY:(FOR or MED or BIO).

If the characters do not avoid contact with the disease, the referee uses the appropriate section of the disease table to determine which disease it is.

Infection: Once the disease has been determined, the referee must decide who among the group is vulnerable to the disease and if any character contracts the disease. The referee should consult the description of the disease to determine how it is spread and the group's particular vulnerabilities. A disease spread by tainted food is not spread to those who don't eat the food, and one spread by contact doesn't affect those who do not make contact with the victim, but a disease spread through the air places all characters within range at risk.

The character must roll AVG:CON to avoid contracting the disease. The success percentage is modified as follows: 10% is subtracted for each fatigue point at the time of exposure and the disease's base infection number is also subtracted.

If a character contracts a disease, the referee then informs the character (after the correct incubation period has past) of the symptoms of the disease. The character (or another character) may then attempt to diagnose and treat the disease.

Example: Monk, during one of his scouting missions, comes across a spring which the referee has previously determined is contaminated by dysentery. Monk fails his roll to notice the presence of the disease and fills his canteen. During the next few days, he shares his water with no one else, and thus does not infect anyone but himself. Monk's constitution is 12 (x 5 = 60), his fatigue level at the time is 2 (- 20) and the infection number is 30, making the chance to avoid infection (60-20-30 =) 10. He rolls 23, and is infected. The incubation period is 2 days, and symptoms appear then.

Diagnosis: Diagnosis is a task, using MED. The difficulty depends on the disease. This difficulty given is for phase I of the disease; phase II is one level easier (since symptoms are more advanced). Failure to diagnose a disease properly results in a misdiagnosis. The referee does not tell the players the difficulty or success/failure of the task, only the disease diagnosed or misdiagnosed.

Example: Monk complains to Wood of abdominal pain and diarrhea. The referee rolls for Wood's diagnosis of Monk's disease. The result of 94 indicates a misdiagnosis of cholera. Wood initiates the appropriate treatment for cholera: intravenous fluids, relief of pain and fever, protection, and adequate food.

Recovery: To recover from a disease, a character must roll greater than the disease's basic recovery number. This roll is modified by the treatment received (+), the MED skill of the person administering that treatment (+), and the constitution of the diseased character times 5 (+). The description of each disease indicates what the preferred treatment is, and the modifier such treatment gives to the recovery roll.

If treatment is begun during phase I of the disease, the character rolls for recovery at the end of phase I. If he fails the roll, he rolls again for recovery at the end of phase II. If treatment is not begun until after the end of phase I, or no treatment is administered at all, the character only rolls for recover at the end of phase II.

Treatment which begins during phase II of the disease has its overall effectiveness multiplied by 0.75.

If a character fails his recovery roll, he has a chance of dying. If he avoids dying he then suffers the post-recovery disability

associated with non-treatment (whether he was treated or not). If a character recovers as a result of treatment, he suffers the treated post-recovery disability.

A character may have his fatigue base level increased while recovering from disease. In such cases, his fatigue level may not be decreased below his base level, regardless of the amount of rest or sleep he gets.

Example: At the end of 3 days (the length of dysentery's phase I) the referee rolls for Monk's recovery. The roll to recover from dysentery is 195. The treatment administered to Monk for cholera also has an effect on dysentery, adding 30% for intravenous fluids and 10% for pain relief (with no deductions for inadequate diet or shelter). Wood's medical skill of 85 is used. Monk's roll of 76 is modified by -I-30, 4-10, and + 85, for a total of 201, which is over 195 and thus Monk recovers. His base fatigue level is 1 for 7 days (dysentery's post-recovery debility). Monk receives no other ill effects, and the rest of the group, aware of his disease, takes steps to guard themselves against infection (especially since they believe he has cholera). Disease Descriptions:

Dysentery

Transmission: Contaminated food and/or water. Infection Number 60.

Symptoms: Abdominal pain, diarrhea.

Diagnosis: AVG

Misdiagnosed as: Cholera, or minor disease.

Treatment: Replace fluids (+ 30%), relieve pain *(+* 10%).

Course of the Disease: Incubation: 1 -3 days (1D6/2). Phase I: 3 days. Phase II: 7 days. Base Recovery Number: 195.

Failed Recovery Death Probability: 5%

Post-recovery Debility: 7 days. With treatment, fatigue at level 1 base; without, level 2. *Cholera*

Transmission: Contaminated food and/or water. Infection Number 50.

Symptoms: Abdominal pain, fever, diarrhea.

Diagnosis: AVG

Misdiagnosed as: Dysentery.

Treatment: Intravenous fluids (+ 30%), Antibiotic -(+ 20%), relieve pain and fever (+ 20%), antibiotic + has no effect, antibiotic ± (+ 10%).

Course of the Disease: Incubation: 1 day. Phase I: 3 days. Phase II: 3 days. Base Recovery Number: 215. Failed Recovery Death Probability: 20% Post-recovery Debility: 4 weeks. With treatment, fatigue at level 2; without, fatigue at level 3.

Hepatitis-A

Transmission: Contact, contaminated food and/or water. Infection Number 40.

Symptoms: General body pain, fever, malaise.

Diagnosis: DIF

Misdiagnosed as: Minor disease.

Treatment: Relieve pain and fever (+ 20%).

Course of the Disease: Incubation: 1 D6 weeks. Phase I: 3 days. Phase II: 5 days. Base Recovery Number: 185. Failed Recovery Death Probability: 10% Post-recovery Debility: 2 weeks. With treatment, fatigue at level 1; without, at level 2.

Food Poisoning

Transmission: Contaminated food. Infection Number 40.

Symptoms: Severe abdominal pain, abdominal cramps, sometimes fever (1 D 1 0 for 8 +).

Diagnosis: AVG

Misdiagnosed as: Cholera.

Treatment: Relieve symptoms (+ 20%). To determine further treatment, roll 1D10: 1-2 = specific antitoxin (+ 60), 3-5 = antibiotic + , 6-8 = antibiotic- (both at +30%), 9-10 = no other measures have any effect (but symptom relief has +40%). If antibiotics have effect, antibiotic ± has effect at +20%.

Course of the Disease: Incubation: 1 day. Phase I: 2 days. Phase II: 7 days. Base Recovery Number: 245.

Failed Recovery Death Probability: 5%

Post-recovery Debility: 2 weeks. With treatment, fatigue at level 1; without, level 2. *Pneumonia*

Transmission: Contact, air-borne (particles coughed or sneezed into the air). Infection Number 50.

Symptoms: Cough, fluid-filled lungs, fever, chest pain, general discomfort.

Diagnosis: AVG

Misdiagnosed as: Minor disease, plague.

Treatment: There are many different sorts of pneumonia, and treatments vary. Pain and fever relief (+ 20%). To determine further treatment, roll 1D10: 1-2 = antibiotic+ , 3-5 = antibiotic- (both at +30%), 6-10 = no other measures have any effect (but symptom relief has + 30%). If antibiotics have effect, antibiotic ± is +20%.

Course of the Disease: Incubation: 1D6 days. Phase I: 5 days. Phase II: 9 days. Base Recovery Number: 215.

Failed Recovery Death Probability: 10%

Post-recovery Debility: Whji treatment, none; without, level 1 fatigue for 1 week. *Typhoid Fever*

Transmission: Contact, contaminated food and/or water. Infection Number 40.

Symptoms: Severe fever, pain, cough, apathy.

Diagnosis: DIF

Misdiagnosed as: Pneumonia, plague.

Treatment: Antibiotic- (+ 40%), antibiotic± (+ 20%), antibiotic + has no effect.

Course of the Disease: Incubation: 1D6/2 days. Phase I: 1 week. Phase II: 1D6/3 weeks. Base Recovery Number: 205.

Failed Recovery Death Penalty: 10%

Post-recovery Debility: 6 weeks. With treatment, fatigue at level 2; without, fatigue at level 3.

Typhus s f. Transmission: Carried by body lice. Infection Number 40.

Symptoms: Fever, headache, rash.

Diagnosis: ESY [7] *» I Misdiagnosed as: Minor disease.

Treatment: All antibiotics (+ 30).

Course of the Disease: Incubation: 1 day. Phase I: 5 days. Phase II: 10 days. Base Recovery Number: 200.

Failed Recovery Death Probability: 20%

Post-recovery Debility: With treatment, none; without, fatigue at level 2 for 2 weeks. *Rabies*

Transmission: Contact with body fluids, such as blood, saliva, etc. Normally through an animal bite. Infection Number 30.

Symptoms: Phase I: fever, malaise, sore throat. Phase II: severe pain, excessive salivation, sweating and other fluid loss.

Diagnosis: AVG

Misdiagnosed as: Minor disease.

Treatment: The 14-day DE Vaccine Series (+ 80% in phase I, -f-10% in phase II). (Pre-exposure vaccination will prevent infection but must be repeated at 2 year intervals.)

Course of the Disease: Incubation: 1 D6 weeks. Phase I: 2 weeks. Phase II: 1 week. Base Recovery Number: 260.

Failed Recovery Death Probability: 100%

Recovery Debility: Fatigue at level 2 for 20 weeks.

Plague, Bubonic and Pneumonic

Transmission: The bubonic form is spread by rat-borne fleas. The pneumonic forms is spread by contact or by air-borne particles. Infection number 40 bubonic, 60 pneumonic.

Symptoms: Bubonic: fever, swollen lymph nodes, severe abdominal pain. Pneumonic: same, with severe cough and chills.

Diagnosis: AVG

Misdiagnosed as: Pneumonia, minor disease.

Treatment: Bubonic: Antibiotic- (-f 40% phase I, -f 20% phase II), relieve pain and fever (-f10%). Pneumonic: Antibiotic - (+ 30% phase I, -f 10% phase II), relieve pain and fever (+ 5%), antibiotic± same as -, antibiotic+ no effect.

Course of the Disease: Incubation: 1D6 days. Phase I: Bubonic, 5 days; pneumonic, 3 days. Phase II: Bubonic, 10 days; pneumonic, 7 days. Base Recovery Number: Bubonic, 215; Pneumonic, 235.

Failed Recovery Death Probability: 100%

Post-recovery Debility: Fatigue at level 2 for 15 weeks.

Minor disease

Transmission: This represents a number of minor (but debilitating) diseases too numerous to detail specifically. Symptoms and treatment may be adapted at the referee's discretion. Infection Number 10-40.

Symptoms: Fever, general body pain, vomiting, discoloration.

Diagnosis: ESY, AVG, or DIF, referee's discretion.

Misdiagnosed as: Any other disease, but usually a minor one.

Treatment: Referee's choice, usually including relief of symptoms (-»-20%), antibiotic +, -, or ± (0-40%, referee's discretion), or specific antitoxin (+ 60%). The availability of the specific antitoxin is up to the referee.

Course of the Disease: Incubation: 1 D6/2 days. Phase I: 1D6 days. Phase II: 2D10 days. Base Recovery Number: 180 to 220.

Failed Recovery Death Probability: none

Post-recovery Debility: With treatment, none; without, fatigue at level 1 for 1D6 days.

Description of Treatments: In all cases, a unit of a drug is enough to treat one person for one day.

Relief of Pain: This is done by administering pain-relief drugs. The mild forms are used for normal conditions, strong forms for conditions described as severe.

Relief of Fever: This is done by administering anti-fever drugs.

Antibiotic+ : Administration of a gram positive antibiotic.

Antibiotic-: Administration of a gram negative antibiotic.

Antibiotic ±: Administration of a broad spectrum (both positive and negative) antibiotic. These do not always work as well as a positive or negative antibiotic alone.

TRADE AND COMMERCE

While organized trading and commercial activities go on in the world of *Twilight: 2000,* they are not extensive or economically sophisticated. Communities for the most part are self-sufficient, since the flow of trade is too uncertain to rely on. Surviving cities do trade for food, and merchant convoys from these cities are sometimes encountered. At first, cities often forcibly confiscated food from the countryside. However, this resulted in farmers moving away from the areas around cities, so instead in most areas a primitive economy has developed in which cities trade what goods they can produce for food.

Outside of the cities, the standard means of exchange is barter. Characters bargain and exchange items until both sides are satisfied with the trade. In barters between player characters and NPCs, the referee should be guided by the dollar prices of the items (as given on the price list) in the barter, as these prices reflect the general perceived value of the items. However, the referee must also determine the items' actual perceived values for the NPCs involved in the barter. For example, a motorcycle broken beyond the local NPCs' abilities to repair isn't worth that much to them, while a farmer's only rifle will be of great value to him. Also, if the characters obviously need an item desperately, greedy NPCs will attempt to get many times their perceived value of the item. However, a friendly NPC is likely to offer a better deal than normal or offer advice as to the going price for items locally and where the players might find a particular item they are looking for.

Gold: In cities, the basic medium of exchange is gold. Prices are determined in much the same way as before, but gold is paid and received for transactions. In a city, perceived values will tend to be closer to the listed prices than in the countryside, as the items may be more plentiful or due to competition between merchants selling the items. Of course, there may be monopolies on certain items or perhaps the sale of all manufactured items (and/or food) is a city-controlled monopoly, in which case the prices of items may be artificially higher than their perceived value.

Gold generally is not used as a medium of exchange outside cities, as the inhabitants of the countryside have little use for gold while a plow, a gun, or whatever can be of immediate use. Gold may be accepted as partial payment in some places, usually in relatively secure areas having a city that trades extensively. Also, merchant convoys in the countryside will often accept gold. - , ..- _ „.·.,_„,·., — ,

Barter is possible in the city, particularly when both sides of the barter want the items being offered for exchange. However, gold is preferred, especially by the merchants. If a merchant accepts items in barter that he is not very interested in, he will usually strike a harder bargain than he would if he were paid in gold.

Availability: All items on the price list have an availability rating. The four availability ratings are very common, common, scarce, and rare. The equipment availability table indicates the likelihood that the item sought can be found in each of the four sizes of settlements; the encounter line gives the likelihood that an encountered party will have information of where a desired item is. In all cases, the likelihood is expressed as a percentage, which must be rolled on D100. Considerable referee discretion is allowed for availability of items, as the table is meant as an aid to the referee, not as a rigid rule to limit his options.

In settlements, scrounging skill can influence the chance of finding that an item is available. The referee should treat the actual chance of an item being present as the average of the value on the chart and the character's scrounging skill, provided the character's skill level is higher than the value on the chart.

Industry: Industrial production is very limited, and is mostly confined to cities. The biggest business going is the distillation of alcohol. Most villages and every town, city, and major city have large alcohol stills that turn out methanol and ethanol for local use and trade. Another thriving local industry is ammunition reloading. Gunpowder and primers can be manufactured fairly easily and bullets can be cast. Brass cartridges are more difficult to manufacture, however, and so ammunition reloaders are almost always willing to give a 10% discount on ammunition if the buyer has a cartridge to trade or to trade 1 round for 10 brass cartridges. Other light industry may be present, such as bicycle manufacturing, but will be very small scale (hand-crafted rather than mass produced).

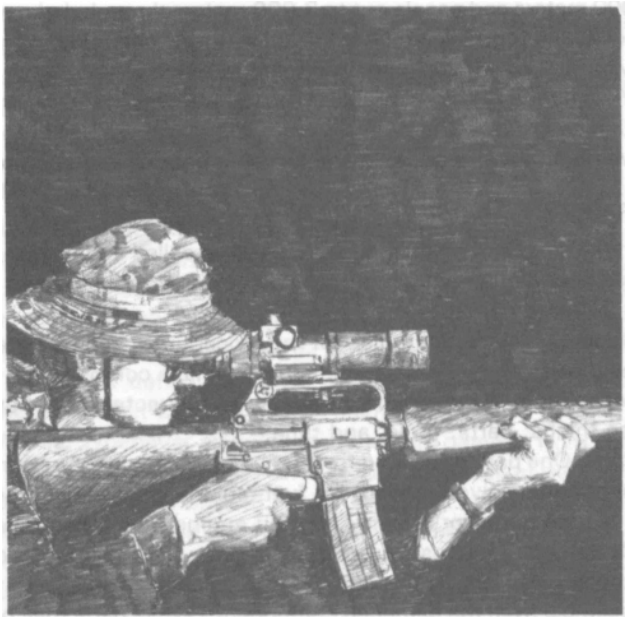
VISIBILITY

Normal daylight visibility is effectively unlimited, restricted only by intervening terrain and the curvature of the earth. (For a person of normal height standing on a flat plain, the horizon is about five kilometers distant.)

Smoke, adverse weather, and night reduce visibility severely. Dense smoke blocks visibility completely. Light smoke obscures characters and vehicles in and beyond it. In poor weather (light fog, drizzle, and light snowfall), maximum visibility distance is 2,000 meters for moving vehicles and very large objects and structures (such as villages, woods, etc.). For stationary vehicles, small structures (such as bunkers), and moving people the maximum spotting distance is 1,000 meters. For stationary people, it is 500 meters. In bad weather (dense fog, rain, and heavy snowfall), these distances are quartered.

Visibility at night varies considerably depending on the amount of background light. The referee should assign a background light level of from 1 to 5, with 1 representing a cloud-covered, moonless night (in other words pitch black) and 5 a clear night with a full moon high in the sky. Visibility for large structures and moving vehicles is 400 meters times the background light level. Visibility for small structures, stationary vehicles, and moving people is 200 meters times the background light level, and visibility for stationary people is 100 meters times the background light level. Halve the distance for poor weather at night; quarter the distance for bad weather at night.

In poor weather, halve all encounter ranges (except in woods).



In bad weather, quarter all encounter ranges (except in woods). At night, multiply all encounter ranges (except in woods) by the background light level and divide by ten and then modify for poor or bad weather. (Woods are unaffected by reduced visibility, as visibility is already so limited that encounter range depends as much on hearing the encounter as seeing it anyway.)

Vision Enhancement Devices: A number of vision enhancement devices are available. They have the following effects.

Binoculars: Binoculars are useful only during periods of good visibility (daylight and good weather). A character who is equipped with binoculars and is in a good observation position (building roof, treetop, hill) has his RCN skill increased by 10. If he spots a group before they spot him or the rest of his party, double the range of the encounter.

Image Intensifier: An image intensifier has the same effect as binoculars, except that the character adds 20 to his RCN skill.

Starlight Scope: A player using a starlight scope can see twice as far at night as he could without the scope. In an encounter situation, this would allow characters with starlight scopes to begin rolling for spotting before hostile groups would be able to attempt to spot them. Starlight scopes have no effect in woods, in smoke, or in poor or bad weather.

IR Goggles: Infrared goggles allow a character to see moving or stationary personnel or other heat sources at a distance of 300 meters at night. In addition, a character wearing infrared goggles can see the beam of an IR spotlight. IR goggles have no effect in woods, in smoke or in poor or bad weather.

IR Spotlight: An infrared spotlight can illuminate an area 20 meters across at a range of up to 1,000 meters. Only characters wearing IR goggles can see the light. However, any character wearing IR goggles will see the searchlight if he is within 3,000 meters of it. IR spotlights have no effect in woods, in smoke, or in poor or bad weather

White Light Spotlight: A white light spotlight will illuminate an area 20 meters across at ranges of up to 2,000 meters. The light itself can be seen by any character at any distance who has a clear line of sight to it. White light spotlights have no effect in woods, in smoke, or in poor or bad weather.

Thermal Sight: A thermal sight is a very advanced form of infrared imaging. It allows characters to see vehicles out to

6,000 meters and people out to 3,000 meters through darkness, smoke, and fog. This range is halved in drizzle and rain, and the device has no effect in snowfall and in woods.

Illumination Rounds: An ILLUM round will illuminate the area within its burst radius as if it were full daylight. ILLUM rounds have no effect in woods, in smoke, or in poor or bad weather.

REPAIRS

In the course of the game, players will be called upon to repair vehicles and other equipment which has either broken down or has suffered damage.

Damage: The combat rules list the procedures used for determining percentage damage and hits to vehicle components. In order to repair a damaged component, a character must have three things: parts, tools, and time.

Parts: One part is required for every 10% damage that a component has received, except for fuel tank damage which does not require parts for repair. Thus, an engine which has taken 40% damage requires four parts to repair. (This is in addition to those parts which the character is assumed to be able to reassemble from the damaged component.) While parts may occasionally be found for sale, the most common sources for parts are cannibalization and fabrication.

Parts can usually be cannibalized from an identical vehicle. If the component to be cannibalized is undamaged, the required parts may automatically be taken from it. If the component is damaged, its percentage damage is the chance that the needed part cannot be salvaged. Thus, an engine which has suffered 80% damage has an 80% chance of not having the needed part in it. If several parts are required from a damaged component, the die rolls are made separately for each part.

Characters may only fabricate parts if they have access to a machine shop. Each part requires a number of hours in the shop equal to the component's damage multiplier divided by 5. Thus, a character can fabricate a tracked suspension part in (30/5 =} 6 hours. Parts for electronic systems (including radios, missile launchers, and range finders) may not be fabricated; they can only be cannibalized. ^XBW*

Fabrication is AVG:MEC for non-weapon parts and AVG:GS for weapons parts. The roll is made after the part has been fabricated, and failure means the part cannot be used. The referee may decide that fabrication of some parts is DIP. For example, if a component is so damaged as to require half a dozen (or so) parts, the referee may decide that one of the parts is difficult to fabricate.

Time: It takes one hour per ten hits of damage to complete a repair. Each component is a separate task (AVG:MEC for mechanical systems, AVG:GS for weapons, AVGrELC for radios, missile launchers, and rangefinders). Up to five characters may work on a single repair task at the same time, with the average skill of all those working used to determine success.

Tools: If a character has the needed parts to make repairs, he must then have the tools to do so. Given the correct tools, the repairs take the standard time and are average tasks. If the player has the wrong type of tools, the job will take twice as long and become a difficult task. Damage to an engine or fuel system requires either tracked vehicle or wheeled vehicle tools. (Either type will suffice for any vehicle). Suspension damage requires vehicle tools of the correct type. Radio, missile launcher and range finder damage requires electronic repair tools. Gunner's machinegun damage requires gunsmith tools. Main gun damage requires heavy ordnance tools.

Breakdowns: Breakdowns are treated in much the same way as battle damage. However, the referee must first determine the extent of the breakdown. The current wear value of the vehicle times 10 is the percentage chance of a major breakdown. For example, a vehicle with a wear value of 8 has an 80% chance that a breakdown will be major. A breakdown can strike any system in the vehicle, and the affected system should be determined by the referee. Thus, it is possible that a breakdown may not affect the mobility of a vehicle but instead be a weapons or radio malfunction.

Minor Breakdowns: A minor breakdown consists of 1D10 hits worth of damage to a component. If this results in more than 10% damage to the component, parts are needed to repair it. Otherwise, repairs can be made without new parts.

Major Breakdowns: A major breakdown consists of 1D6 times 5 percentage damage to the component and will almost always require parts and considerable time to repair.

Minor Breakdowns: A minor breakdown consists of 1D10 hits worth of damage to a component. If this results in more than 10% damage to the component, parts are needed to repair it. Otherwise, repairs can be made without new parts.

Major Breakdowns: A major breakdown consists of 1D6 times 5 percentage damage to the component and will almost always require parts and considerable time to repair.

ELECTRICITY

A variety of electrical devices are available, but they require electricity in order to function. The equipment list gives the power consumption, in kilowatts, of each electrical equipment item. Those which are listed as vehicle powered may only function when in the vehicle or when hooked to a generator. Other types of electrical equipment which only have a power consumption may only function when hooked to a generator.

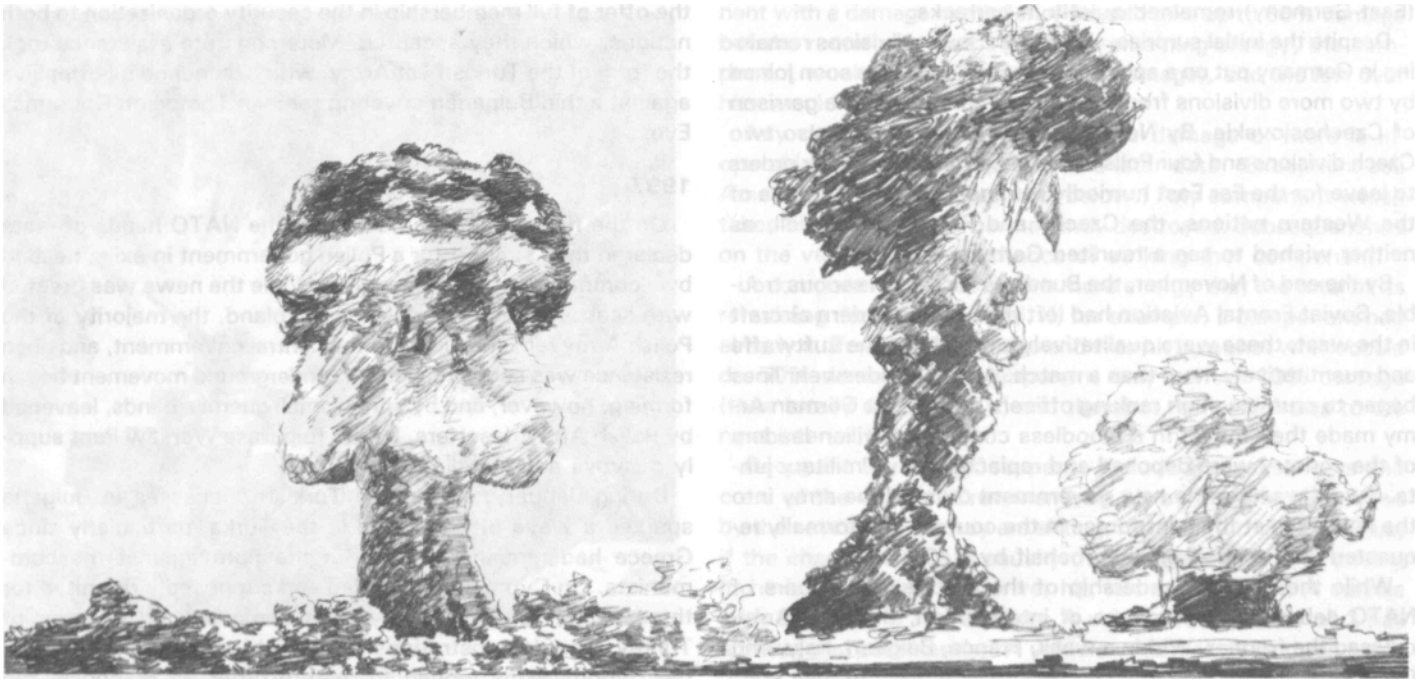
A generator can power equipment as long as the total power consumption of equipment connected to the generator is less than or equal to the generator's output. (A 60 kilowatt generator has an output of 60 kilowatts.) A generator consumes fuel at the rate noted in the equipment list.

Some equipment is powered by internal batteries. Internal batteries will work for one day before requiring recharging. To be recharged, the item must be hooked to a generator for one period. The generator must be operating but no power consumption is charged against its capacity due to recharging (as the power consumption of battery-operated items in the game is insignificant when compared to even the smallest generator's output).

SWIMMING

Characters need SWM skill in order to stay afloat and swim.* Floating is a AVG when wearing clothes and ESY without clothes. A loaded character (one with other than light personal equipment) cannot float (or swim). If the task is failed, the character sinks (and will drown if he remains in the water). If successful, the character floats and may swim.

Each character has a swimming endurance, equal to 5 times his CON. Floating without clothes uses 0 endurance points; floating while wearing clothes uses 1 endurance point per minute. Maximum swimming speed is SWM/10 (UP) meters per combat round. A character uses 5 endurance points per minute when swimming at full speed and 1 endurance point per minute at half speed. If the character is wearing clothes while swimm- , ing, double the endurance cost and halve the speed.



Chronological Background

1995

After a period of increasing tension and escalating border incidents, full-scale war erupted between the Soviet Union and the People's Republic of China. The Red Army enjoyed rapid initial success, and tank columns roared deep into the northern Chinese industrial heartland.

. However, the Chinese surpassed the expectations of most military analysts in their ability to mobilize reserves from the interior and shift them to the fighting front. While the Soviets continued to make impressive gains, their losses mounted and the tempo of advance slowed. Soon, large bodies of citizens' militia were operating in the rear areas, attacking installations and destroying supply convoys. More and more front line troops had to be detailed to mopping up these patches of guerrilla resistance, and the advance ground to a halt.

When the main Chinese conventional forces counterattacked, to the amazement of the world's military experts, large pockets of Soviet troops were formed. Most of the Soviet units, due to their superior mobility and tremendous firepower, were able to fight their way out of the pockets, but Soviet losses were great and the front was shattered.

The Soviet Union had already been mobilizing additional troops from the western military districts, and this was now placed on an emergency priority basis. As a stop-gap, a half dozen combat-ready divisions were withdrawn from Eastern Europe and sent to the Far East. But the Far Eastern Front had become a meat grinder, which devoured divisions as quickly as they could be committed.

As factory output switched more and more to wartime production, the flow of consumer goods dwindled to a trickle and standards of living in Eastern Europe and the Soviet Union fell. Motor vehicles and railroad rolling stock were increasingly drawn out of the civilian sector to support the war effort. As the first snows of winter fell, the Soviets began soliciting the other members of the Warsaw Pact for volunteer formations to serve on the Far Eastern Front. Resistance to this was surprisingly strong, but by the new year the first Polish, Czech, and East German divisions were traveling east by rail. At least one Hungarian and Bulgarian division would follow once they finished mobilizing and re-equipping with more modern weapons. No Romanians would be going east.

1996

Their ranks swollen with fresh troops, the Pact forces launched a spring offensive against the Chinese. Despite good initial gains, the drive soon stalled, with further horrendous casualties. Winter had witnessed a flood of new, modern equipment through Chinese ports from the NATO nations, particularly the United States. Now Soviet and Pact tanks were not facing obsolete wire-guided missiles, but modern Tank Breaker and Assault Breaker systems that made the massed tank assaults, which had been so successful the year before, suicidal.

New tactics were devised, but more troops were needed. Most Soviet category II readiness divisions were mobilized and sent to the Far East by mid-year, and almost a quarter of the category I divisions from the Eastern European garrisons were committed. Many of the low readiness category III divisions were upgraded to category II or mobilized, and for the first time in fifty years the mobilization-only divisions began training.

Appalled at the losses taken in their expeditionary forces, the other Eastern European members of the Pact agreed only reluctantly to provide more troops. In June, however, a small group of senior officers of the East German Army opened secret talks with a select group of their counterparts in the Bundeswehr and Luftwaffe, the army and air force of the Federal Republic of Germany.

In September, a third call for troops from Eastern Europe was made, to be ready for movement by mid-October whether their equipment and training were complete or not. On October 7th, 1996, the Bundeswehr crossed the frontier between East and West Germany and began attacking Soviet garrison units still in the country. The army of the German Democratic Republic

(East Germany) remained quietly in barracks.

Despite the initial surprise, the fifteen Soviet divisions remaining in Germany put up a spirited resistance and were soon joined by two more divisions from Poland and three from the garrison of Czechoslovakia. By November 1 5th, there were also two Czech divisions and four Polish divisions in Germany, their orders to leave for the Far East hurriedly rescinded. To the surprise of the Western nations, the Czechs and Poles fought well, as neither wished to see a reunited Germany.

By the end of November, the Bundeswehr was in serious trouble. Soviet Frontal Aviation had left their most modern aircraft in the west; these were qualitatively a match for the Luftwaffe and quantitatively more than a match. As the Bundeswehr lines began to crumble, high ranking officers of the East German Army made their move. In a bloodless coup, the civilian leaders of the country were deposed and replaced with a military junta. Two days later the new government ordered the army into the field against the Pact forces in the country and formally requested intervention on their behalf by NATO.

While the political leadership of the European members of NATO debated the prudence of intervention, the U.S. Army crossed the frontier. Within a week, France, Belgium, Italy, and Greece first demanded that U.S. troops withdraw to their start line and then withdrew from NATO in protest. British and Canadian forces crossed the border, however, while Danish and Dutch troops remained in place, still partners in NATO but not party to war.

In the far north, Soviet troops made a bid for quick victory in northern Norway. Most of the best Arctic-equipped divisions had already been sent east, however, and the third-line troops available were unable to break through to the paratroopers and marines landed in NATO's rear areas. As crack British commandoes and U.S. Marines joined the battle, the front line moved east again toward the Soviet naval facilities on the Kola Peninsula, and the elite Soviet paratroopers and marines were isolated and destroyed.

At sea, the Soviet Red Banner Northern Fleet sortied and attempted to break through the Greenland-Iceland-United Kingdom Gap into the north Atlantic. For three weeks the opposing fleets hammered each other, but the western fleet came out on top, badly bloodied but victorious. 80% of the Soviet northern fleet tonnage rested on the bottom of the Norwegian and North Seas. Scattered commerce raiders did break out, however, and by year's end were wreaking havoc on the NATO convoys bringing ammunition and equipment across the Atlantic.

Having repeatedly given excuses when asked to provide troops for the war effort, Romania was finally presented with an ultimatum on December 5th: either support the war effort fully or suffer the consequences. The time limit expired without a formal reply from the Romanian government, but throughout Romania troops hurried to their emergency mobilization posts.

The Warsaw Pact apparently had expected Romanian compliance with the ultimatum, for it was not until December 20th that sufficient troops were assembled to begin an invasion. As Hungarian, Bulgarian, and Soviet troops cross the border, Romania formally withdrew from the Warsaw Pact, declared war on the three invading nations, and applied to NATO for assistance.

The first nation to rally to Romania's aid was her neighbor, Jugoslavia. Within 24 hours, three divisions and five brigades crossed into Romania and two days later were at the front under Romanian command. NATO responded shortly thereafter with the offer of full membership in the security organization to both nations, which they accepted. More concrete assistance took the form of the Turkish 1 st Army, which launched its offensive against a thin Bulgarian covering force in Thrace on Christmas Eve.

1997

On the first day of the new year, the NATO heads of state declared their support for a Polish government in exile, headed by a committee of Polish emigres. While the news was greeted with scattered worker uprisings in Poland, the majority of the Polish Army remained loyal to the central government, and open resistance was soon crushed. An underground movement began forming, however, and by spring small guerrilla bands, leavened by Polish Army deserters, began to harass Warsaw Pact supply convoys and installations.

During January, continuing Turkish successes in Bulgaria sparked a wave of patriotism in the Turks, particularly since Greece had remained neutral in the fight against the communists. On Cyprus, unoccupied and supposedly re-united for three years, the Turkish Cypriots demonstrated in favor of Turkey. The demonstrations turned into anti-Greek riots, and the Cypriot Army moved to restore order. In response, the Turkish Army invaded Cyprus and quickly occupied most of the island. Greece first sent military units to Cyprus to resist the Turks and then declared war on Turkey and attacked the Turkish forces in Thrace.

In late February, the socialist governments of Italy and Greece concluded a mutual defense pact. While Italy was not obligated by the pact to enter the Greco-Turkish war, the Italian government declared the war to be a regional conflict unrelated to the more general war raging elsewhere, promising to intervene on Greece's side if NATO tried to tip the balance in Turkey's favor.{ Within a week Greece declared a naval blockade against Turkey and warned the world's shipping that the Aegean was now considered a war zone.

In an attempt to restore the situation in Germany, Soviet and Czech troops went over to the offensive in southern Germany but did not have the strength to make any significant gains. With the coming of spring the NATO offensive gained momentum and in April the first German troops crossed the frontier into Poland. By June 1 7th, Warsaw was surrounded, and Polish army units and the citizens of the city prepared for a siege.

By late spring, NATO's Atlantic fleet had hunted down the last of the Soviet commerce raiders, and the surviving attack carriers and missile cruisers moved to northern waters. The NATO drive in the north had bogged down on the banks of the Litsa River, but the Northern Front commander now contemplated a bold move to destroy the remnants of Soviet naval power there. While U.S. and British units attempted a rapid outflanking move through northern Finland, the NATO Atlantic Fleet would close in on Murmansk and Severomorsk, subjecting the Soviet fleet anchorages and air bases to a massive bombardment. On June 7th the ground offensive was launched and the fleet closed in on the Kola Peninsula shortly thereafter.

Finland had been expected to offer token resistance to the violation of its territory; instead the Finnish Army fought tenaciously, seriously delaying the flanking move. At sea the plan fared even worse, as coastal missile boats and the remnants of Northern Fleet's shore-based naval aviation inflicted crippling losses on the NATO fleet. By mid-June the last major naval fleet-in-being in the world had been shattered.

In the south, the front in Romania stabilized and entered a period of attritional warfare. Soviet mobilization-only divisions, largely leg-mobile and stiffened with a sprinkling of obsolete tanks and armored personnel carriers, entered the lines. Although the Romanians proved better soldiers than the over-aged and ill-trained Soviet recruits, the manpower difference began to be felt.

The best Soviet troops were shipped further south to Bulgaria, and by May had managed to halt the Turkish drive. As Greek pressure on the Turkish left flank in Thrace built, unit after Turkish unit was shifted to face the Greeks. It became clear that, without aid, the Turkish Army would have to fall back or be defeated.

On June 27th, a NATO convoy of fast transports and cargo ships, accompanied by a strong covering force, attempted the run to the Turkish port of Izmir with badly-needed ammunition and equipment. Light fleet elements of the Greek navy intercepted the convoy and, in a confused night action off Izmir, inflicted substantial losses and escaped virtually unharmed. Two days later NATO retaliated with air strikes against Greek naval bases. On July 1 st, Greece declared war against the NATO nations, and Italy, in compliance with her treaty obligations, followed suit on the 2nd.

In early July, Italian airmobile and alpine units crossed the passes into Tyrolia. Scattered elements of the Austrian army resisted briefly but were overwhelmed. By mid-month, Italian mechanized forces were debouching from the Alpine passes into southern Germany, and their advanced elements were in combat against German territorial troops in the suburbs of Munich.

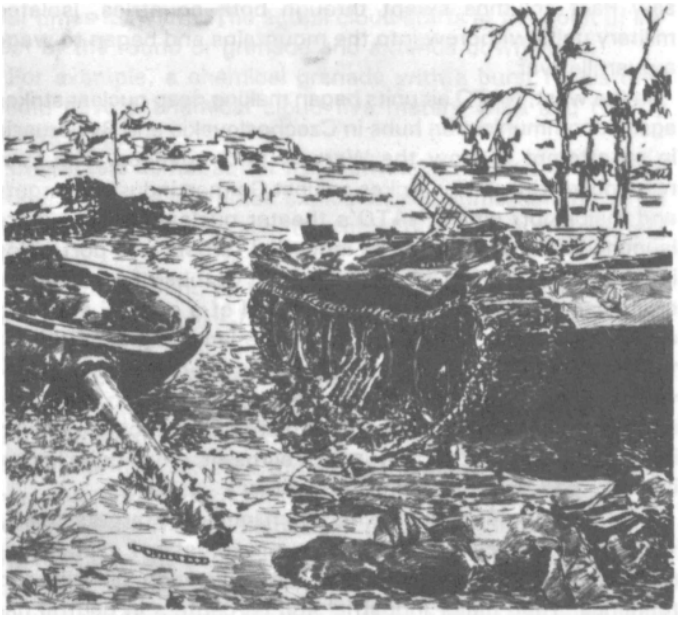
The Jugoslavian Army launched a gallant but costly offensive against northeastern Italy, but soon was stalled. Italy responded with a major counteroffensive which, while draining troops from the German front, quickly shattered the thinly-spread Jugoslavian northern grouping.

The Italian Army enjoyed tremendous success in the first month of its involvement in the war, primarily for logistical reasons. Most of its opponents had already been at war for six months or more. Their peacetime stocks of munitions and replacement vehicles had been depleted, and their industries had not yet geared up to wartime production. The Italians had intact peacetime stockpiles to draw on. As summer turned to fall, however, the Italians too began feeling the logistical pinch, aggravated by the increasing flow of munitions and equipment from the factories of their opponents.

In Asia, pro-Soviet India and anti-Soviet Pakistan drifted into war through an escalating spiral of border incidents, mobilization, and major armed clashes. Outright war began in the spring, and by mid-year the Indian Army was slowly advancing across the length of the front, despite fierce resistance.

By early July, NATO advanced elements were closing up on the Polish-Soviet frontier in the central region, while continuing the siege of Pact-held Warsaw. The Polish government in exile established its temporary capital in the city of Poznan, and asserted its claim to the pre-1939 Polish borders in the east. In the Far East, Pact forces began major withdrawals all along the front, and the mobile elements of the Chinese Army began a victorious pursuit.

On July 9th, with advanced elements of the 1st German Army on Soviet soil, the Red Army began using tactical nuclear weapons. In the West, they were used sparingly at first, and for the first week were used only against troop concentrations no further than 50 kilometers from the Soviet border. In the Far



East, however, they were used on a massive scale. Chinese mechanized columns were vaporized, caught in the open on the roads in imagined pursuit. Strike aircraft delivered warheads on the northern Chinese population and industrial centers still in Chinese hands. The Chinese response was immediate, but Soviet forward troop units were dispersed and well-prepared. Ballistic missile attacks on Soviet population centers were frustrated by an active and efficient ABM system, and the Soviet Air Defense Command massacred the handful of Chinese bombers that attempted low-level penetration raids. Within a week, the Chinese riposte was spent, but Soviet attacks continued. The Chinese communication and transportation system, already stretched to the breaking point, disintegrated. The roads were choked with refugees fleeing from the remaining cities, all of them potential targets. China began the rapid slide into anarchy and civil disorder.

On the western front, the forward elements of both armies on the Soviet-Polish frontier were hit hard by tactical nuclear strikes, as NATO matched the Warsaw Pact warhead-for-warhead. By late August, the first of the Soviet divisions released from the Far East were entering the lines. Although the front lines were fluid everywhere, they began moving gradually west.

On September 15th, the siege of Warsaw was lifted, and a week later Czech and Italian troops began a renewed offensive in southern Germany. The southern offensive gained momentum, and NATO forces in Poland increased the rate of their withdrawal, practicing a scorched earth policy as they fell back.

The Soviet and Bulgarian forces in Thrace also began a major offensive against the Turks in September. The one-sided use of tactical nuclear weapons broke the stalemate, and by month's end Bulgarian tank brigades were racing toward Istanbul. Simultaneously, Greek and Albanian troops launched a drive against southern Jugoslavia, and the Jugoslavian Army began to break up. The Jugoslavian expeditionary force in Romania was recalled for home defense, but before it could return, Beograd had fallen to Italian mechanized columns. At the same time, the limited use of tactical nuclear weapons, the increasing numbers of Soviet reserves, and the withdrawal of the Jugoslavians caused the Romanian front to collapse. As War-

saw Pact columns swept through both countries, isolated military units withdrew into the mountains and began to wage a guerrilla war.

In the west, NATO air units began making deep nuclear strikes against communication hubs in Czechoslovakia and Byelorussia in an attempt to slow the Warsaw Pact advance. The Pact responded with similar strikes against German industrial targets and major port cities. NATO's theater nuclear missiles were launched against an array of industrial targets and port cities in the western Soviet Union. Throughout October the exchanges continued, escalating gradually. Fearful of a general strategic exchange, neither side targeted on the land-based ICBM's of the other, or launched so many warheads at once as to risk convincing the other side that an all-out attack was in progress. Neither side wished to cross the threshhold to nuclear oblivion in one bold step, and so they inched across it, never quite knowing they had done it until after the fact.

First, military targets were hit. Then industrial targets clearly vital to the war effort. Then economic targets of military importance. Then transportation and communication, oil fields and refineries. Then major industrial and oil centers in neutral nations, to prevent their possible use by the other side. Numerous warheads were aimed at logistical stockpiles and command-control centers of the armies in the field. Almost accidentally, the civilian political command structure was first decimated, then eliminated. The exchange continued, fitfully and irregularly, through November and early December, and then gradually petered out.

Pakistan and India waged their own nuclear war. Facing defeat, Pakistan launched a pre-emptive strike on India's economy and nuclear strike force. Although industrial centers were hit hard, enough of India's nuclear arsenal survived to launch a devastating retaliatory strike. The Indian-Pakistani war soon wound down, as each country's economy no longer could feed its civilians, let alone supply military units.

1998

The winter of 1997-98 was particularly cold. Civilian war casualties in the industrialized nations had reached almost 15% by the turn of the year, but the worst was yet to come. Communication and transportation systems were non-existent, and food distribution was impossible. In the wake of nuclear war came famine on a scale previously undreamed of. Only the exceptionally cold winter delayed simultaneous epidemics. In the nations of the Third World, destruction of their major industries together with cessation of western food aid caused severe dislocations, with famine and starvation in many areas.

With the spring thaw, the unburied dead finally brought on the epidemics the few remaining medical professionals had dreaded but were powerless to prevent. Plague, typhoid, cholera, typhus, and many other diseases swept the world's population. By the time they had run their courses, the global casualty rate would be 50%.

In Europe, France and Belgium had been hit the lightest and stood virtually alone in maintaining a semblance of internal order throughout the cataclysm. As refugees began flooding across their borders, the French and Belgian governments closed their frontiers, and military units began turning back refugees with gunfire. The French government authorized the army to move west to the Rhine to secure a solid geographical barrier. As the refugees piled up on the French and Belgian frontiers, a large lawless zone sprang into existence. Open fighting for food was followed by mass starvation and disease, until the lawless zone had become barren and empty.

The average strength of NATO combat divisions at the front had fallen to about 8,000, with U.S. divisions running at about half of that. Warsaw Pact divisions now varied widely in strength, running from 500 to 10,000 effectives, but mostly in the 2-4,000 range. Lack of fuel, spare parts, and ammunition temporarily paralyzed the armies. Peace might have come, but there were no surviving governments to negotiate it. Only the military command structures remained intact, and they remained faithful to the final orders of their governments. In a time of almost universal famine, only the military had the means of securing and distributing rations. Military casualties had been much lower than casualties among civilians.

In the Balkans, the partisan bands in the mountains of Romania and Jugoslavia had escaped almost untouched, while many Pact regular units had been destroyed in the exchange or had just melted away after it. The Romanians and Jugoslavians began forming regular combat units again, although still structured to live off the land and subsist from captured enemy equipment. At first, there was a great deal of enemy equipment just lying around waiting to be picked up.

There were border changes as well. The Italian Army formed the satellite states of Croatia, Serbia, and Slovenia while the Greek Army directly annexed Macedonia. The Albanian Army, always a reluctant ally, first protested, then withdrew from the temporary alliance, and finally began sporadic attacks on Greek military units. At the same time, many Italian and Hungarian units were withdrawn from the Balkans and shifted to Czechoslovakia and southern Germany.

In North America, a flood of hungry refugees began crossing the Rio Grande, and most of the remaining military forces of the United States were deployed into the southwest to deal with the mounting crisis. They moved at the orders of the Joint Chiefs of Staff, now the de facto government of the United States. Widespread food riots and violence in refugee areas were met with military force. The Mexican government protested, and within months Mexican Army units crossed the Rio Grande to protect Mexican lives. More U.S. units were shifted south. Scattered fighting grew into open warfare, and Mexican armored columns were soon driving northeast toward Arkansas and northwest into southern California. The front quickly stabilized in northeast Texas and central California. Elsewhere in the U.S. civil disorder and anarchy increased with the withdrawal of Army units.

In late June, the Pact forces in southern Germany renewed their offensive in an attempt to seize the scattered surviving industrial sites in central Germany. Actually, the most intact parts of Germany were those areas in the south which had been under Warsaw Pact occupation, as neither side was willing to strike the area heavily. Galvanized into renewed action, NATO forces made a maximum effort to reform a coherent front, and the Pact offensive finally stalled along a line from Frankfurt to Fulda. In late August, NATO launched its own offensive from the area of Karl Marx Stadt, driving south to penetrate the Pact rear areas in Czechoslovakia. The thinly-spread Czech border guard units were quickly overwhelmed and Pact forces in central Germany began a precipitous withdrawal to Czechoslovakia, laying waste to southern Germany as they retreated.

A simultaneous offensive by the Jugoslavian Army drove north in an attempt to link up with NATO. The Jugoslavians were halted near Lake Balaton, however, and then thrown back.

As more Pact units arrived in Czechoslovakia, the NATO drive ran out of steam and lost its sense of direction. Troops were shifted west to garrison the recaptured but devastated south of Germany, and many lives were wasted in a futile attempt to force the Alpine passes into Italy. As the autumnal rains began, NATO and the Pact initiated a short and weak second nuclear exchange, directed primarily at surviving industrial centers in the United Kingdom and Italy.

Fighting gradually ran down to the level of local skirmishing as both sides prepared for another winter.

1999

Once spring planting was finished, the United States Congress reconvened for the first time since the first exchange of missiles. Senator John Broward (D, Ark), the former governor of Arkansas who appointed himself to fill one of the two vacant senatorial seats, was elected President by the House of Representatives. General Jonathan Cummings, then-chairman of the Joint Chiefs of Staff, refused to recognize the constitutional validity of the election, citing the lack of a proper quorum and numerous irregularities in the credentials of the attending congressmen.

(Although Cummings' decision would later be widely criticized, there was much validity to his position. Many congressional seats were disputed; several of the congressmen in attendance were merely self-appointed local strongmen who had gained control of large parts of the old congressional districts, and some had never seen the districts they purported to represent. There was at least one confirmed shooting between rival claimants to a seat while Congress was in session.)

General Cummings declared a continuation of martial law until such time as a new census was practical, that being necessary for a meaningful reapportionment of congressional seats and presidential electoral votes. President Broward responded with a demand for Cummings' resignation, which Cummings declined to submit. While some military units sided with the new civilian government, the majority continued to take orders from the Joint Chiefs, particularly those overseas, for two simple reasons. First, the habit of obedience was deeply ingrained, and, in many cases, was all that had allowed units to survive thus far. Second, the Joint Chiefs controlled virtually all surviving telecommunications networks.

In North America, the main effect was a further erosion of central authority. Forced to choose between two rival govern ments, both with considerable flaws in their claims to legitimacy, many localities simply chose to ignore both.

^V

i

The surviving foreign and national organizations dealing or concerned with the United States, choose between the rival governments. The German military government and Polish government in exile continued relations with the Joint Chiefs, while the partisan commands of Jugoslavia and Romania recognized the civilian government. The remnants of the Central Intelligence Agency obeyed the orders of the civilian government, while the Defense Intelligence Agency, loyal to the Joint Chiefs, organized a field operations branch to replace the CIA "defectors." Officially, forces of the two governments refrained from violent confrontation, but there were sporadic local clashes over key installations, occasional bloody coups within military units, and numerous assassinations and "dirty tricks" by rival intelligence agencies.

In the autumn, the dispatch of troops to Europe resumed, although only as a trickle. A few warships were available as escorts, and various old merchant vessels were pressed into ser-

vice as transports. Initiated by the civilian government, both governments briefly competed in a struggle to outdo the other, viewing success as a litmus test of their ability to mobilize the nation. In fact, the call-ups affected only the Atlantic coast and led to widespread resistance. The dispatch of troops, supplies, and equipment to Europe made little sense to most, considering the appalling state of affairs in the United States.

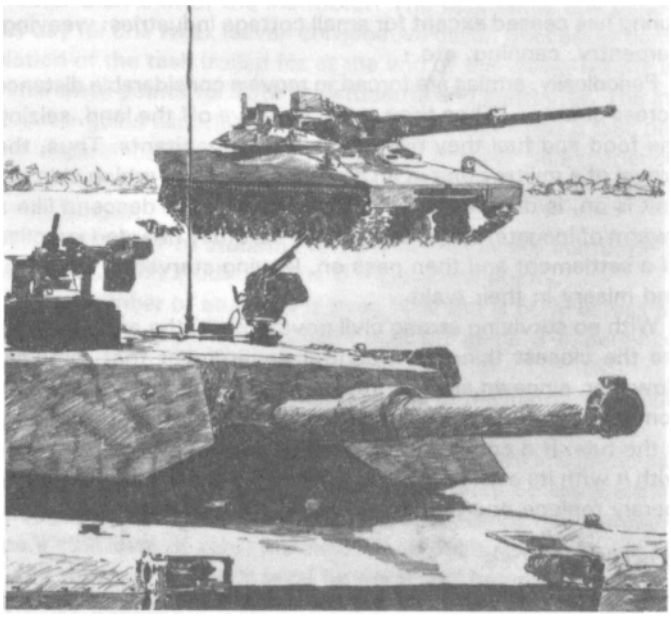
The actual reinforcements sent included a small number of light vehicles and ammunition but consisted mostly of light infantry. Mortars were becoming the most popular support weapon for troops, as they could be turned out in quantity from small machine shops and garages.

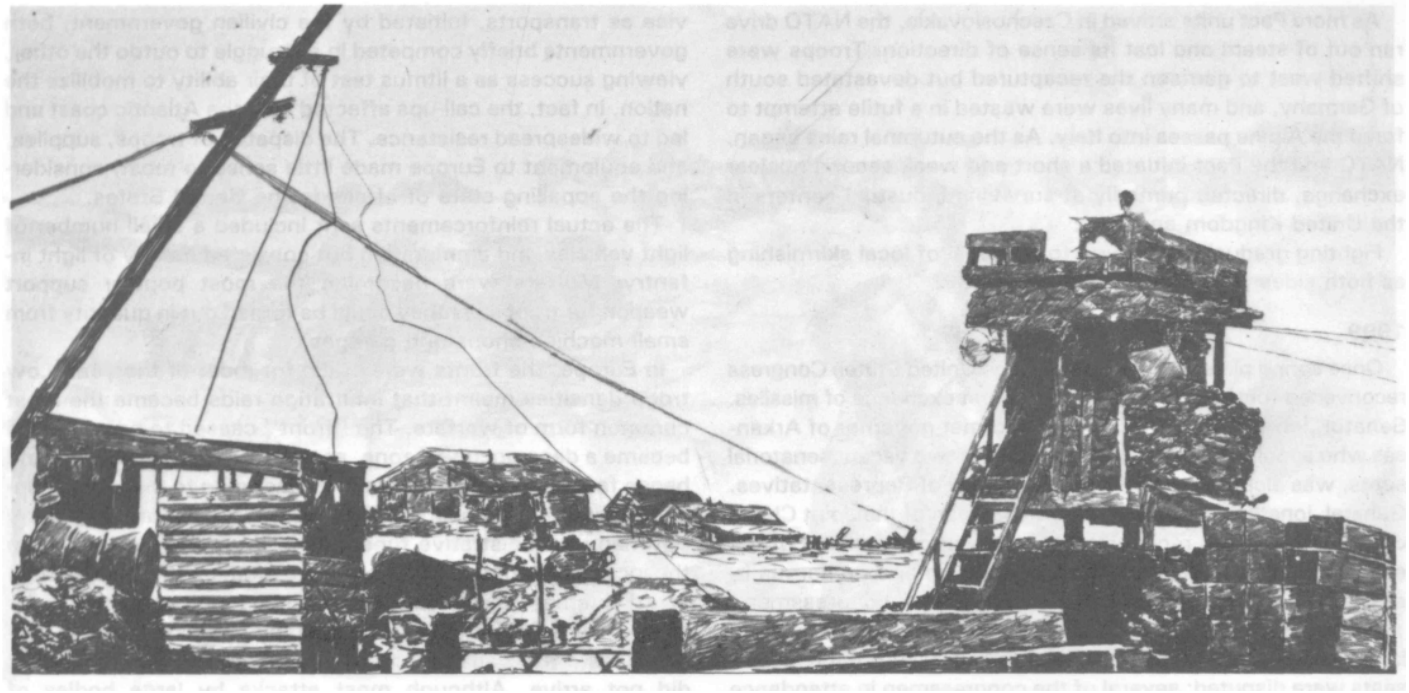
In Europe, the fronts were static for most of the year. Low troop densities meant that infiltration raids became the most common form of warfare. The "front" ceased to be a line and became a deep occupied zone, as troops settled into areas and began farming and small-scale manufacturing to meet their supply requirements. Local civilians were hired to farm and carry out many administrative functions in return for security from the increasing numbers of marauders roaming the countryside. In other areas, the security the military unit provided to its civilians was from the unit itself. Many units stationed in barren areas drifted apart or turned to marauding when supplies did not arrive. Although most attacks by large bodies of marauders were directed at areas held by "the enemy", they begin to be directed at "allied" units as well, although at first not against units of the same nationality.

2000

By the spring of the year 2000, the armies of Europe had settled into their new "cantonment" system. Civil authority had virtually ceased to exist. Most military units were practicing extensive local recruiting in an attempt to keep up to strength, and stragglers were often incorporated into units regardless of nationality. Thus, U.S. units contain Germans, Poles, Danes, and former soldiers of Warsaw Pact armies in addition to Americans. Nominal titles of units (brigades, divisions, etc.) have little bearing on the actual size of the unit.

In early summer, the German Third Army, spearheaded by the U.S. Eleventh Corps, moved out of its cantonments on what was to become one of the last strategic offensives of the war.





lt-

Poland ;"

THE LAND

Physically, there is little difference between the Europe of *Twilight: 2000* and today's Europe. The rivers, mountains, shorelines, and location of cities are the same. The difference lies not in the actual features of the land, but rather the condition of those features. This is particularly true in Poland, as the country has been extensively damaged by conventional fighting and nuclear war. Many cities have been devastated and are abandoned ruins. Others are still inhabited, but with greatly reduced populations. Small towns and villages are beginning to resemble fortified towns of the middle ages, surrounded by low earthen ramparts with occasional bunkers and firing positions. Trade and commerce are greatly reduced since governments can no longer police the highways and countryside. Most manufacturing has ceased except for small cottage industries: weaving, carpentry, canning, etc.

Periodically, armies are forced to move a considerable distance across country. When they move they live off the land, seizing the food and fuel they need from local inhabitants. Thus, the arrival of a military unit in an area, regardless of which side the unit is on, is dreaded by civilians. The soldiers descend like a swarm of locusts, consuming all the carefully hoarded supplies of a settlement and then pass on, leaving starvation, disease, and misery in their wake.

With no surviving strong civil government, the armed forces are the closest thing to a central government that remains. However, since an army's presence can be disastrous for local communities, it is little wonder that tremendous local autonomy is the rule. If a community has a problem, it attempts to deal with it with its own resources. Calling on the army to help may merely replace one problem with an even greater one.

HOSTILE FORCES

There are still substantial, organized bodies of troops in Poland under varying degrees of central control. The following is a listing of major Warsaw Pact units in the area, along with their strength in combat troops and operational tanks and their approximate location. This information is provided as a general guide, and the referee should feel free to vary it as he sees fit.

The summary lists the unit, its strength, and its location. If more than one location is listed, the troops are spread between the two towns but are mostly concentrated in the first town mentioned. If an additional location is given in parentheses, that is the location of the unit's rear echelon (supply, medical, and maintenance services). Usually the rear echelon will have fewer than 10% of the unit's manpower.

The following abbreviations are used throughout this list: *BGB:* Border Guard Brigade; *CD:* Cavalry Division; *(C):* Cavalry; *GCD:* Guards Cavalry Division; *GMRD:* Guards Motorized Rifle Division; *GTD:* Guards Tank Division; *MarD:* Marine Division; *MRD:* Motorized Rifle Division; *Pol:* Polish; *Sov:* Soviet; *TD:* Tank Division.

NORTHERN POLAND

Baltic Front HQ: Malbork

1st Polish Army, HQ: Gdynia
- Pol 2nd CD (200 men): Gdynia
- Pol 3rd CD (1,000 men): Slupsk, Ustka, (Lebork)
- Pol 9th MRD (2,500 men, 10 tanks): Palanow, Miastko, (Bytow)
- Pol 12th CD (1,500 men): Koscierzyna, Gniew, (Tczew)
- Pol 19th CD (600 men): Malbork
- Pol 3 BGB (300 men): Gdynia
- Pol 12th BGB (400 men): Dabrowka 2nd

Polish Army, HQ: Czarnkow
- Pol 1st MRD (2,500 men, 7 tanks): Czaplinek, Miroslawiec, (Rusinowo)
- Pol 7th MarDiv (600 men): Walcz
- Pol 17th CD (2,000 men): Dobiegniew, Strzelce, (Wronki)
- Pol 4th BGB(C) (400 men): Walcz
- Pol 5th BGB (400 men): Czlopa

1st Polish Tank Army, HQ: Pila

Pol 5th TD (3,500 men, 16 tanks): Podgaje, Jastrowie, (Pila) Pol 13th CD (1,000 men): Chojnice, Czluchow, (Sepolno) Pol 7th BGB (100 men): Chodziez 22nd Soviet Cavalry Army, HQ: Torun Sov 43rd CD (2,000 men): Grudziadz, Tuchola, (Chelmza) Sov 96th CD (1,400 men): Torun, Krosniewice, (Wloclawek)
Sov 89th CD (300 men): Konin, Kolo, (Sompolno) Pol 8th BGB (200 men): Sroda, Wrzesnia

CENTRAL POLAND

Reserve Front HQ: Lublin

4th Soviet Guards Tank Army, HQ: Piotrkow
Sov 20th TD (1,000 men): Szadel, Uniejow, (Lodz) Sov 21st MRD (3,000 men, 8 tanks): Kalisz, Ostrow, (Wielun)
Sov 124th MRD (3,000 men, 6 tanks): Sieradz, Zloczew, (Piotrkow)
Sov 12th GTD (500 men): south of Kalisz Pol 10th TD (2,000 men, 5 tanks): Pleszew, Kalisz Pol 6th BGB (400 men): Lodz, Zgierz Pol 11th BGB(C) (400 men): Lask 3rd Soviet Shock Army, HQ: Legnica Sov 127th CD (2,000 men): Glogow, Nowa Sol, (Lubin) Sov 129th MRD (3,000 men, 5 tanks): Opole, Olesnica, (Wroclaw)

WEST CENTRAL POLAND

1st Western Front HQ: Poznan

1st Soviet Guards Tank Army, HQ: Skwierzyna Sov 9th GTD (4,000 men, 24 tanks): Mysliborz Sov 11th GTD (500 men, 3 tanks): Gorzow Wielkop Sov 25th TD (1,000 men, 4 tanks): Mieszkowice Sov 1st TD (3,000 men, 9 tanks): Witnica
8th Soviet Guards Army, HQ: Swiebodzin Sov 39th GMRD (3,000 men, 27 tanks): Kostrzyn Sov 20th GCD (1,000 men): Rzepin Sov 131st MRD (2,000 men, 16 tanks): Swiecko

SOUTHWEST POLAND

2nd Western Front HQ: Legnica

2nd Soviet Guards Army, HQ: Gorlitz, Germany
Sov 21st GMRD (1,000 men, 5 tanks): Bautzen, Germany, (Lobau, Germany)
Sov 103rd MRD (4,000 men, 28 tanks): Cottbus, Germany
Sov 117th MRD(C) (100 men): Niesky, Germany
Sov 157th MRD (1,000 men, 7 tanks): Hoverswerda, Germany
20th Soviet Guards Army, HQ: Zielona Gora Sov 132nd CD (3,000 men): Gubin, Krosno Orczanskie Sov 12th GMRD (4,000 men, 32 tanks): Nowogrod Sov 94th CD (1,000 men): Peitz, Germany

Notes: The above listing gives rough strength in terms of numbers of men and operational tanks. Tanks are included to give a rough guide to how well equipped the unit is in general. A unit will also average one or two howitzers per 1,000 men, although this will vary as widely as the tank strengths. Infantry will be mounted in a variety of vehicles, as elaborated in the encounter rules. v , ::L ^ <:?< ^ «- *

OTHER ARMED COMBATANT FORCES

Polish 14th Motorized Rifle Division: 1,500 former soldiers augmented by about 5,000 local militia. The militia are purely local defense in towns and villages. Commander of the division, Colonel Julian Filipowicz, has set up an autonomous state in southern Poland which includes the territory south and west of the deserted and devastated Katowice area. There has been some skirmishing with Soviet troops and loyalist militia in Opole, but most of the 14th Division's efforts have been concentrated on increasing agricultural output. The region was subjugated by force of arms, but there has been little internal resistance as Filipowicz has at least exterminated the marauders and kept other armed bodies from intruding. Filipowicz is brilliant but mad, a ruthless paranoid, who has killed all emissaries from both sides who have attempted to open negotiations. He has now styled himself the Markgraf of Silesia and plans to increase the territory he holds north toward Czestochowa. For the moment, he will not push much to the east as he recognizes he is not strong enough to attack Krakow, and the appearance of Soviet regulars to the west has stalled him in that direction. He knows that sooner or later the Soviets will go away, however, and is willing to wait.

Polish 1st Free Legion (formerly 1st Border Guard Brigade): A large guerrilla force of 450 men commanded by a former sergeant in the Polish Army, S. I. Mastelarz. Mastelarz's base of operations is the town of Leszno, which is well fortified and has withstood several small assaults by Soviet regulars. It is well protected by woods on three sides and the approaches from the west are heavily mined. Mastelarz's guerrillas control the roads between Poznan and Glogow. He is an ardent supporter of the Polish government in exile and is intensely anti-communist. He has actively cooperated with the U.S. military government and its intelligence arm, the Defense Intelligence Agency. The DIA has partially supplied his unit, when practical, but the grounding of the last cargo aircraft ended airdrops to him. Having recently lost his last long-range radio he is out of contact but will try to resume contact as soon as possible.

Polish 2nd Free Legion (formerly 10th Border Guard Brigade): The commander, Major M. K. Sikorski, is a conservative democrat who supports the Polish Government in exile. He is professional and conscientious but is rather stiff and formal and not a great inspirer of men. His nominal second in command is Major W. Anders, a former air force officer. Anders is a young firebrand, a charismatic leader who is actually Sikorski's rival for leadership in the unit. Anders is personally ambitious but lacks Sikorski's professional competence in military matters. He is repeatedly agitating for bigger actions, while Sikorski's concerns center around limiting casualties and conserving the group's resources. The men are more and more in sympathy with Anders. Anders is secretly very ambitious and hopes to carve out a feudal kingdom in west central Poland. He has no loyalties other than to himself. The group has 200 regulars but has been joined by another 100 civilian guerrillas, who are almost all loyal to Anders. The group briefly linked up with the 5th Division, and several of the best men in the unit (all Sikorski loyalists) went with 5th Division as guides. When the 22nd Soviet Cavalry Army counterattacked, the group was pushed back and is now hiding in the large forest between the towns of Czerk and Nowe, midway between Chojnice and Malbork.

Polish 8th Motorized Division: This unit no longer exists, having formed the core of the defense force of the Free City of Krakow. The former division commander, Major General Zyg-munt Bohusz-Szyszko, is now the city's Police Prefect, which

gives him total responsibility for the city's impressive defenses. The 2,000 regulars of the division have been broken up to form the cadres of a militia force which has a mobilized strength of 8,000 men. There are usually only about 500 men active at any one time, but the rest can be called up on short notice. Krakow has about a dozen old tanks dug in around the city and has extensive minefields, barbed wire barriers, and sensing devices. It would cost the Poles and Soviets several divisions to take the city, and so far it just hasn't been worth the price.

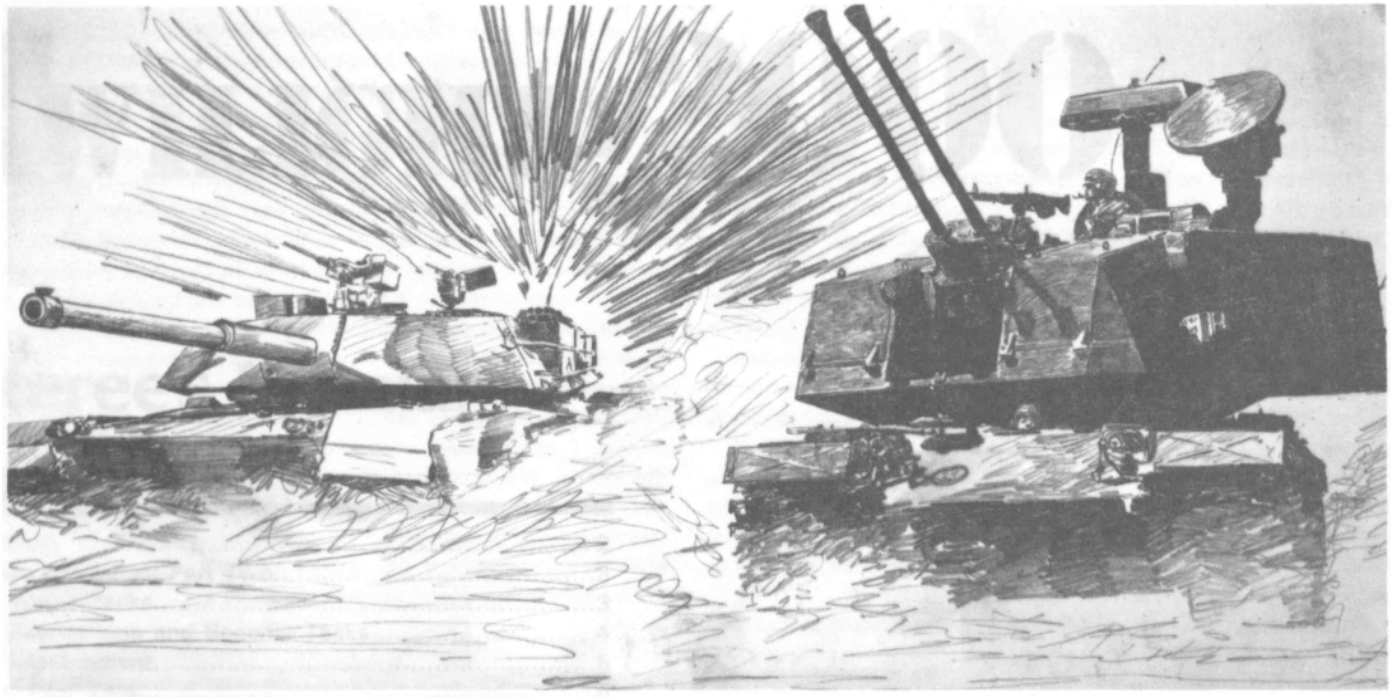
Soviet 10th Guards Tank Division: Commanded by Major General M. Koronev. The division defected en masse to the western alliance three months ago. At the time, it was in a reserve position and has since been unable to effect a link-up with NATO forces. When the German Third Army broke through on the Baltic front, the division began moving west, but it was hit from behind by elements of the 22nd Soviet Cavalry Army. The group is now down to 300 men on foot in the forest just northwest of Warsaw. Koronev and his men defected to the civilian government of the United States and are now accompanied by Captain B. A. Johnstone of the Central Intelligence Agency. Johnstone has convinced Koronev and his men to attempt the march south to link up with pro-U.S. (civilian government) forces in the Balkans.

Soviet 6th Guards Motorized Rifle Division: Commanded by Colonel Ya. N. Chekanov; current strength 1,700 men and 3 operational tanks. An outstanding combat unit, three months ago it withdrew from the lines in the area between Frankfurt and Gorlitz, apparently without orders, and has not answered numerous radio communications from Warsaw Pact command. Colonel Chekanov, a competent combat officer dedicated to his troops, became sickened by the apparently endless and pointless slaughter and has decided that his only responsibility is to save as many of his men as he can. The division is now at Walbrzych and controls the city and the surrounding forest. Chekanov passed his unit off as a regular unit of the Red Army for several weeks after arriving in the city, and by the time the local militia realized the truth it was too late to resist. There probably would have been little that the Walbrzych militia could have done in any event. Chekanov is now organizing the local inhabitants and preparing for the coming winter. He believes that there is little point in attempting to march east this year while there are so many troops movements going on, but hopes things will be easier in the spring. His troops are mostly Ukrainian, and his ultimate goal is to return to the Ukraine.

Soviet 9th Tank Division: In September of 1999 the division mutinied and killed its senior officers. The entire area between Lodz and Czestochowa is now saturated with small bands of marauders, former soldiers of the division, who spend most of their time fighting each other. Most of the towns and settlements are controlled by small bands of deserters who have set themselves up as feudal overlords. The Piotrkow militia has fought off several attacks by well-armed bands and there is little or no civilian travel through the area. The recent passage of the 4th Soviet Guards Tank Army through the northern part of the region cleaned out the marauders in Opoczno, Szczercow, and Wielun, but those towns are now weakly defended by the local militia and are ripe for raiding by bands from further south. There is a total of about 1,000 marauders in the area, but they are broken up in groups of less than 100 and usually no more than ten or twenty.

Soviet 38th Tank Division: Mostly a Ukrainian division with a strong anti-Russian feeling, the 38th Tank was the fourth division of the 4th Soviet Guards Tank Army to cross the frontier from the Lvov area to crush the 5th U.S. Division. Along the march it mutinied and murdered its senior officers. The leaders of the mutiny intended for the division to march back to the Ukraine and join the Ukrainian separatist armies there. However, once the bonds of authority were broken, the murders went on and soon the original ringleaders were dead as well. The division broke up into bands of marauders and for the last month has been looting, pillaging, and terrorizing the triangle formed by Przemysl, Krakow, and Lublin. The Krakow defense forces have had several bloody encounters with them. Their strength at the time of the mutiny was 3,000 men and 27 operational tanks. There are still probably 2,500 men and a dozen tanks, although they have mostly broken up into small bands of 100 or less. One group of 300 men with eight tanks seized the city of Stalowa Wola and now holds it under a reign of terror. Many of the leading citizens and officials have been executed, and both rape and murder are commonplace.

Soviet 207th Motorized Rifle Division: There are about 300 survivors of the division in the area between Pila and Bydgoszcz. A few have turned to marauding, but most have taken refuge in the towns and villages in the area. These towns now have somewhat stronger defensive forces and are very well equipped.



Notes to the Referee

You now have all the information you need to run a *Twilight: 2000* campaign. That doesn't mean it will be easy right away. It will take time for you to get the feel of the world you are running and to get a sense of the game's flow. Here are some ideas.

Once your players have generated their first characters, referee a firefight between them and a group of enemy soldiers. Make up a simple sketch map of the terrain, explain the situation and what they are trying to do, and go to it. Explain to them in advance that what happens here will not affect their characters in the game at all; it's just practice. This will give you a feel for the flow of a firefight much better than just reading the rules. If you encounter any problems with rules you aren't sure of, this is your chance to check them out without interrupting the actual game. Also, it will give the players a good feel for the capabilities of different weapons and may make them a little less anxious to get in a fight the first chance they get.

Next, give your players a couple of vehicles and have them do a cross-country march of, say, a week. The first thing this will do is give them an idea of how limited their range is when running on alcohol. It will also enable you to become familiar with the encounter rules and give players a chance to try hunting and foraging. These routines will be used repeatedly throughout the game, so it's a good idea to become familiar with them early.

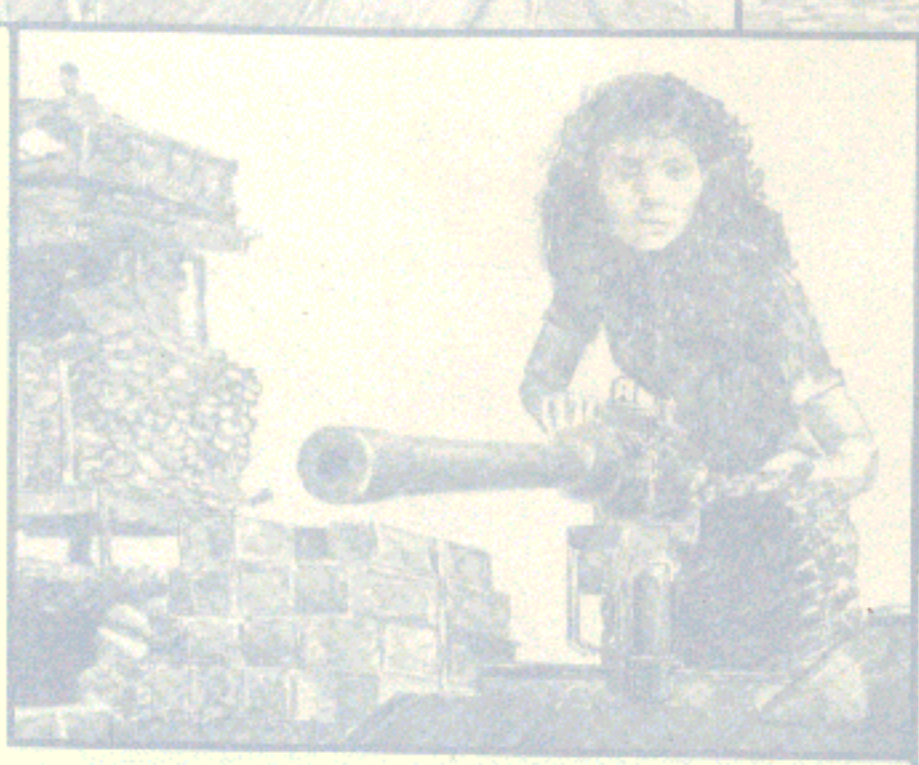
In some ways, these exercises are a training course, for both you and your players. The people your players represent have had months, often years, of experience living off the land and fighting for their lives. They have a good idea of the capabilities of their equipment and of themselves, and so your players should as well. When you and your players feel comfortable with the system, it's time to start the game.

To help you get started, a beginning adventure is included. Many games use the term "beginning" to mean "simple". *Escape From Kalisz* is not a simple adventure. It is more like a campaign, with numerous options for the players and a wealth of background material to help the referee. It is a beginning adventure in the sense that it's the beginning of the characters' long journey through a hostile world, cut off from their own Army. For the first time the characters are truly on their own. There's no one to take care of them, but there is no one to tell them what to do either.

Escape From Kalisz has all the background information you need to referee them for weeks, perhaps months, of game time. As the characters venture out of the Kalisz area, you can begin making up additional background information using the original adventure as a guide.

There is one question that this manual has not answered so far, but it will be one of the first questions your players ask, "what are we supposed to be doing?" The obvious, and correct, answer is, "Staying alive." It is correct, but it isn't enough. The players need a long-range goal as well, which gives them a reason for wanting to stay alive. This is one they will have to supply themselves, to some extent, but as the referee you have a responsibility to help them along.

There is one very real pitfall involved with most long-range goals; if the players ever achieve the goal the game is over, but if they obviously can't achieve it the game is pointless. The best answer to this is to help them arrive at a goal which is so long-range that it will take years to achieve, but once achieved can be replaced by other goals. If they do so on their own, don't interfere. The characters are theirs to play. If they seem unable to come up with one, suggest the obvious one that American soldiers isolated in central Europe would pursue: going home. Not home to the Army in Germany, but really home, home to the United States. It's not the sort of goal they are likely to achieve in a week, or a month, or even a year. But if they keep moving, keep gathering information, keep looking for ways, they may eventually find a way home. It may mean a march across half the world, through hostile territory and barren wilderness, and a final escape across the straits from Siberia to Alaska. It may mean a journey through the Middle East to North Africa, and then a leaky tramp steamer to the East Coast. Perhaps somewhere there are still a few planes flying capable of crossing the Atlantic. But somehow, somewhere, there is a way back.



Scanned By The

Master of Toon Fu

TWILIGHT: 2000

Contents of this Box

Play Manual: This booklet contains basic rules which both players and referee should know.

Referee's Manual: This booklet contains additional rules used by the referee to run the game. It is not necessary for the players to read these rules; in fact, it's better if they don't see some of them.

Players' Charts: This sheet contains all charts and tables needed during character generation.

Referee's Charts: This booklet contains all charts and tables used by the referee during the game.

Equipment List: This booklet lists and describes all equipment which players may buy or encounter.

Price List: This sheet is a convenient list of the prices and availability of everything on the equipment list.

Beginning Adventure: *Escape from Kalisz:* This booklet is an adventure designed to begin a *Twilight: 2000* campaign. It concerns the escape of a band of characters from the destruction of the U.S. 5th Division, near the city of Kalisz in central Poland.

Adventure Handout: *Escape from Kalisz:* This sheet is an orientation for the players, describing the events leading up to the beginning adventure.

Intelligence Briefing: This typewritten sheet, marked "SECRET", is a copy of the final intelligence report issued by 5th Division, just before setting out on its fatal mission.

Campaign Map: This map of Poland after five years of war is used by the players to plan their travels and by the referee to determine how long it takes them.

Record Sheets: There are three types: the character generation worksheet, used during character generation and then discarded; the character record sheet, a permanent record of each character; and the vehicle record sheet, a permanent record of each vehicle owned by the players. The referee should make several photocopies of each of these sheets for future use, before all the ones supplied with the game are used up.

Dice: This game includes four six-sided dice and one ten-sided die.

Players' Charts

PERSONAL WEAPONS

USA
- M231 submachinegun
- M16 assault rifle,
- M21 sniper rifle
- HK-CAW shotgun
- M249 automatic rifle
- M60 machinegun
- 9mm Parabellum pistol
- .45 ACP pistol

Canadian
- Sterling submachinegun
- M16 assault rifle
- Parker-Hale sniper rifle
- M249 automatic rifle
- MAG machinegun
- 9mm Parabellum pistol

British
- Sterling submachinegun
- IW assault rifle
- L42 sniper rifle
- LSW automatic rifle
- MAG machinegun
- 9mm Parabellum pistol

West German
- G11 submachinegun
- L42 sniper rifle
- HK-CAW shotgun
- MG3 machinegun
- 9mm Parabellum pistol

Danish
- Uzi submachinegun
- G3 battle rifle
- MG3 machinegun
- 9mm Parabellum pistol

Polish
- AKR submachinegun
- AK-74 assault rifle
- SVD sniper rifle
- RPK-74 automatic rifle
- PK machinegun
- Makarov pistol

Hungarian
- AKR submachinegun
- AKMR assault rifle
- SVD sniper rifle
- RPK-74 automatic rifle
- PK machinegun
- Tokarev pistol

Czech
- vz24 submachinegun
- AK-74 assault rifle
- vz54 sniper rifle
- RPK-74 automatic rifle
- vz59 machinegun
- Makarov pistol

Soviet & East Gorman
- AKR submachinegun
- AK-74 assault rifle
- SVD sniper rifle
- RPK-74 automatic rifle
- PK machinegun
- Makarov pistol

SKILL LIST

ACM	*MBE*	*Aircraft Mechanic:* Ability to repair and maintain aircraft.
BC	*MBE*	*Body Combat:* Ability to make body combat attacks.
BIO	*E*	*Biology:* Knowledge of plant and animal biology.
CBE	*M*[1]	*Combat Engineer:* Ability to perform tasks such as emplacing demolitions, building fortifications, and camouflaging emplacements.
CHM	*E*	*Chemistry:* Knowledge of Chemical interactions and compounds.
CMP	*MBE*[2]	*Computer:* Ability to operate and program a computer.
CRM	*M*	*Combat Rifleman:* Ability to use small arms (rifles, machineguns, etc.).
CVE	*E*	*Civil Engineer:* Ability to plan/supervise construction of buildings, roads, and bridges
DIS	*MB*	*Disguise:* Ability to alter appearance to avoid recognition.
ELC	*MBE*	*Electronics:* Ability to repair electronic devices.
EQ	*B*	*Equestrian:* Ability to ride a horse.
FO	*M*	*Forward Observer:* Ability to communicate fire data for indirect fire weapons.
FOR	*MB*[3]	*Forage:* Ability to find food in the wild, including knowledge of what plants are edible and where to find them.
FRG	*MB*	*Forgery:* Ability to forge a signature or document and have it accepted as genuine.
FRM	*BE*	*Farming:* General knowledge of growing food crops and raising livestock.
FSH	*B*[4]	*Fishing:* Ability to catch fish, using hook and line or net.
GEO	*E*	*Geology:* Knowledge of rock formations and minerals.
GS	*ME*	*Gunsmith:* Ability to construct and repair weapons.
HB	*BE*	*Hunting Bow:* Ability to use a long bow
HW	*M*	*Heavy Weapons:* Ability to use antitank missile launchers, flame weapons, and rocket and grenade launchers.
IF	*M*	*Indirect Fire:* Ability to fire howitzers, mortars, and indirect-fire grenade launchers.
INS	*MBE*	*Instruction:* Ability to teach skills.
INT	*M*	*Interrogation:* Ability to persuade or force a prisoner to reveal information.
JP	*ME*[5]	*Jet Pilot:* Ability to fly jet aircraft.
LAP	*ME*	*Light Aircraft Pilot:* Ability to fly light aircraft.
LCG	*M*	*Large Caliber Gun:* Ability to fire a direct-fire heavy gun, such as a tank gun, a howitzer used in the direct fire role, or any autocannon.
LNG	*MBE*[6]	*Language:* Ability to understand and be understood in a foreign language.
LP	*B*	*Lockpick:* Ability to pick a lock.
MC	*M*	*Melee Combat:* Ability to use a melee weapon, such as a knife or rifle butt.
MCY	*MB*	*Motorcycle:* Ability to ride a motorcycle.
MEC	*MBE*	*Mechanic:* Ability to maintain and repair vehicles and machinery.
MEd	*ME*	*Medical:* Ability to render first aid/medical care to injured or ill characters.
MET	*E*	*Meteorology:* Understanding of weather and the forces governing it.
MNE	*E*	*Mining Engineer:* Ability to supervise the construction and running of a mine.
MTL	*E*	*Metallurgy:* knowledge of smelting ore into metal, forming alloys, and fundamental metalworking.
MTN	*B*	*Mountaineering:* Ability to climb steep slopes and sheer cliffs.
NWH	*M*	*Nuclear Warhead:* Ability to arm, disarm, and repair nuclear warheads.
PAR	*MB*	*Parachute:* Ability to use a parachute.
PST	*M*	*Pistol:* Ability to fire a pistol.
RCN	*MB*[1]	*Recon:* Ability to spot concealed enemies, avoid ambushes, and to move silently; also, ability to hunt.
RWP	*ME*[5]	*Rotary Wing Pilot:* Ability to fly rotary wing aircraft (helicopters).
SBH	*MB*	*Small Boat Handling:* Ability to handle small boats, including oar-driven, wind-driven, and small (under 20 meters) motor boats.
SCO	*MBE*	*Scuba Diving:* Ability to use an aqua-lung or rebreather. May not be purchased at a higher level than the character's SWM skill.
SCR	*MB*	*Scrounging:* Ability to find man-made items such as spare parts, domestic food, ammunition, etc.
SWM	*MBE*	*Swimming:* Ability to swim
TW	*M*	*Thrown Weapon:* Ability to hit a target with a thrown weapon, such as a knife or grenade

Notes:
1. Skill costs double.
2. Soldiers from Eastern Bloc armies cannot purchase as a background skill.
3. Costs double if purchased as a background skill.
4. Skill costs half.
5. May not be purchased unless character has LAP skill of 40 or more.
6. All characters pay half cost for any language in the same group as their native language. European players pay half cost for all Germanic, Romance, and Balto-slavic languages.

SERVICE BRANCH/SPECIALTY TABLE

	Roll	*Required*	*Skill Benefits*
Support Services			
Aircraft Mechanic	auto	—	ACM: ½ cost
Vehicle Mechanic	auto		MEC: ½ cost
Electronics Specialist	auto		ELC: ½ cost
Infantry			
Infantryman	5	—	CRM: 20, HW: 20
Heavy Weapons	6		HW: 40
Engineer			
Combat Engineer	5	CON	CBE: ½ cost
ADM Specialist	6	INT	NWH: 50, CBE: 30
Medical			
Combat Medic	6	INT	MED: ½ cost
Artillery			
Cannon Crewman	6	STR	IF: ½ cost, TVD: 20
Fire Support Spec.	6	INT	FO: ½ cost, CMP: 30
Armor			
Tank Crewman	7	—	LCG: ½ cost, TVD: 20
Cavalry Scout	7		TVD: 20, HW: 20, RCN: 20
Aviation			
Aircraft Pilot	8	INT	LAP: 40, HW: 40, RWP: ½ cost
Special Forces			
Weapons Specialist	8	CON	CRM, HW, BC, RCN, FOR: all ½ cost
Intelligence Specialist	8	CON, INT	FRG, DIS, BC, PST: all ½ cost Any one Eastern Bloc language: 50 Any one other language: 30
Ranger			
Infantryman	7	CON	CRM: 20, HW: 20, BC, RCN, FOR: all ½ cost
Heavy Weapons	7	CON	HW: 40, RCN, FOR: both ½ cost
Intelligence			
Analyst	8	INT	CMP: 50 Any one language: 1/2 cost
Interrogator	8	INT	INT: 1/2 cost, Any three languages: 1/2 cost

VEHICLE TABLE

Die	*Vehicle*
1	3/4-ton truck
2	3/4-ton truck
3	HMMWV
4	HMMWV
5	HMMWV
6	2½-ton truck
7	2½-ton truck
8	5-ton truck
9	5-ton tanker
10	LAV-75
11	M113
12	8-ton truck
13	M2
14	LAV-75
15	M1
16	M988
17	M1E1
18	M1E2

RANK

Die	*Enlisted*	*Officer*
1	Spec 4	2nd Lieutenant
2	Spec 4	1st Lieutenant
3	Sergeant	1st Lieutenant
4	Sergeant	Captain
5	Staff Sergeant	Captain
6	Plt Sergeant	Major
7	Master Sergeant	Major
8	Sergeant Major	Lt. Colonel

ARMY/NATIONALITY/NATIVE LANGUAGE LIST

Army/Nationality	*Language*
U.S.	
American	English (10% Spanish) (2% German) (2% Italian) (1 % Polish) (1 % Yiddish)
British	
English	English
Welsh	English (20% Welsh)
Scottish	English (30% Scots Gaelic)
Irish	English (20% Gaelic)
Canadian	
Anglo-Canadian	English (30% French)
French-Canadian	French (30% English)
East German*	
German	German
West German	
German	German
Danish	
Danish	Danish
Polish*	
Polish	Polish
*Hungarian **	
Hungarian	Hungarian (3% German) (2% Romany)
Czech*	
Czech	Czech (10% Slovak) (3% Hungarian) (1 % Romany)
Slovak	Czech (80% Slovak) (3% Hungarian) (1 % Romany)
Soviet*	
See Soviet Nationalities List	

*Eastern Bloc armies

SOVIET NATIONALITIES LIST

Russian	Lithuanian
Ukrainian*	Romanian
Byelorussian*	Latvian
Uzbek	Chuvash
Tatar	Estonian
Kazakh	Kirgiz
Azerbaijani	Mordvinian
Armenian	Tajiki
Georgian	Turkoman

*Ukrainians and Byelorussians speak Russian

TWILIGHT: 2000

Referee's Charts

TRAVEL MOVEMENT TABLE

Unit	*Move*	*Fuel*	*Maint #*
Man	20/20		
Horse	20/20		
Mule	20/20		
Wagon/Horse	20/5		
Wagon/Ox	10/5		
Cart/Horse	20/5		
Cart/Ox	10/5		
Bicycle	60/20		
Motorcycle	190/75	16/8	2
Car	200/30	80/20	2
HMMWV	200/60	90/30	2
UAZ-469	200/40	60/20	2
3/4-ton truck	180/35	90/30	2
5-ton tanker	160/15	280/70	4
10-ton tanker	100/10	450/150	4
2½-ton truck	180/35	195/65	4
5-ton truck	160/15	280/70	4
8-ton truck	100/10	450/150	4
LAV-25	180/70	280/70	6
LAV-75	160/95	480/120	10
BRDM-3	200/60	290/80	4
OT-65	200/60	290/80	4
M113	120/70	360/120	6
M2	140/85	650/200	8
BMP-B	120/70	440/110	12
BMP-C	130/80	520/130	12
BTR-70	160/65	290/80	6
OT-64	180/70	290/70	6
M1	140/110	2000/550	14
M1E1	130/100	2000/550	14
M1E2	140/110	2000/550	14
T-72	120/70	1360/240	18
T-80	120/70	1360/240	18
T-90	120/90	1360/240	16
M109A2	110/65	450/150	10
M988	100/60	1400/280	12
ZSU-30	90/55	250/80	12
SAU-122	120/70	550/130	10
SAU-152	100/60	500/170	10

Move = on-road/off-road
Fuel = capacity/consumption
Maint # = Maintenance number.

TERRAIN EFFECTS ON MOVEMENT CHART

Unit	*Open*	*Wood*	*Swamp*	*Hill*
Men	N	N	N	½
Animals	N	N	½	½
Vehicles	N	1/2	1/2	½

ALCOHOL OUTPUT CHART

Small Still	30/5
Medium Still	80/35
Large Still	3000/2400

Note:
Input in kg/output in liters.

FOOD CONSUMPTION CHART

Man	1.5 kg MRE 2 kg domestic 3 kg wild
Horse	1 5 kg grain & graze 4 hrs
Mule	10 kg grain & graze 4 hrs
Ox	graze 4 hrs

FUEL ENERGY TABLE

Fuel	*CM*
Gas	1
Avgas	1
Diesel	1
Ethanol	3
Methanol	4

ENCOUNTER TABLE

Die	*Road*	*Wood*	*Swamp*	*Hill*	*Clear*
2	Derelict	Crater	Settle	Crater	Crater
3	Armed	Settle	Refugee	Boar	Grazer
4	Derelict	Boar	Armed	Dogs	Merch
5	Convoy	Armed	Game	Fowl	Refugee
6	Merch	Fowl	Fowl	Armed	Settle
7	Armed	Game	Grazer	Settle	Armed
8	Refugee	Grazer	Fowl	Grazer	Settle
9	Armed	Refugee	Game	Game	Derelict
10	Crater	Dogs	Derelict	Derelict	Game
11	Merch	Bear	Dogs	Refugee	Fowl
12	Merch	Derelict	Boar	Bear	Dogs

Armed: Armed party; *Convoy:* Military convoy; *Derelict:* Derelict vehicle; *Settle:* Settlement; *Merch:* Merchant group.

Armed Parties: *Army Territory:* 1-3 = Army, 4 = Hunters, 5 = Stragglers, 6 = Marauders. *Marauder Territory:* 1-3 = Marauders, 4-5 = Hunters, 6 = Stragglers. *Other Territory:* 1 = Army, 2-3 = Hunters, 4 = Stragglers, 5 = Marauders, 6 = No Encounter.

VEHICLE DAMAGE LOCATION LIST

Unarmored Cargo

R: LH.G.HB	E,F,C,P,S
L: LH.G.HB	E,F,D,P,S
R: TF.TB	P,S
C&L: TS.TF.TB	D,P,S
F: HS	D,E,F,C
C&B: HS	P,S,F
FD	E,F,D,C
TD	P,S,F
BD	P,S,F

Armored Personnel Carriers

M-2

R: LH(30),G(55),HB(15)	E,F,A,P
L: LH(30),G(55),HB(15)	D,R,S,P
R: TF(40),TB(40)	X,C
C: TF(40),TB(40)	W
L: TF(30),TB(40)	M,G,W,N
TS(40)	M,W,G,C
F: HS(15)	D,E,F
C: HS(15)	S,C,G,A
B: HS(15)	S,P
FD(10)	D,E,F
TD(10)	C,G,X,M,W,N
BD(10)	P,S

M-113

R: LH(30),G(30),HB(10|	E,F,P
L:LH(30),G(30),HB(10)	D,R,P
R&L: TF,TB	Miss
C: TF(30),TB(10)	W,G
F: HS(10)	D,E,F
C: HS(10)	G,S,P
B: HS(10)	S,P
FD(10)	D,E,F
TD(10)	W,G
BD(10)	P,S

BMP-B

R:LH(50),G(50),HB(20)	E,A,P,F
L: LH(50),G(50),HB(20)	D,C,R,A,P,F
R&L: TF,TB	Miss
C: TS(20),TF(20),TB(20)	M,X,W,G
F: HS(15)	D,C,R,E
C: HS(15)	G,A,P,S
B: HS(15)	P,F
FD(10)	D,C,R,E
TD(10)	M,X,W,N,G,A
RD(10)	P,S,F

BMP-C

R: LH(50),G(60I,HB(20)	E,A,P,F
L: LH(50),G(60),HB(20)	D,C,R,A,P,F
R&L: TF,TB	Miss
C: TS(20),TF(40),TB(20)	M,X,W,N,G
F: HS(15)	D,C,R,E
C: HS(15)	G,A,P,S
B: HS(15)	P,F
FD(10)	D,C,R,E
TD(10)	M,X,W,N,G,A
RD(10)	P,S,F

BTR-70

R: LH(15),G(20),HB(20)	C,S,P,E,F
L: LH(15),G(20),HB(20)	D,R,S,P,E,F
R&L: TF,TB	Miss
C:TS(20),TF(20),TB(20)	X,W,G
F: HS(20)	D,R,C
C: HS(20)	P,G,S
B: HS(20)	F,E
FD(15)	D,C,R
TD(16)	X,W,G
RD(15)	P,F,S,E

Armored Personnel Carriers (cont)

OT-64

R: LH(20),G(40),HB(20)	C,S,P,E,F
L: LH(20),G(40),HB(20)	D,R,S,P,E,F
R&L: TF,TB	Miss
C: TS(20),TF(20),TB(20)	X,W,G
F: HS(20)	D,R,C
C: HS(20)	P,G,S
B: HS(20)	F,E
FD(15)	D,C,R
TD(15)	X,W,G
RD(15)	P,F,S,E

Light Combat Vehicles

LAV-25

R:LH(20),G(40),HB(15)	C,S,P,E,F
L: LH(20),G(40),HB(15)	D,R,S,P,E,F
R&L: TF,TB	Miss
C: TS(20),TF(30),TB(20)	X,W,N,G
F: HS(20)	D,R,C
C: HS(20)	P,G,S
B: HS(20)	F,E
FD(15)	D,R,C
TD(15)	X,W,N,G
RD(15)	P,S,F,E

LAV-75

R: LH(40),G(60),HB(10)	D,G,A,R,E,F
L: LH(40),G(60),HB(10)	D,C,A,S,E,F
R&L: TF,TB	Miss
C: TF(80),TB(10)	X,W,N,A,L
TS(10)	C,R,G,W,A,L
F: HS(10)	D,R
C: HS(10)	C,G,A,S
B: HS(10)	E,F
FD(10)	D,R
TD(10)	X,W,N,A,L,C,G
BD(10)	F,E,S

BRDM-3

R: LH(20),G(20),HB(15)	C,R,P,S,E,F
L: LH(20),G(20),HB(15)	D,G,S,E,F
R&L:TF(15),TB(15)	Miss
C: TS(15),TF(15),TB(15)	X,W,N,G
F: HS(15)	D,C,R
C: HS(15)	P,G,S
B: HS(15)	F,E
FD(15)	D,C,R
TD(15)	X,W,N,G,P
BD(15)	S,F,E

OT-65

R: LH(15),G(15),HB(15)	C,R,P,S,E,F
L: LH(15),Gd5),HB(15)	D,G,S,E,F
R&L: TF,TB	Miss
C: TS(15),TF(15),TB(15)	X,W,N,G
F: HS(15)	D,C,R
C: HS(15)	P,G,S
B: HS(15)	F,E
FD(10)	D,C,R
TD(10)	X,W,N,G,P
RD(10)	S,F,E

Main Battle Tanks

MI

R: LH(200),G(1000),HB(80)	D,R,G,E,F
L: LH(200),G(1000),HB(80)	D,L,S,E,F
R: TF(560),TB(80)	G,C,A
C: TF(560),TB(80)	X,W,N,A
L: TF(560),TB(80)	L,A
TS(225)	L,C,G,W,A,X,
F: HS(80)	D,R
C: HS(80)	L,G,S
R: HS(80)	E,F
FD(50)	D,R
TD(50)	X,W,C,G,L,N,S,A
BD(50)	F,E,A

M1E1

R: LH(200),G(1000),HB(80)	D,R,G,E,F
L: LH(200),G(1000),HB-L(80)	D,L,S,E,F
R: TF(560),TB(80)	G,C,A
C: TF(560),TB(80)	X,W,A
L: TF(560),TB(80)	L,N,A
TS(225)	L,C,G,W,A,X
F: HS(80)	D,R
C: HS(80)	L,G,S
R: HS(80)	E,F
FD(50)	D,R
TD(50)	X,W,C,G,L,N,S,A
BD(50)	F,E,A

M1E2

R: LH(200),G(1000),HB(80)	D,G,A,R,E,F
L: LH(200),G(1000),HB(80)	D,C,A,S,E,F
R&L: TF,TB	Miss
C: TF(600),TB(100)	X,W,N,A,L
TS(400)	C,R,G,W,N,A,X,L
F: HS(80)	D,R
C: HS(80)	C,G,A,S
R: HS(80)	E,F
FD(50)	D,R
TD(50)	X,W,N,C,G,L,S,A
BD(50)	F,E

T-72

R: LH(220),G(350),HB(50)	D,C,R,S,A,E,F
L: LG(220),G(350),HB(50)	D,G,S,A,E,F
R: TF(300),TB(100)	C,R
C: TF(300),TB(100)	X,W,N,A
L: TF(300),TB(100)	G
TS(120)	G,W,N,A,C,X
F: HS(80)	D,R,A
C: HS(80)	G,A,S
B: HS(80)	F,E
FD(25)	D,A,R
TD(25)	X,W,N,C,G,L,S,A
RD(25)	F,E

T-80

R: LH(220),G(450),HB(50)	D,C,R,S,A,E,F
L: LH(220),G(450),HB(50)	D,G,S,A,E,F
R: TF(350),TB-R(100)	C,R
C: TF(350),TB(100)	X,W,N,A
L: TF(300),TB(100)	G
TS(120)	G,W,N,A,C,X
F: HS(100)	D,R,A
C: HS(100)	G,A,S
B: HS(100)	F,E
FD(25)	D,A,R
TDI25)	X,W,N,C,G,L,S,A
RD(25)	F,E

VEHICLE DAMAGE LOCATION LIST

Main Battle Tanks (continued)

T-90

R: LH(220),G(650),HB(80)	D,G,A,R,E,F
L: LH(220),G(650),HB(80)	D,C,A,S,E,F
R&L: TF,TB	Miss
C: TF(500),TB(150)	X,W,N,A,L
TS(250)	C,R,G,W,N,A,X,L
F: HS(100)	D,R
C: HS(100)	C,G,A,S
R: HS(100)	E,F
FD(50)	D,R
TD(50)	X,W,N,C,G,L,S,A
.BD(50)	F,E

Notes to Vehicle Damage Location List

Components:

A = Ammo
E = Engine
F = Fuel
L = Auto loader
M = Missile launcher
R = Radio
S = Stores (cargo)
W = Main weapon
X = Gunner's machinegun
N = Range finder
T = Tire

Personnel

C = Commander
D = Driver
G = Gunner
L = Loader
P = Passengers

Self-Propelled Artillery

M109A2

R: LH(30),G(50),HB(15)	E,F,G,A,S
L: LH(30),G(50),HB(15)	D,R,C,A,L
R: TF(20),TB(20)	G,N
C: TF(20),TB(20)	W,N,L,A
L: TF(20),TB(20)	C,A
TS(20)	C,W,N,G,L,A
F: HS(15)	D,R,F,E
C: HS(15)	C,W,N,G
R: HS(15)	L,A,S
FD(15)	D,R,F,E
TD(15)	C,W,N,G,A
RD(15)	L,A,S

M988

R: LH(100),G(100),HB(40)	D,R,G,E,F
L: LH(100),G(100),HB(40)	DL,S,E,F
R: TF(30),TB(30)	G,A
C: TF(30),TB(30)	W,N,A,L
L: TF(30),TB(30)	C
TS(30)	C,L,G,W,A
F: HS(50)	D,R
C: HS(50)	L,G,S,A
R: HS(50)	F,E
FD(15)	D,R
TD(15)	W,C,G,L,N,S,A
RD(15)	F,E

SAU-122

R: LH(35),G(120),HB(15)	E,F,G,A,S
L: LH(35),G(120),HB(15I	D,R,C,A,L
R: TF(25),TB(15)	G,N
C:TF(25),TB(15)	W,N,L,A
L:TF(25),TB(15)	C,A
TS(25)	C,W,N,G,L,A
F: HS(20)	D,R,F,E
C: HS(20)	C,W,N,G
R: HS(20)	L,A,S
FD(15)	D,R,F,E
TD(15)	C,W,N,G,A
RD(15)	L,A,S

SAU-152

R:LH(35),G(120),HB(15)	E,F,G,A,S
L: LH(35),G(120),HB(15)	D,R,C,A,L
R: TF(25),TB(15)	G,N
C:TF(25),TB(15)	W,N,L,A
L:TF(25),TB(15)	C,A
TS(25)	L,A,S
F: HS(20)	D,R,F,E
C: HS(20)	C,W,N,G
R: HS(20)	L,A,S
FD(15)	D,R,F,E
TD(15)	C,W,N,G,A
RD(15)	L,A,S

ZSU-30-6

R: LH(30),G(30),HB(20)	A,R,G,L,F,E
L: LH(30),G(30),HB(20)	D,C,A,S,F,E
R: TF(20),TB(15)	N,G
C:TF(20),TB(15)	W,L
L:TF(20),TB(15)	C,A
TS(15)	C,W,N,G
F: HS(20)	D,R,A
C: HS(20)	C,A,L,S,A
R: HS(20)	F,E
FD(15)	R,D,A
TD(15)	C,W,N,G,L,S,A
RD(15)	F,E

DAMAGE MULTIPLIER TABLE

Component	*Multiplier*
Weapon	x 10
Missile Launcher	x5
Gunner's Machinegun	x5
Engine	x50
Fuel	x10
Wheeled Suspension	x10
Tracked Suspension	x30
Radio	x2
Range Finder	x2
Ammo	x20
Autoloader	x10

FUEL FLASHPOINT TABLE

Avgas	20%
Gasoline	30%
Ethanol	30%
Methanol	40%
Diesel	60%

MOTORCYCLE HIT LOCATION TABLE

Hit	*Die*	*Hit*	*Die*
1	T	6	E
2	E	7	P
3	F	8	P
4	D	9	P
5	D	10	S

COMBAT MOVEMENT

Animals

Bear	10/20/40
Boar	5/10/30
Dog	15/30/60
Ox	10/15
Mule	10/20
Horse	10/20/60

Man

Man	2/8/15/30

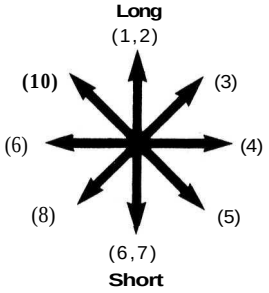
Vehicles

Motorcycle	65/30
Bicycle	20/10
Car	70/15
HMMWV	70/25
UAZ-469	70/25
2½-ton truck	60/15
5-ton truck	55/10
8-ton truck	35/10
3/4-ton truck	60/20
Cart/Wagon	10/5
Ox Cart	5/5
5-ton tanker	55/10
10-ton tanker	35/10
M-2	50/35
M-113	40/30
BMP-B	40/30
BMP-C	45/30
BTR-70	55/25
OT-64	60/30
LAV-25	60/30
LAV-75	55/40
BRDM-3	70/25
OT-65	70/25
M1	50/40
M1E1	45/35
M1E2	50/40
T-72	40/25
T-80	40/25
T-90	40/30
M109A2	35/25
M988	35/25
SAU-122	40/30
SAU-152	35/25
ZSU-30-6	65/40

BODY ARMOR TABLE

Type	*AC*
Flak Jacket	8
Kevlar Vest	10
Steel Helmet	6
Nylon Helmet	10

SCATTER DIAGRAM



Bows: ½W

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
Crossbow	1	(4)	20	1	x2
Hunting Bow	1	1	15	0	x3

Automatic Pistols: ½W,½T

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
9mm Par	*2*	5	15	1	x3
Makarov	2	3	15	1	x4
Tokarev	2	3	10	1	x4
.380	2	3	10	1	x4
.22	3	3	15	0	x4
.45	2	2	10	2	x3

Revolvers: ½W,½T

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
.38 Sp.	1	*2"*	15	1	x3

Submachineguns: W,T

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
Sterling	4	11	30	1	x3
Uzi	4	11	30	1	x3
MP5	3	10	30	1	x3
M231	5	10	20	1	
AKR	4	10	30	2	x2
vz 24	4	11	25	1	x4
Skorpion	4	7	10	0	x4
G-11	5	32	40	2	½

Assault Rifles: W, ½T

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
M16	4	10	50	*2*	–
IW	3	10	50	2	
AKMR	3	10	40	2	x2
AK-74	3	10	40	2	x2

Battle Rifles: ½W,½T

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
AKM	*3*	10	40	4	*x2*
FAL	2	7	60	4	
G3	2	7	60	4	

Sniper Rifles: *½W*

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
M40	1	*2**	75	4	
M21	3	*7*	60	4	–
PSG1	2	7	70	4	
L42	1	3	75	4	
Parker-Hale	1	1	75	4	–
SVD	2	3	70	4	
vz54	1	2	65	4	–

Sporting Rifles: ½W

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
30-30 LA	1	3*	60	3	x3
30-06 BA	1	2*	85	4	
.22 BA	1	1	55	0	x4
.22 SA	1	3*	50	0	x4
Mauser	1	2	65	4	x2

Shotguns: ½W

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
Double Barrel	*2*	*2*	40	4	x4
Pump	4	8**	40	4	x4
HK-CAW	10	10	40	4	x4

Automatic Rifles: ½W

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
M249	5	10/50	50/75	*2*	
LSW	4	10	50/75	*2*	
RPK74	4	10/13	40/60	*2*	*x2*

Machineguns

Type	*ROF*	*Mag*	*Rng*	*Dam*	*Arm*
M60	4	33	90/120	4	
MG3	4	33	90/120	4	–
MAG	4	33	90/120	4	
PK	5	33	90/120	4	
vz59	3	17	90/120	4	–
M214	20	333	100t	2	
M2HB (SLAP)	3	35	160†	6	½
M2HB (BMG)	3	35	160t	6	
DShK	3	17	160t	6	
KPV	4	33	200t	7	

Notes: *Rnd*=type of round. *ROF*=rate of fire. *Mag* = number of shots per magazine; if Mag is 0, reloading and firing are a single action taking a total of one combat round; if Mag is in parentheses, e.g. (2), the weapon has a single-shot magazine which takes the indicated number of combat rounds to load. *Rng* = close range; automatic rifles and machineguns have two different ranges; for automatic rifles, the first is used if firing while held, and the second is used if firing from a bipod; for machineguns, the first is used if firing from a bipod, and the second is used if firing from a tripod or vehicle mount. *Dam* = damage; *Arm* = armor multiplier; *KDR* = knockdown radius; *Burst* = burst radius; *IFR* = indirect fire range.

* Magazine is not detachable; only one shot may be reloaded per combat round.

** Only three shots may be reloaded per combat round.

† Weapon may be fired only from tripod or vehicle mount.

†† The Mark-19 may also fire all rounds used by the M203/HK69.

‡One shot takes two combat rounds to reload.

‡‡ One shot may be reloaded per combat round; the weapon may be fired while being reloaded.

MELEE WEAPONS CHART

Weapon	*Range*	*Hit Mod.*	*Damage*
Bottle	S		1D6
Knife*	S	+10	2D6
Hatchet	S		1D6 + ½STR
Club	S	-5	1D6+STR
Bayonett	L	+5	2D6 + ½STR
Spear	L		2D6 + ½STR
Axe	L-10	3D6+STR	
Machete	L	+10	2D6
Rifle Butt	S		1D6+STR

* Including bayonet when not on rifle
† When on rifle

VEHICLE HIT LOCATION CHART

Die	*Front*	*Side*	*Rear*	*Oblique*
1	S	S*	S	S
2	R: LH	S*	R: HR	S
3	L: LH	S	R: HR	R/L: LH
4	R: G	S	R: HR	R/LG
5	R: G	F: HS	L: HR	F: HS
6	L: G	C: HS	L: HR	C: HS
7	L: G	C: HS	L: HR	B: HS
8	R: TF	B: HS	R: TB	C: TF
9	C: TF	TS	C: TB	TS
10	L: TF	TS	L: TB	TS

Notes:

* = Miss if against wheeled vehicle

First Letter S = Suspension, LH = Lower Hull, G = Glacis, TF = Turret Front, TB = Turret Back, TS = Turret Side, HS = Hull Side, HR = Hull Rear.

Second Letter F = Front, B = Back, R = Right, L = Left, C = Center.

Oblique hit location is given for a front oblique shot. For a rear oblique shot, convert all LH and G hits to HR and all TF hits to TB.

Hand Grenades

Type	ROF	Mag	Dam	Arm	KDR	Burst
Frag	1	0	x8C	x20	2.5	10
Anti-tank	1	0	x10C	—	2.5	2.5
Concussion	1	0	x10C	x20	5	—
Thermite	1	0	x20C	x10	0	2.5
Chemical	1	0	x1C	x10	0	5
WP	1	0	x10C	x10	0	15

Rifle Grenades

Type	ROF	Mag	Rng	Dam	Arm	KDR	Burst	IFR
RAW HE	1	(2)	100	x30C	x10	15	30	2000
RAW HEAT	1	(2)	100	x30C	—	10	20	2000
HEAT	1	(2)	15	x15C	—	5	15	200
WP	1	(2)	25	x15C	x10	—	10	200

Grenade Launchers

Type	Rnd	Rng	Dam	Arm	KDR	Burst	IFR
AGS-17	HE	150	x8C	x10	2.5	5	1700
ROF: 5							
Mag: 30							
M203/HK-69	HE	100	x10C	x10	5	10	400
ROF: 1	HEDP	100	x10C	x2	2.5	5	400
Mag: 1	CHEM	100	x1C	x10	—	5	400
	ILLUM	100	—	—	—	100	400
Mark-19tt	HVHE	200	x10C	x10	5	10	3000
ROF: 8	HVHEDP	200	x10C	x2	2.5	5	3000
Mag: 50							

Rocket Launchers

Type	Rnd	Rng	Dam	Arm	KDR	Burst
RPG-16	HEAT	150	x25C	-	5	10
ROF: 1						
Mag: (2)						
M202	HEAT	100	x15C	–	5	5
ROF: 4	WP	100	X20C	x20	—	15
Mag: 4						
Armbrust	HEAT	100	X20C	-	5	5
ROF: 1						
Mag: 0						

Anti-tank Missiles

Type	ROF	Mag	Rng	Dam	Arm	KDR	Burst
Tank Breaker	1	(2)	2000	x30C	-	5	10
TOW II	1	2t	3500	x40C	-	10	15
AT-4	1	(3)	2000	x30C	-	5	10
AT-5	1	(2)	3500	x35C	-	5	10

MAN/ANIMAL HIT LOCATION CHART

Die	Biped	Quadruped
1	Head	Head
2	Right Arm	Forequarter
3	Left Arm	Forequarter
4	Chest	Forequarter
5	Abdomen	Chest
6	Abdomen	Chest
7	Right Leg	Abdomen
8	Right Leg	Hindquarter
9	Left Leg	Hindquarter
10	Left Leg	Hindquarter

Notes:

Biped: Table assumes front/rear shot.
Side-shot: far side hit = near side hit.
Prone Biped: Table assumes top shot.
Side shot: as above.
Front shot: Leg or abdomen hit = miss.
Rear shot: Head, arm, or chest hit = miss.
Quadruped: Table assumes side shot.
Front shot: Hindquarters or abdomen hit = miss.
Rear shot: Head or forequarters hit = miss.

Large Caliber Guns

Type	Rnd	Rng	Dam	Arm	KDR	Burst
23mm	API	250	x4			
ROF: 5	HE	250	x4C	x10	2.5	5
Mag: 33						
25mm	APFSDSDU	250	x5	%		
ROF: 5	API	250	x5			
Mag: 33	HE	250	x5C	x10	2.5	5
30mm	API	250	x6			
ROF: 5	HE	250	x6C	x10	2.5	5
Mag: 33						
40mm	HE	300	x10C	x10	2.5	5
ROF: 5	HEPXPF	300	x10C	x10	2.5	15
Mag: 233tt						
75mm	APFSDS	400	x15	1/2		
ROF: 5	HEAT	300	X15C		2.5	10
Mag: 36tt	HE	300	x20C	x10	5	15
	WP	300	x15C	x10		10
105mm	HEAT	400	x25C		5	15
ROF: 1	APFSDS	500	x30			
Mag: 1	APFSDSDU	500	x30	1/2		
	WP	400	x15C	x10		20
120mm	HEAT	400	x30C		5	20
ROF: 1	APFSDS	500	x35			
Mag: 1	APFSDSDU	500	x35	1/2		
	WP	400	x15C	x10		35
125mm	HE	400	x30C	x10	10	30
ROF: 1	HEAT	400	X30C		5	20
Mag: (2)	APFSDS	500	x35			
	APFSDSDU	500	x35	1/2		

Howitzers

Type	Rnd	Rng	Dam	Arm	KDR	Burst	IFR
122mm	HE	300	x30C	x10	10	30	15000
ROF: 1	HEAT	300	x30C	—	5	20	15000
Mag: 1	WP	300	x15C	x10	—	35	15000
	CHEM	300	x2C	x10	—	15	15000
	ICM	—	x10C	x10	30	35	15000
	ILLUM	300	—	—	—	1500	15000
152mm	HE	300	x40C	x10	15	40	18500
ROF: 1	HEAT	350	x10	—	5	10	18500
Mag: (2)	WP	300	x15C	x10	—	45	18500
	CHEM	300	x2C	x10	—	25	18500
	ICM	—	x10C	x10	50	60	18500
	ILLUM	300	—	—	—	2000	18500
155mm	HE/CLGP	350	x40C	x10	15	40	24000
ROF: 1	HEAT	350	x35C	—	10	30	24000
Mag: (2)	WP	350	x15C	x10	—	45	24000
	CHEM	350	x2C	x10	—	25	24000
	ICM-DP	—	x10C	x2	50	60	24000
	ILLUM	—	—	—	—	2000	24000
	FASCAM	—	—	—	—	100	24000

Mortars

Type	Rnd	Rng	Dam	Arm	KDR	Burst	IFR
60mm	HE	_	x20C	x10	5	20	4000
ROF: 2	WP	—	x15C	x10	—	10	4000
Mag: 0	ILLUM	—	—	—	—	400	4000
81mm	HE	_	x25C	x10	5	30	4500
ROF: 1	WP	—	x15C	x10	—	20	4500
Mag: 0	ILLUM	—	—	—	—	1000	4500
82mm	HE	200	x25C	x10	5	30	3000
ROF: 5	HEDP	200	x25C	x2	2.5	15	3000
Mag: 5	WP	200	x15C	x10	—	20	3000
	ILLUM	200	—	—	—	1000	3000
4.2 Inch	HE	_	x30C	x10	10	40	5900
ROF: 1	WP	—	x15C	x10	—	35	5900
Mag: 0	ILLUM	—	—	—	—	1500	5900
	ICM-DP	—	x10C	x2	30	35	5900
	CHEM	—	x1C	x10	—	15	5900
120mm	HE	_	x35C	x10	10	45	5700
ROF: 1	WP	_	x15C	x10	—	40	5700
Mag: 1	ILLUM	—	—	—	—	1500	5700
	CHEM	—	x1C	x10	—	15	5700

LANGUAGE LIST

Family	*Group*	*Language*
Germanic	Anglic	English
	West Germanic	German* Dutch Yiddish Flemish
	North Germanic	Danish Swedish Norwegian
Romance	East Romance	Italian Romanian*
	West Romance	Spanish French Portuguese
	E&W Romance	Latin
Celtic	Goidelic	Scots Gaelic
	Brythonic	Welsh Gaelic
Greek	Greek	Greek
Balto-Slavic	Baltic	Lithuanian* Latvian*
	East Slavic	Russian*
	West Slavic	Polish* Czech* Slovak*
	South Slavic	Serbo-Croat Bulgarian* Slovenian Macedonian
Albanian	Albanian	Albanian
Armenian	Armenian	Armenian
Indo-Iranian	Indie	Hindi-Urdu Bengali Romany (Gypsy)
	Iranian	Taijik Pharsi (Persian)
Caucasian	South Cauc.	Georgian
Sino-Tibetan	Sinitic	Mandarint Cantoneset
	Tibeto-Burman	Thai Burmese
Semito-Hamitic	Semitic	Arabic Hebrew
	Hamitic	Berber Hausa
Dravidian	Dravidian	Tamil
Japanese	Japanese	Japanese
Altaic	Turkic	Turkish Azerbaijani Uzbek Kazakh Tatar Chuvash Kirgiz Turkoman
Altaic (cont)	Ugric	Hungarian*
	Finnic	Finnish Estonian* Mordvinian
Vietnamese	Vietnamese	Vietnamese
Mon-Khmer	Mon-Khmer	Cambodian
Korean	Korean	Korean
Bantu	Bantu	Swahili
Mayalo-Pol.	W. Mayalo-Pol.	Malay- Indonesian
Amerindian	South Amerind.	Maya
	Athabasca	Navaho
	Uto-Aztecan	Nahuatl

*Eastern Bloc Language

tThese two languages are mutually unintelligible in their spoken form, but 100% intelligible in their written form.

ENCAMPMENTS

Present: 10 + (2D6)

Die	*Disease Type:*
1-25	Dysentery
26-40	Food Poisoning
41-55	Minor Disease
56-65	Cholera
66-75	Hepatitis-A
76-85	Pneumonia
86-90	Typhoid
91-95	Typhus
96-99	Plague, Bubonic
100	Plague, Pneumonic

SETTLEMENTS

Present: 11 + (2D6)

Die	*Disease Type:*
1-20	Dysentery
21-30	Food Poisoning
31-70	Minor Disease
71-80	Cholera
81-90	Hepatitis-A
91-95	Pneumonia
96-99	Typhus
100	Plague, Bubonic

ANIMALS

Present: 12+ (2D6)

Die	*Disease:*
1-40	Food Poisoning
41-80	Minor Disease
81-90	Typhus
91-95	Rabies
96-100	Plague, Bubonic

CONTAMINATED WATER

Present: 12+ (2D6)

Die	*Disease:*
1 -50	Dysentery
51-75	Typhoid
76-100	Minor Disease

EQUIPMENT AVAILABILITY

Location	*Common*	*Common*	*Scarce*	*Rare*
Major City	100%	100%	80%	40%
City	100%	80%	60%	20%
Town	100%	70%	40%	10%
Village	60%	30%	15%	0%
Encounter	40%	20%	10%	0%

NPC MOTIVATION TABLE

Clubs	*Diamonds*
Ace — War Leader	Ace — Generosity
King — Brutal	King — Selfishness
Queen — Stubborn	Queen — Lustful
Jack — Murderer	Jack — Coward
2-10 — Violence	2-10 — Wealth
Hearts	*Spades*
Ace — Justice	Ace — Charismatic
King — Honor	King — Deceitful
Queen — Love	Queen — Ruthless
Jack — Wisdom	Jack — Pompous
2-10 — Fellowship	2-10 — Power

RADIATION ILLNESS CHART

Rads	*Slight Illness*	*Serious Illness*	*Death*
50	9.5	—	—
100	7.5	9.5	—
300	2.5	7.5	9.5
400	0	2.5	7.5
600	0	0	2.5
800	0	0	0

ARMOR VALUES OF COVER TABLE

Cover	*Armor Value*
Sandbag	5*
2" Wood Plank	1
Wood House Wall	5
Cinder Block Wall	25
Stone Wall	15
Thick Stone Wall	30
Reinforced Concrete	500t
Tree Trunk	15
Brick Wall	25
Thick Brick Wall	75

*per sandbag tper meter

ARMOR EQUIVALENT CHART

Material	*Multiplier*
Wood	0.25
Loose Dirt	0.3
Packed Dirt & Stone	1.5
Concrete & Bricks	2.5
Reinforced Concrete	5.0
Sheet Steel	8.0
Hardened Armor Plate	10.0

ENCOUNTER STATISTICS TABLE

Army (RCN/80)

1,2:1 elite, 3 veterans, 4 experienced NPCs, 2 novice NPCs. Armed with 1 submachinegun, 1 sniper rifle, 2 pistols, 1 automatic rifle, 7 assault rifles. On foot. 1 horse cart for supplies. 1 roll for special weapons per base unit present..

3, 4: As above, but with 10 riding horses or bicycles. 1 roll for special weapons per base unit present. Towed guns and mortars include horse-drawn limbers.

5, 6: As above, but no horses or cart. 1 roll for special weapons and 1 roll for vehicles per base unit present. (If 2 vehicles listed, first vehicle is used for Soviets, second for Poles)

Military Convoy (RCN/60)

1,3:1 veteran, 3 experienced NPCs, 5 novice NPCs. Armed with 1 submachinegun, 8 assault rifles, 1 pistol. 2 horse-drawn wagons, 6 riding horses. 1 roll for special weapons per base unit present. (If a towed weapon, a horse-drawn limber is also present.)

4, 6: As above, but no horses or wagons. One 2½-ton truck with still, one 5-ton cargo truck. 1 roll for special weapons and 1 roll for additional vehicles per base unit present.

Stragglers (RCN/60)

1, 4: 1 veteran, 1 regular, 1 conscript. Armed with 1 submachinegun, 2 assault rifles, 1 pistol. On foot.

5: As above, but with 3 riding horses or bicycles.

6: As above, but no horses. 1 roll for vehicles per base unit present.

Marauders (RCN/80)

1,2:1 elite, 2 veteran, 2 experienced NPCs. Armed with 1 submachinegun, 3 assault rifles, 1 automatic rifle. On foot, with 1 horse-drawn cart with supplies. 1 roll for special weapons per two base units present. (If a towed weapon is rolled, there is also a horse-drawn limber.)

3, 4: As above, but mounted on 5 horses.

5, 6: As above, but no horses or carts. One roll for special weapons and one roll for vehicles table per two base units present.

Hunters (RCN/variable)

1,4: 1D6 men (type at referee's discretion). Half of all men present armed with shotguns, the other half with sporting rifles. If an odd number are present, one man has an assault rifle.

5, 6: As above, but mounted on horses.

Merchants (RCN/80)

1, 4: 1 elite, 2 veterans, 2 experienced NPCs. Armed with 1 assault rifle, 1 sniper rifle, 1 automatic rifle, 1 shotgun, 1 sporting rifle, 3 pistols. 1 horse-drawn wagon and 3 riding horses or bicycles.

5, 6: As above, but no horses or wagons. One 2½-ton truck with fuel trailer.

Refugees (RCN/40)

2 experienced NPCs, 4 recruits. Armed with 1 pistol, 1 shotgun or sporting rifle, 1 knife, 1 spear, 2 clubs. On foot.

ENCOUNTER EQUIPMENT TABLE

Die	Special Weapons	Vehicles	Military Cargo	Merchant Cargo
2	Rapira-3	T-90/T-72	Mines	Electronics
3	82mm Mort	BMP-B	Parts	Scrap Metal
4	120mm Mort	BTR-70/OT-64	Medical	Shell Casings
5	AT-4	5-ton	Ammo	Wool
6	RPG-16	3/4-ton	Fuel	Wood
7	PK MG	2½-ton (Still)	Food	Food
8	RPG-16	UAZ-469	Fuel	Clothing
9	AGS-17	5-ton	Ammo	Ammunition
10	120mm Mort	BRDM-3/OT-65	Medical	Hardware
11	82mm Mort	BMP-C	Small Arms	Furnishings
12	D-30 How.	T-80	Radios	Bicycles

ENCOUNTER RANGE TABLE

Terrain	Range
Open	1D10x300m
Hill	1010x100
Swamp	1D10x30m
Woods	1D10x10m

SETTLEMENT SIZE TABLE

Die	Village	Town	City	Major City
1	50	1,000	10,000	30,000
2	100	1,500	12,000	40,000
3	150	2,000	14,000	50,000
4	200	2,500	16,000	60,000
5	250	3,000	18,000	70,000
6	300	3,500	20,000	80,000
7	350	4,000	22,000	90,000
8	400	4,500	24,000	100,000
9	450	5000	26,000	110,000
10	500	6,000	28,000	120,000
Armed	*20%*	*10%*	*5%*	*5%*

FORAGING TABLE

	Winter	Spring	Summer	Fall
Wood/Scrub	1	3	6	6
Meadow/Swamp	0	1	2	2
Field	0	0	25	50
Fishing (1D6x)	½	2	1	1

ANIMAL DATA CHART

Animal	Meat	Move	# Appearing	Hits	Attack	Hit #	Damage	Stature
Grazer	1D6 x 5kg	10/20/60	2D6	15	No			6
Bear	1D6 x 20kg	10/20/40	1	80	40%	60	4D6	27
Boar	1D6 x 10kg	5/10/30	1	50	80%	40	4D6	12
Dog	1D6 x 2kg	15/30/60	3D6	10	60%	60	2D6	3
Game	1D6 x 1kg	100/20/40	2D6	5	No			
Fowl	1D6 x 1kg	5/20/80	4D6	5	No			

Equipment List

Every entry below lists weight in kg, price in dollars, and availability. The last is given in the form (availability in the West/availability in the East); V = very common, C = common, S = scarce, and R = rare. Some entries contain additional information.

FIREARMS

Magazines and ammunition (and tripods for machineguns and grenade launchers) must be purchased separately, and are not counted into weight or price. Ammo = type of ammunition used; Mag = number of shots per magazine (I means that the magazine is internal and not detachable; if Mag is missing, the weapon has no magazine).

Bows

Longbow: Includes fiberglass composite bows and wooden self-bows, of 30 to 50 pounds pull. *Ammo:* arrows, *Wt:* 1 kg, *Price:* $300 (C/C).

Crossbow: Includes both pre-war manufactures and more recent "backyard" weapons made of old rifle stocks and truck springs. Pulls of between 100 and 200 pounds. *Ammo:* bolts, *Wt:* 4 kg, *Price:* $350 (C/C).

Automatic Pistols

9mm Parabellum: The standard military sidearm for all NATO armies and most Western police forces. *Ammo:* 9mm P, *Wt:* 1 kg, *Mag: 5, Price:* $150 (V/S).

9mm Makarov: The standard military sidearm of the Eastern European states and widely used by police and internal security forces. *Ammo:* 9mm M, *Wt:* .5 kg, *Mag:* 3, *Price:* $ 150 (S/V).

9mm Tokarev: Formerly in widespread use by Eastern European military and police. Has been widely supplanted by the Makarov. Due to the large numbers produced, it is still found in use by some police and is widely used by militias. *Ammo:* 7.62mm T, *Wt:* 0.5 kg, *Mag:* 3, *Price:* $100 (R/C).

.380 (Automatic): Widely used (along with the 9mm Parabellum) by Western European police forces. *Ammo:* .380 ACP, *Wt:* 0.5 kg, *Mag:* 3, *Price:* $100 (C/S).

.22 (Automatic): A widely used civilian "plinking" pistol, found in most industrialized countries. *Ammo:* .22 LR, *Wt:* 0.5 kg, *Mag:* 3, *Price:* $50 (C/C).

.45 (Automatic): The standard military sidearm of the United States until the late 1980's, it has been supplanted as general issue by the 9mm Parabellum. However, 9mm procurement has never been sufficient to completely replace the .45 in military use, and thus it is still quite common. *Ammo:* .45 ACP, *Wt:* 1, *Mag:* 2, *Price:* $100 (S/R).

Revolvers

.38 Special (Revolver): The standard sidearm for U.S. aircrews, including helicopter crews. For the most part found only in U.S. units, although some have filtered out. *Ammo:* .38 Special, *Wt:* 1 kg, *Mag:* 21, *Price:* $140 (R/R).

Submachineguns

Sterling: The standard military submachinegun of the British Army, the Sterling has also found its way into general use. *Ammo:* 9mm P, *Wt:* 3, *Mag:* 11, *Price:* $600 (C/S).

Uzi: Once the standard military submachinegun of the German Army, it is now returning to service as ammunition for the G11 becomes increasingly hard to find. *Ammo:* 9mm P, *Wt:* 4 kg, *Mag:* 10, *Price:* $500 (V/C).

M231: The standard firing-port weapon on the M2 Bradley, this weapon is a satisfactory vehicle weapon for suppressive fires but a mediocre submachinegun. Nevertheless, with large numbers of Bradleys no longer operational it was inevitable that the M231 would be dismounted and used in large numbers. *Ammo:* 5.56 N, *Wt:* 4, *Mag:* 10, *Price:* $300 (V/C).

MP-5: The standard submachinegun of German territorial troops and police. *Ammo:* 9mm P, *Wt:* 3 kg, *Mag:* 10, *Price:* $400 (C/S).

AKR: The standard Eastern Bloc military submachinegun (except in the Czech Army), the AKR is merely a cut-down version of the AK-74. Although a bit heavy for a submachinegun, it has good accuracy and stopping power. *Ammo:* 5.45 B, *Wt:* 4, *Mag:* 10, *Price:* $300 (S/C).

Vz 24: The standard Czech submachinegun, mostly found with militia and internal security forces. *Ammo:* 7.62 T, *Wt:* 4 kg, *Mag:* 11 *Price:* $300 (R/S).

Skorpion: Commonly referred to as a machine pistol, the Skorpion is small enough to carry in a shoulder holster. Its short range and underpowered ammunition make it of limited combat value, but its ease of concealment have made it very popular with Warsaw Pact covert agents. *Ammo:* .32 ACP, *Wt: 2* kg, *Mag: 7 Price:* $250 (R/S).

G11: A weapon of radical design and great effectiveness, the G11 replaced the G3 as the standard assault rifle and the Uzi as the standard submachinegun of the West German Army. It is a "Bullpup" configuration weapon, which means that the action is placed behind the firing hand, in the normally empty stock. This means that "Bullpup" rifles can have a shorter overall length without the necessity for a shorter barrel.

It differs from other combat rifles in that it fires caseless 4.7mm bullets. The compact nature of the weapon and low recoil of its round makes it as handy as a submachinegun (even though it is a rifle) and it is included with submachineguns for this reason.

Its caseless ammunition is extremely compact, allowing a large magazine capacity. Since there is no spent cartridge casing to eject, the rifle's action is completely enclosed and thus very reliable in a dirty environment. However, there is no way to reload the round, since it is completely consumed, and manufacture has largely ceased. Currently, although the weapon is fairly common, ammunition for it is increasingly rare and most German soldiers have equipped themselves with obsolete weapons. *Ammo:* 4.7 CIs, *Wt:* 4, *Mag:* 32, *Price:* $400 (S/R).

Assault Rifles

M16A2: The standard combat rifle of the U.S. and Canadian Armies, the M16A2 (commonly called just "M16") is in widespread use and is a popular and effective weapon. *Ammo:* 5.56 N, *Wt:* 3, *Mag:* 10, *Price:* $400 (V/C).

AKMR: As the AK-74 supplanted the AKM in service, large numbers of AKMs were rechambered to fire the AK-74's 5.45 cartridge to enable standardization of supply without discarding mountains of AKMs. Widely used in Eastern Bloc military units alongside the AK-74. *Ammo:* 5.45 B, *Wt:* 4, *Mag:* 10, *Price:* $300 (C/V).

AK-74: The standard combat rifle of the Eastern Bloc forces. *Ammo:* 5.45 B, *Wt:* 4 kg, *Mag:* 10, *Price:* $300 (C/C).

IW: The standard British combat rifle; replacing the FAL. Like

the G11, the IW is a "Bullpup" configuration rifle. Rare outside of British service. *Ammo:* 5.56 N, *Wt:* 4 kg, *Mag:* 10, *Price:* $500 (S/R).

AKM: The modern version of the ubiquitous AK-47, perhaps the most widely used military small arm in the world, and a very popular one despite its underpowered and unstable cartridge. Replaced in frontline service by the AK-74, many AKMs were rechambered to fire 5.45 Bloc ammunition, and thus true AKMs are mostly found in use by militia units. *Ammo:* 7.62 S, *Wt:* 4 kg, *Mag:* 10, *Price:* $300 (C/V).

Battle Rifles

FAL: A Belgian rifle adopted as the standard rifle of the British Army, the FAL has been replaced in service by the IW. However, the FAL was a very popular weapon and came into widespread civilian use. Since the outbreak of war, numerous FALs have been picked up by military units, particularly those nostalgic for the heavier cartridge. *Ammo:* 7.62, *Wt:* 5 kg, *Mag:* 7, *Price:* $600 (S/R).

G3: The standard German assault rifle until replaced by the G11, the G3 was still widely used by territorial and internal security troops, and is now back in service with German troops. *Ammo:* 7.62 N, *Wt:* 5 kg, *Mag:* 7, *Price:* $500 (C/R).

Sniper Rifles

M40: The standard U.S. Marine sniper rifle, a bolt-action magazine-fed rifle with a telescopic sight. *Ammo:* 7.62 N, *Wt:* 3, *Mag:* 21, *Price:*$700 (R/R).

SVD: The standard Eastern Bloc sniper rifle (except in Czech service), a semi-automatic clip-fed rifle with a telescopic sight. *Ammo:* 7.62 L, *Wt:* 4 kg, *Mag:* 3, *Price:* $500 (R/S).

M21: The standard U.S. Army sniper rifle, the M21 is essentially a well-made M14 assault rifle (the U.S. Army's service rifle prior to the M16) fitted with a telescopic sight. *Ammo:* 7.62 N, *Wt: 5* kg, *Mag: 1, Price:* $400 (S/R).

PSG1: The standard German sniper rifle, a development of the G3 assault rifle fitted with a telescopic sight. *Ammo:* 7.62 N, *Wt:* 8 kg, *Mag: 7, Price:* $600 (R/R).

L42: The standard sniper rifle of the British Army is a progressive development of the bolt action Short Magazine Lee Enfield (the WWII British service rifle), rechambered to fire more modern ammunition and fitted with a telescopic sight. *Ammo:* 7.62 N, *Wt:* 4, *Mag: 3, Price:* $400 (R/R).

Parker-Hale: The standard Canadian sniper rifle is a well made civilian hunting rifle adapted to military use and fitted with a telescopic sight. *Ammo:* 7.62 Nato, *Wt:* 4 kg, *Mag:* 11, *Price:* $400 (R/R).

Vz54: The standard Czech sniper rifle is a progressive development of the bolt-action Mauser (the German Army's WWII service rifle), fitted with a telescopic sight. *Ammo:* 8mm M, *Wt:* 4.5 kg, *Mag: 2, Price:* $300 (R/R).

Sporting Rifles

.30-30: A popular sporting arm, and found in civilian hands even in Eastern Europe, the .30-.30 is a lever-action rifle. *Ammo:* .30-30, *Wt:* 3 kg, *Mag:* 31, *Price:* $250 (C/S).

.30-06: Another popular hunting rifle; a bolt-action rifle. *Ammo:* .30-06, *Wt:* 4, *Mag:* 21, *Price:* $300 (C/S).

.22 Bolt Action: A widely available light hunting rifle, the .22 is excellent for squirrels and other small game, but does not have sufficient stopping power to be reliable against larger targets. It is a bolt action rifle. *Ammo:* .22 LR, *Wt:* 2 kg, *Mag:* 11, *Price:* $150 (C/C).

.22 Semi-Auto: Another widely available light hunting rifle, this version of the .22 is semiautomatic. *Ammo: .22* LR, *Wt: 2, Mag:* 31, *Price:* $100 (C/C).

Mauser Bolt Action: A bolt action civilian version of the German WWII rifle, this weapon is in very widespread use due to the tremendous numbers manufactured. *Ammo:* 8mm M, *Wt: 4, Mag: 2, Price:* $150 (C/C).

Shotguns

Double: The double barrel shotgun (in either the side-by-side or over-under configuration) is the most widely used hunting weapon in Eastern Europe, and is also used extensively in the West. The weapon breaks open at the action and the two rounds are reloaded individually. *Ammo:* 12gauge, *Wt:* 3, *Mag:* 21, *Price:* $200 (V/V).

Pump: Pump action shotguns are widely used in western Europe, and have been widely taken into military use. *Ammo:* 12 gauge, *Wt:* 4 kg, *Mag:* 81, *Price:* $300 (V/C).

HK Combat Assault Weapon: The standard combat shotgun of the German and U.S. Armies (the U.S. weapon being a slightly modified version produced under license by Olin), the Heckler & Koch CAW is a "Bullpup" configuration weapon, like the G11. *Ammo:* 12 gauge, *Wt:* 4, *Mag:* 10, *Price:* $800 (C/R).

Automatic Rifles

M249: The M249 Squad Automatic Weapon (SAW) is the standard U.S. light automatic support weapon. It can accept either the standard 10-shot magazine of the M16A2 or a 50-shot belt. It is equipped with a bipod. *Ammo:* 5.56 N, *Wt: 1* kg, *Mag:* 10 or 50, *Price:* $1,500 (S/R).

LSW: The heavy-barrel support version of the IW, the Light Support Weapon uses the same 10-shot magazine as the IW and is equipped with a bipod. *Ammo:* 5.56 N, *Wt:* 4.5 kg, *Mag:* 10, *Price:* $1,500 (R/R).

RPK-74: The standard Warsaw Pact light automatic support weapon, the RPK-74 can accept either the same magazine as the AK-74 or an oversized 13 shot magazine. *Ammo:* 5.45 B, *Wt:* 4.5 kg, *Mag:* 10 or 13, *Price:* $1,000 (S/C).

Melee Weapons

Knife: Any of a variety of large knives about the size of a kitchen butcher knife. Of limited use as a weapon because of its short reach, but deadly in the right hands. *Wt:* .5 kg, *Price:* $5 (V/V).

Bayonet: A military knife which can either be used while held in the hand or attached to the end of an assault or battle rifle. *Wt:* .5 kg, *Price:* $20 (C/C).

Spear: A short, broad blade mounted on the end of a long wooden shaft. It is a thrusting weapon, awkward to use but useful because of its long reach. Civilians without firearms often use spears as defense against animals. *Wt:* 4 kg, *Price:* $10 (V/V).

Club: A blunt object about half a meter or less in length, used as a bashing instrument. *Wt: 2 kg, Price:* $Free (found on the ground) (V/V).

Hatchet: a short-handled chopping tool used to trim firewood and for other tasks. *Wt: 2* kg, *Price:* $20 (V/V).

Axe: A long shafted heavy chopping instrument. *Wt:* 4 kg, *Price:* $50

Machete: A long-bladed slashing tool used to clear away underbrush. *Wt: 2* kg, *Price:* $50 (C/C(.

Machineguns

M60: The standard U.S. general purpose machinegun, a development of the WWII German MG42. It is equipped with a bipod and can also be fired from a tripod (NLt). It accepts 33-shot belts. *Ammo:* 7.62 N, *Wt:* 10 kg, *Mag:* 33, *Price:* $1,500 (S/R).

MG3: The standard German general purpose machinegun is a slightly improved copy of the wartime MG42. It is equipped with a bipod and can also be fired from a tripod (NMT). It accepts 33-shot belts. *Ammo:* 7.62 N, *Wt: 8* kg, *Mag:* 33, *Price:* $1,500 (S/R).

MAG: The Belgian MAG is the standard general purpose machinegun of the British Army. It is equipped with a bipod and can also be fired from a tripod (NMT). It accepts 33-shot belts. *Ammo:* 7.62 N, *Wt:* 12 kg, *Mag:* 33, *Price:* $1,500 (S/R).

PK: The standard Warsaw Pact medium machinegun usually found mounted on a vehicle. It is equipped with a bipod and can also be fired from a tripod (PLT). It accepts 33-shot belts. *Ammo:* 7.62 L, *Wt:* 10 kg, *Mag:* 33, *Price:* $2,000 (R/S).

Vz 59: The standard medium machinegun of the Czech army, a local design which is equipped with a bipod and can also be fired from a tripod (PLT). It accepts 33-shot belts. *Ammo:* 7.62 L, *Wt:* 9 kg, *Mag:* 33, *Price:* $1,500 (R/R).

Heavy Machineguns

M214: The M214 is a six-barrel gatling gun, fed by a 335-shot drum. It may be fired only from a tripod (NHT) or vehicle mount. *Ammo:* 5.56 N, *Wt:* 20 kg, *Mag:* 335, *Price:* $10,000 (R/R).

M2HB: The M2 Heavy Barrel is the standard heavy machinegun of every western European Army. It accepts 35-shot belts and may be fired only from a tripod (NHT) or from a vehicle mount. *Ammo:* .50 BMG or SLAP, *Wt:* 42 kg, *Mag:* 35, *Price:* $1,600 (V/C).

DShK: The standard heavy machinegun in use by the Warsaw Pact nations. It is usually used on a vehicle mount, but can also be used on a wheeled carriage (PHC) which is treated as a tripod mount. It accepts 17-shot belts. *Ammo:* 12.7 B, *Wt:* 40 kg, *Mag:* 17, *Price:* $2,000 (C/V).

KPV: The KPV is the largest caliber conventional machinegun in service and is virtually a small cannon. It fires a round originally developed for the Soviet RTRS-41 antitank rifle in WWII, and is found mounted only on vehicles. It accepts 17-shot belts. *Ammo:* 14.7 B, *Wt:* 50 kg, *Mag:* 17, *Price:* $3,000 (S/C).

Grenade Launchers

M203: The standard infantry grenade launcher of the U.S and Canadian armies, the M203 is a single-shot launcher which is attached to the bottom of an M16 rifle. *Ammo:* 40mm grenades, *Wt:* 1.4 kg, *Price:* $500 (C/S).

HK-69: The standard infantry grenade launcher of the West German Army, it can be attached to the bottom of any assault or battle rifle or can be used as a separate weapon. *Ammo:* 40mm grenades, *Wt: 2* kg, *Price:* $500 (S/R).

AGS-17: The standard Warsaw Pact infantry support grenade launcher, the AGS-17 is a tripod-mounted (PMT) drum-fed automatic grenade launcher. It may be fired only from its tripod or from a vehicle mount. *Ammo:* 30mm grenades, *Wt:* 18 kg, *Mag:* 30, *Price:* $3,000 (R/S).

Mark-19: The standard infantry support grenade launcher in the United States Army, the Mark-19 is a tripod-mounted (NHT) belt-fed automatic weapon. It may also fire unbelted individual grenades (ROF 1). It may be fired only from a tripod or vehicle mount. *Ammo:* 40mm grenades and 40mm high velocity grenades, *Wt:* 40 kg, *Mag:* 50, *Price:* $5,000 (S/R).

Rocket Launchers

M202: A four-shot clip-fed rocket launcher. Clips may be either incendiary or antitank rockets. *Ammo:* 66mm rockets, *Wt:* 5 kg, *Mag:* 4, *Price:* $2,000 (S/R).

RPG-16: The standard Warsaw Pact antitank rocket launcher. *Ammo:* 58.3mm rockets, *Wt:* 10 kg, *Price:* $1,000 (S/C).

Armbrust: A single-shot, disposable anti-tank rocket launcher. *Wt:* 6 kg, *Price:* $200 (S/R).

Antitank Missile Launchers

Tank Breaker: A man-portable launcher fired from an integral rest, Tank Breaker fires a homing fire-and-forget missile which can be set either to hit the target directly or fly over it and attack from above where the armor is generally thinner. *Wt:* 10 kg, *Price:* $5,000 (S/R).

AT-4: The Warsaw Pact man-portable missile launcher, the AT-4 is fired from an integral tripod. The missile is wire guided and the gunner must continue to aim at the target for the entire flight of the missile. *Wt:* 5 kg, *Price:* $3,000 (S/C).

TOW II: The launcher for the TOW II missile on the M2 Bradley. The launcher may be fired only from the vehicle mount; the missile is wire guided and the gunner must continue to aim at the target for the entire flight of the missile. The launcher cannot be reloaded from inside the vehicle. *Wt:* 30 kg, *Mag: 2, Price:* $10,000 (S/R).

AT-5: The missile launcher on the BMP-B and BMP-C armored personnel carriers. The launcher may be fired only from the vehicle mount; the missile is wire guided and the gunner must aim at the target for the entire flight of the missile. The gunner must open the turret hatch and expose his head, arms, and chest to reload. *Wt:* 15 kg, *Price:* $6,000 (R/S).

Large Caliber Guns

Note: Most large caliber guns are an integral part of a vehicle. Prices and availability are given only for those which are available separately.

23mm Autocannon: A belt-fed automatic cannon mounted on the OT-65. It accepts 33-shot belts. It may be fired only from the vehicle mount.

25mm Autocannon: A belt-fed automatic cannon mounted on the M2-2 and LAV-25. The weapon may have two belts, with two different types of ammunition, loaded simultaneously and may fire from either belt. Neither the 25mm autocannon nor the gunner's machinegun may fire while either belt is being reloaded. The weapon accepts 33-shot belts.

30mm Autocannon: A belt-fed automatic cannon mounted on the BMP-B, BMP-C, and BRDM-3. The weapon accepts 33-shot belts. A six-barrel gatling gun version of the 30mm is used on the ZSU-30-6. Its rate of fire (5) is the number of times each gun can fire per combat round. Thus, if the vehicle fires five times, a total of 30 shots could be fired.

40mm Autocannon: A hopper-fed automatic cannon mounted on the M-988. The M-988 has twin guns. Its rate of fire (5) is

the number of times each gun can fire per combat round. Thus, if the vehicle fires five times, a total of ten shots could be fired. The ammunition hopper for the vehicle may be reloaded while the gun is firing, but only one shot may be placed in the hopper per combat round. The vehicle's hopper holds 233 shots.

75mm Autocannon: A hopper-fed automatic cannon mounted on the LAV-75. The gun has a 36-shot carousel in the bottom of the vehicle hull. If additional rounds are carried in the vehicle, the carousel may be reloaded while the gun is firing, but only one shot may be placed in the carousel per combat round.

105mm Gun: A manually loaded large caliber gun mounted on the M1 tank.

120mm Gun: A large caliber gun mounted on the M1E1 and M1E2 tanks. On the M1E1 it is manually loaded, on the M1E2 it is equipped with an autoloader.

125mm Gun (Rapira-3): A large caliber gun mounted on the T-72, T-80, T-90 tanks and the Rapira-3 towed antitank gun. All three tanks are equipped with autoloaders. On the Rapira-3 the gun is manually loaded. On the T-72 and T-80, the gun automatically goes to maximum elevation while the autoloader is working, and so the gunner may not aim during loading. On the T-90 and the Rapira-3 the gunner may aim during loading. The Rapira-3 has an armor class 1 5 gunshield which provides cover for the gunner and loader if fired at from the front. The Rapira-3 takes 8 combat turns to set up. *Wt (Rapira-3):* 3.5 tons, *Price (Rapira-3):* $50,000 (R/S).

Howitzers

122mm: The howitzer mounted on the SAU-122 self-propelled howitzer and the D-30 towed howitzer. It is manually loaded. The D-30 has an armor class 1 5 gunshield which provides cover for the gunner (but not the loader) if fired at from the front. The D-30 takes 1 2 combat turns to set up. *Wt (D-30):* 3 tons, *Price (D-30):* $50,000 (S/C).

152mm: The howitzer mounted on the SAU-152 self-propelled howitzer. It is manually loaded.

155mm: The howitzer mounted on the M109A2 self-propelled howitzer. It is manually loaded.

Mortars

60mm: Standard light mortar for the U.S. Army. It can be disassembled into three loads (bipod, baseplate, tube) for easier transportation. Individual rounds are dropped down the tube by the loader. Requires two combat turns to set up. *Wt:* 20 kg (bipod 8 kg, baseplate 4 kg, tube 8 kg), *Price:* $5,000 (C/S).

81mm: Standard medium mortar for most western armies. It can be disassembled into three loads (bipod, baseplate, tube) for easier transportation. Individual rounds are dropped down the tube by the loader. Requires 6 combat turns to set up. *Wt:* 40 kg (bipod 15 kg, baseplate 10 kg, tube 15 kg), *Price:* $10,000 (C/S).

82mm Vasilek: Standard medium mortar for the Warsaw Pact, the Vasilek is a clip-fed automatic mortar. May not be disassembled, but is provided with a detachable wheeled carriage to allow it to be towed behind a vehicle. The mortar may not be fired from its carriage. Requires 1 2 combat turns to set up. *Wt:* 80 kg (carriage weighs 50 kg), *Mag:* 5, *Price:* $20,000 (R/S).

4.2": Standard heavy mortar for the U.S. Army. Can be disassembled into three loads (monopod, baseplate, tube) for easier transportation. Individual rounds are dropped down the tube by the loader. Requires 12 combat turns to set up. *Wt:* 300 kg (monopod 80 kg, baseplate 100 kg, tube 120 kg), *Price:* $12,000 (C/S).

120mm: Standard heavy mortar for the Warsaw Pact and most western European armies. It can be disassembled into three loads (bipod, baseplate, tube) for easier transportation. A wheeled carriage is also provided to allow the assembled weapon to be towed behind a vehicle. The mortar may not be fired from its carriage. Individual rounds are dropped down the tube by the loader. Requires 12 combat turns to set up. *Wt:* 280 kg (bipod: 70 kg, baseplate 90 kg, tube 120 kg, wheeled carriage weighs 240 kg), *Price:* $15,000 (C/C).

Tripods

With the exception of the AT-4, a tripod for a weapon must be purchased separately.

NLT (Nato Light Tripod): Accepts M60 and MG3. *Wt: 7* kg, *Price:* $200 (C/S).

NMT (Nato Medium Tripod): Accepts MAG. *Wt:* 10 kg, *Price:* $200 (S/R).

NHT (Nato Heavy Tripod): Accepts M214, M2HB, Mark-19. *Wt:* 22 kg, *Price:* $350 (C/S).

PLT (Pact Light Tripod): Accepts PK, Vz 59. *Wt:* 10 kg, *Price:* $250 (S/C).

PMT (Pact Medium Tripod): Accepts AGS-17. *Wt:* 12 kg, *Price:* $300 (S/C).

PHC (Pact Heavy Carriage): Accepts DShK. *Wt:* 100 kg, *Price:* $1000 (R/S).

Ammunition

Small Arms & Machinegun

Weights per magazine include weight of magazine. Magazines are purchased separately and cost $1 per shot of capacity, except the 335-shot drum for 5.56 N.

Longbow Arrow: *Wt:* 3 kg per 24, ***Price:*** $50 per 24 (C/C).

Crossbow Bolt: *Wt:* 3 kg per 24, *Price:* $30 per 24 (C/C).

4.7 CIs (4.7x21mm Caseless): *Wt:* 10 kg per case of 600, 1 kg per 32-shot magazine, *Price:* $1300 per case (S/R).

5.45 B (5.45x39mm Bloc): *Wt:* 10 kg per case of 280, 0.5 kg per 10-shot magazine, 0.6 kg per 13-shot magazine, *Price:* $100 per case (C/V).

5.56 N (5.56x45mm NATO): *Wt:* 10 kg per case of 280 or 250 belted, 0.5 kg per 10-shot magazine, 2 kg per 50-shot belt, 1 5 kg per 335-shot drum, *Price:* $ 100 per case, $200 per drum (magazine included) (V/C).

.22 LR (5.7x17mmR Long Rifle): *Wt:* 20 kg per case of 1,600, 0.1 kg per 3-shot magazine, *Price:* $225 per case (C/S).

7.62 T (7.62x25mm Tokarev): *Wt:* 35 kg per case of 840, .2 kg per 3-shot magazine, .6 kg per 11-shot magazine, *Price:* $250 per case (R/S).

7.62 S (7.62x39mm Short): *Wt:* 10 kg per case of 220, 1 kg per 10-shot magazine, Price: $80 per case (S/C).

.30-30 (7.62x51mmR): *Wt:* 20 kg per case of 300, 1 5 loose shots per kilogram, *Price:* $170 per case (C/S).

7.62 N (7.62x51 mm NATO): *Wt:* 1 5 kg per case of 200, .75 kg per 7-shot magazine, 3 kg per 33-shot belt, *Price:* $65 per case (C/S).

7.62 L (7.62x54mmR Long): *Wt:* 1 5 kg per case of 200 or 165 belted, 0.3 kg per 3-shot magazine, 3 kg per 33-shot belt, *Price:* $70 per case (S/C).

.30-06 (7.62x63mm): *Wt:* 1 5 kg per case of 1 50, 35 loose shots per kilogram, *Price:* $80 per case (S/R).

.32 ACP (7.65x17mmSR): *Wt:* 20 kg per case of 800,

0.4 kg per 7-shot magazine, *Price:* $150 per case (S/S).

8mm M (7.92x57mm Mauser): *Wt:* 10 kg per case of 100, 0.2 kg per 2-shot magazine, *Price:* $30 per case (S/S).

.380 AGP (9x17mm): *Wt:* 1 5 kg per case of 480, 0.1 kg per 3-shot magazine, *Price:* $125 per case (C/S).

9mm M (9x18mm Makarov): *Wt:* 15 kg per case of 480, 0.1 kg per 3-shot magazine, *Price:* $200 per case (S/C).

9mm P (9x19mm Parabellum): *Wt:* 15 kg per case of 480, 0.2 kg per 5-shot, 0.5 kg per 10-shot, 0.6 kg per 11-shot magazine, *Price:* $225 per case (V/C).

.38 Special (9x29mmR): *Wt:* 1 5 kg per case of 300 (65 loose shots per kilogram), *Price:* $175 per case (S/R).

.45 ACP (11.43x23mm):*Wt*: 20 kg per case of 300, .3 kg per 2-shot magazine. *Price:* $63 per case (S/R).

12.7 B (12.7x83mmR Bloc): *Wt:* 25 kg per case of 34 belted, 11 kg per 1 7-shot belt, *Price:* $35 per case (S/C).

.50 BMG (12.7x99mm): *Wt:* 15 kg per case of 35, belted, 13 kg per 35-shot belt, *Price:* $35 per case (C/S).

.50 SLAP (12.7x99mm Saboted Light Armor Piercing): *Wt:* 1 5 kg per case of 35, belted, 13 kg per 35-shot belt, *Price:* $60 per case (S/R).

14.5 B (14.5x114mm Bloc): *Wt:* 30 kg per case of 33, belted, 25 kg per 33-shot belt, *Price:* $30 per case (S/C).

12 Gauge (12 Gauge All-brass): *Wt:* 1 5 kg per case of 240, 1 kg per 10-shot magazine, (15 loose shots per kilogram), $100 per case (C/C).

Types of Rounds

Large caliber gun and grenade rounds come in several types, explained below. Each weapon can fire one or more of these types.

API (Armor Piercing Incendiary): A nearly solid round containing a small amount of incendiary material in the base. Primarily used against armored vehicles.

HE (High Explosive): A high explosive round is a hollow casing containing an explosive compound. Set to detonate on impact or at a selected altitude, it is useful against infantry and some larger targets. It is the least expensive (and thus most common) indirect fire round used.

HEPXPF (High Explosive Proximity Fused Pre-Fragmented): A sophisticated air defense round also useful against personnel on the ground. It is a high explosive round with a reservoir of tungsten pellets which become lethal fragments when the round is detonated. When used against aircraft the proximity fuse detonated the round when it approached within 6 meters of the aircraft.

HEAT (High Explosive Anti-Tank): A hollow shell filled with explosive compound. An inverted cone in the nose of the shell directs the explosive force forward into a high energy jet of super-heated gas and molten metal, reducing the effectiveness of the round against soft targets but vastly increasing it against armor.

APFSDS (Armor Piercing Fin Stabilized Discarding Sabot): The round consists of a sub-caliber finned penetrator (usually made of tungsten) surrounded by a full-bore aluminum sabot (pronounced SAY-bo) in several pieces. Once the round leaves the barrel, the sabot falls away. The combination of a large propelling charge and a small diameter penetrator results in very high muzzle velocity and armor penetration.

APFSDSDU (Armor Piercing Fin Stabilized Discarding Sabot Depleted Uranium): Essentially the same as an APFSDS round, but with a penetrator made of depleted uranium. The density and hardness of the DU penetrator increases the ability of the round to penetrate armor considerably. Depleted uranium is spent reactor fuel, and contains little or no U-235. It is not dangerously radioactive.

HEDP (High Explosive Dual Purpose): A hollow round containing an explosive compound filler with a shaped charge director in the nose to provide the round with an enhanced armor penetrating capability.

ICM (Improved Conventional Munitions): A hollow round filled with grenades. The round bursts in the air and scatters grenades over a large area. It is very effective against infantry.

ICM-DP (Improved Conventional Munitions, Dual Purpose): Similar to ICM, the ICM-DP round contains shaped charge grenades which have an improved effectiveness against armored targets, provided they achieve a direct hit.

WP (White Phosphorus): A hollow round filled with white phosphorus. Upon detonation, it scatters burning white phosphorus throughout its burst radius. WP rounds also generate thick white smoke.

CHEM (Chemical): A hollow shell which, upon landing, burns and releases a gas or smoke. The most common chemical is hexachloroethane (HC) smoke, and all prices below are based on that round. Rounds may also be filled with irritant gas (double price), blood agent poisonous gas (triple price) or nerve gas (quadruple price). In all cases, the chemical cloud will cover an area the width of the burst area and four times as long as the burst area. The cloud will originate at the impact point of the round and stretch down wind.

ILLUM (Illumination): A hollow round containing a parachute flare which will illuminate the area defined by the round's burst radius for two combat turns (one minute).

CLGP (Cannon Launched Guided Projectile): A high explosive round which homes on the reflection of a laser target designator. If a laser target designator is aimed at a vehicle or building, the round has a 90% chance of a direct hit.

FASCAM (Family of Scatterable Mines): A hollow round containing antitank and antipersonnel mines. The round bursts in the air and scatters mines over an area 100 meters in radius from the burst point.

Powder Charges: Most guns use a round which consists of both the projectile and a brass casing with propellant. The 125mm gun and all howitzers fire a round consisting of a projectile and a separate powder charge. One powder charge is consumed for each projectile fired.

HAND GRENADES

Fragmentation: The grenade, upon exploding, scatters metal fragments throughout its burst radius. *Wt:* 0.5 kg, 30 kg per case of 30, *Price:* $4 each, $100 per case (C/C).

Chemical: Same as a chemical round for large caliber guns. Two types are available: HC smoke and irritant gas. *Wt:* .5 kg, 16 kg per case of 16, *Price:* $3 each, $40 per case for smoke, double prices for irritant (smoke C/S, irritant S/R).

Anti-tank: The grenade is designed to explode on impact. It contains a shaped charge, and is stabilized by fins so that the grenade flies with the shaped charge pointing forward. *Wt:* 1 kg, 25 kg per case of 15, *Price:* $10 each, $120 per case (R/S).

Concussion: The grenade consists of explosive filler in a cardboard container. Upon explosion it will knock people down, but causes no lethal fragmentation. *Wt:* .5 kg, 20 kg per case of 20, *Price:* $4 each, $70 per case (C/S).

Thermite: The grenade has little blast or fragmentation, but

burns with intense heat. *Wt:* 1 kg, 20 kg per case of 16, *Price:* $10 each, $140 per case (S/R).

WP: The grenade scatters incendiary fragments throughout its burst radius and burns with intense heat. *Wt:* 1 kg, 20 kg per case of 16, *Price:* $20 each, $280 per case (S/S).

Grenade Launcher Rounds

30mm HE: Fired from an AGS-17 grenade launcher. *Wt:* 0.35 kg, 10 kg per 29-round drum. *Price:* $3 each, $75 per drum (R/C).

40mm HE: Fired from the M203, HK-69, or Mk-19 grenade launcher. *Wt:* 0.3 kg, 25 kg per case of 72, *Price:* $4 each, $200 per case (C/S).

40mm HEDP: Fired from the M203, HK-69, or Mk-19. *Wt:* 0.3 kg, 25 kg per case of 72, *Price:* $5 each, $250 per case (S/R).

40mm CHEM: Irritant gas only. Fired from the HK-69, M203, or Mk-19. *Wt:* 0.3 kg, 25 kg per case of 44, *Price:* $4 each, $150 per case, (S/R).

40mm ILLUM: Fired from the HK-69, M203, or Mk-19. *Wt:* 0.2 kg, 20 kg per case of 44, *Price:* $6 each, $225 per case (S/R).

40mm HVHE: Fired only from the Mk-19 grenade launcher, the round is a standard HE round with a larger propelling charge for greater range. *Wt:* 0.4 kg, 20 kg per 50-shot belt, 25 kg per case of 50 belted, *Price:* $6 each, $250 per case (S/R).

40mm HVHEDP: Fired only from the Mk-19 grenade launcher, this is a standard HEDP round with a larger propelling charge. *Wt:* 0.4 kg, 20 kg per 50-shot case, 25 kg per case of 50 belted, *Price:* $10 each, $400 per case (S/R).

Rockets

58.3mm HEAT: Fired from the RPG-16 rocket launcher. *Wt:* 3 kg, 10 kg per case of 3, *Price:* $50 each, $125 per case (R/S).

66mm HEAT: Fired from the M202 rocket launcher. *Wt: 7* kg per 4-round clip, *Price:* $250 per clip (S/R).

66mm WP(: Fired from the M202 rocket launcher. *Wt:* 7 kg per 4-round clip, *Price:* $400 per clip (S/R).

Rifle Grenades

HEAT: Fired from any battle rifle or assault rifle. *Wt:* 0.7 kg, 20 kg per 10-round case, *Price:* $12, $100 per case (S/R).

WP: Fired from any battle rifle or assault rifle. *Wt:* 0.7 kg, 20 kg per case of 10, *Price:* $25 each, $200 per case (S/R).

140mm Rifle Assault Weapon (RAW) HE: A rocket-propelled grenade which can be fired from any assault rifle which fires 5.56 N ammunition. *Wt:* 3 kg, *Price:* $50 each (S/R).

140mm Rifle Assault Weapon (RAW) HEAT: As above, but with a HEAT warhead *Wt:* 3 kg, *Price:* $100 each (S/R).

Antitank Missiles

Tank Breaker: Fired from a Tank Breaker launcher. A self-guiding missile with a HEAT warhead. *Wt:* 10 kg, *Price:* $1000 each (S/R).

TOW II: Fired from the TOW launcher on the M2 Bradley. A wire-guided missile with a HEAT warhead. *Wt:* 20 kg, *Price:* $1500 (S/R).

AT-4: Fired from the AT-4 launcher. A wire-guided missile with a HEAT warhead. *Wt: 7* kg, *Price:* $750 (R/S).

AT-5: Fired from the AT-5 launcher on the BMP-B and BMP-C. A wire-guided missile with a HEAT warhead. *Wt:* 8 kg, *Price:* $1200 (R/S).

Large Caliber Rounds

23mm API: *Wt:* 100 kg per case of 33, belted. *Price:* $500 per case (S/C).

23mm HE: *Wt:* 100 kg per case of 33, belted, *Price:* $500 per case (S/C).

25mm API: *Wt:* 100 kg per case of 33, belted, *Price:* $650 per case (C/S).

25mm HE: *Wt:* 100 kg per case of 33, belted, *Price:* $650 per case (C/S).

25mm APFSDSDU: *Wt:* 100 kg per case of 33, belted, *Price:* $2500 per case (S/R).

30mm API: *Wt:* 25 kg per case of 33, belted, *Price:* $750 per case (S/C).

30mm HE: *Wt:* 25 kg per case of 33, belted, *Price:* $750 per case (S/C).

40mm HE: *Wt:* 50 kg per case of 64, *Price:* $6000 per case (C/S).

40mm HEPXPF: *Wt:* 200 kg per case of 64, *Price:* $8,000 per case (R/R).

75mm HE: *Wt:* 10 kg, *Price:* $250 (C/S).

75mm WP: *Wt:* 10 kg, *Price:* $500 10 kg (R/R).

75mm APFSDS: *Wt:* 10 kg, *Price:* $600 (S/R).

105mm HEAT: *Wt:* 25 kg, *Price:* $600 (C/S).

105mm APFSDS: *Wt:* 25 kg, *Price:* $600 (S/R).

105mm APFSDSDU: *Wt:* 25 kg, *Price:* $1000 (R/R).

105mm WP: *Wt:* 25 kg, *Price:* $1000 (R/R).

120mm HEAT: *Wt:* 50 kg, *Price:* $800 (C/S).

120mm APFSDS: *Wt:* 50 kg, *Price:* $800 (S/R).

120mm APFSDSDU: *Wt:* 50 kg, *Price:* $1500 (R/R).

120mm WP: *Wt:* 50 kg, *Price:* $1000 (R/R).

125mm HE: *Wt:* 40 kg, *Price:* $800 (S/C).

125mm HEAT *Wt:* 40 kg, *Price:* $800 (R/S).

125mm APFSDS *Wt:* 40 kg, *Price:* $800 (S/R).

125mm APFSDSDU: *Wt:* 40 kg, *Price:* $1500 (R/R).

125mm Powder charge: *Wt:* 25 kg, *Price:* $80 (S/C).

Howitzer Rounds

122mm HE: *Wt:* 25 kg, *Price:* $350 (S/C).

122mm HEAT: *Wt:* 25 kg, *Price:* $500 (R/S).

122mm ICM *Wt:* 25 kg, *Price:* $2000 (R/R).

122mm WP *Wt:* 25 kg, *Price:* $700 (R/S).

122mm CHEM *Wt:* 25 kg, *Price:* $350 (R/S).

122mm ILLUM *Wt:* 25 kg, *Price:* $350 (R/R).

122mm Powder Charge *Wt:* 10 kg, *Price:* $40 (C/V).

152mm HE *Wt:* 50 kg, *Price:* $500 (S/C).

152mm HEAT *Wt:* 50 kg, *Price:* $750 (R/S).

152mm ICM *Wt:* 50 kg, *Price:* $3000 (R/R).

152mm WP *Wt:* 50 kg, *Price:* $1000 (R/S).

152mm CHEM *Wt:* 50 kg, *Price:* $500 (R/S).

152mm ILLUM *Wt:* 50 kg, *Price:* $500 (R/R).

152mm Powder Charge *Wt:* 25 kg, *Price:* $60 (C/V).

155mm HE each, *Wt:* 50 kg, *Price:* $500 (C/S).

155mm HEAT *Wt:* 50 kg, *Price:* $750 (C/S).

155mm ICM-DP *Wt:* 50 kg, *Price:* $3000 (R/R).

155mm WP *Wt:* 50 kg, *Price:* $1000 (S/R).

155mm CHEM *Wt:* 50 kg, /V/ce: $500 (S/R).

155mm ILLUM Wf/ 50 kg, *Price:* $500 (S/R).

155mm CLGP *Wt:* 50 kg, /V/ce: $5000 (R/R).

155mm FASCAM Wf/ 50 kg, *Price:* $5000 (R/R).

155mm Powder Charge *Wt:* 25 kg, *Price:* $60 (V/C).

Mortar Rounds

60mm HE: *Wt:* 25 kg per case of 1 2, *Price:* $300 per case (C/S).

60mm WP: *Wt:* 25 kg per case of 12. *Price:* $600 per case (S/R).

60mm ILLUM: *Wt:* 25 kg per case of 12, *Price:* $300 per case (S/R).

81mm HE: *Wt:* 25 kg case of 3, *Price:* $150 per case (C/S).

81mm WP: Wf: 25 kg case of 3, *Price:* $300 per case (S/R).

81mm ILLUM: *Wt:* 25 kg per case of 3, *Price:* $150 (S/R).

82mm HE: Wf: 50 kg per 5-round clip, *Price:* $300 per clip (S/C).

82mm HEDP: *Wt:* 50 kg per 5-round clip, *Price:* $600 per clip (R/S).

82mm WP: lW: 25 kg per case of 3, *Price:* $300 per case (R/S).

82mm ILLUM: *Wt:* 25 kg per case of 3, *Price:* $ 1 50 per case (R/S).

4.2 Inch HE: Wf: 35 kg per case of 2, *Price:* $200 per case (C/S).

4.2 Inch ICM-DP: *Wt*: 35 kg per case of 2, *Price:* $2000 per case (R/R).

4.2 Inch WP: Wf: 35 kg per case of 2. *Price:* $400 per case (S/R).

4.2 Inch CHEM: *Wt:* 35 kg per case of 2, *Price:* $200 per case (S/R).

4.2 Inch ILLUM: *Wt:* 35 kg per case of 2 *Price:* $200 per case (S/R).

120mm HE: *Wt:* 50 kg per case of 2. *Price:* $200 per case (V/V).

120mm WP: *Wt:* 50 kg per case of 2, *Price:* $400 per case (S/S).

120mm CHEM: *Wt:* 50 kg per case of 2, *Price:* $250 per case (S/S).

120mm ILLUM *Wt:* 50 kg per case of 2, *Price:* $200 per case (S/R).

VEHICLES

Notes: *Price:* includes all weapons listed under Armament, all ammunition listed under Ammo, and one full load of fuel; *RF:* rangefinder bonus; *Armament:* the weapon or weapons with which the vehicle is normally equipped, included in the vehicle price (MG = machinegun, GL = grenade launcher); *Ammo:* the amount of ammunition carried in ammunition stores (additional ammo may be purchased and carried, but it counts as cargo); *Tr Mov:* travel move; *Com Mov:* combat move; *Fuel cap:* fuel capacity, in liters; *Fuel cons:* fuel consumption rate, in liters of gasoline per period; *Fuel Type:* types of fuel which the vehicle can use (G = gasoline, AvG:aviation gasoline, D = diesel, A = alcohol—methanol and ethanol); *Load:* the vehicle's interior cargo capacity; *Veh Wt:* the vehicle's gross weight, including ammo and fuel but not cargo; *Mnt:* Maintenance number; *Crew:* (number of crew) + (number of passengers).

Weapons Mounts: Most weapons are fired by the vehicle's gunner. Weapons fired by other crewmembers are mounted in weapons mounts. A weapons mount will accept any machinegun or the AGS-17 or Mk-19 grenade launcher; most mounts have a weapon in them already, but this may be removed at will. The entry for each vehicle explains the location of its weapons mounts (if any) and who fires it (C = commander, P = passenger).

Firing Ports: Firing ports are small doors in the sides of some vehicles, to permit passengers to fire certain small arms while inside. The following limitations apply: only assault rifles, battle rifles, submachineguns, and sporting rifles may be used in firing ports. Drivers and gunners may not use firing ports, but all other crewmembers may (one each). Range is limited to close.

Unarmored Cargo Vehicles

Bicycle: A rugged, military model. Bicycles are among the few vehicles still being manufactured in any quantity. *Tr Mov:* 60/20, *Com Mov:* 20/10, *Wt:* 15 kg, *Price:* $1000 (V/V).

Civilian Car: One of a variety of makes and models of light passenger cars. *Price:* $6,000 (V/V) *Tr Mov:* 200/30 *Com Mov:* 70/1 5 *Fuel cap:* 80 *Fuel cons:* 20 *Fuel Type:* G, A *Load:* 0.5 tons *Veh Wt:* 1 ton *Mnt: 2 Crew:* 2 + 3

HMMWV (Hum-Vee): The letters stand for High Mobility Multipurpose Wheeled Vehicle. It is a four-wheel drive off-road vehicle designed as a light scout, utility, and cargo vehicle, and has replaced the Jeep in U.S. service. It has a weapons mount (C) above the commander's seat; however, no weapon is provided. *Price:* $20,000 (C/S) *Tr Mov:* 200/60 *Com Mov:* 70/25 *Fuel cap:* 90 *Fuel cons:* 30 *Fuel Type:* D, G, A *Load:* 1.25 tons *Veh Wt: 2* tons *Mnt: 2 Crew:* 2 + 4

UAZ-469: The Warsaw Pact equivalent of the jeep or 3/4-ton truck, the UAZ-469 is a light wheeled utility vehicle. It has a weapons mount (P) on a post behind the front seat; however, no weapon is provided. *Price:* $8,000 (S/C) *Tr Mov:* 200/40 *Com Mov:* 70/25 *Fuel cap:* 60 *Fuel cons:* 20 *Fuel Type: G,* A *Load:* 0.5 tons *Veh Wt:* 1.6 tons *Mnt: 2 Crew:* 2 + 3

Motorcycle: One of a variety of rugged off-road dirt bikes used primarily for scouting. *Price:* $5,000 (V/V) *Tr Mov:* 190/75 *Com Mov:* 65/30 *Fuel cap:* 16 *Fuel cons: 8 Fuel Type: G,* A, AvG *Load:* 300 kg *Veh Wt:* 1 56kg *Mnt: 2 Crew:* 1 + 1

2 1/2-ton truck: A standard 6x6 cargo truck with moderate cross-country performance and capable of carrying 2 1/2 tons or cargo or an equivalent load of passengers. *Price:* $15,000 (C/C) *TrMov:* 180/35 *Com Mov:* 60/1 5 *Fuel cap:* 195 *Fuel cons:* 65 *Fuel Type:* D, A *Load:* 2.5 tons *Veh Wt:* 4 tons *Mnt:* 4 *Crew: 2*

5-ton truck: A standard 4x6 cargo truck with limited off-road performance and capable of carrying 5 tons of cargo or an equivalent load of passengers. *Price:* $20,000 (S/S) *Tr Mov:* 160/15 *Com Mov:* 55/10 *Fuel cap:* 280 *Fuel cons:* 70 *Fuel Type:* D, A *Load:* 5 tons *Veh Wt:* 5 tons *Mnt:* 4 *Crew: 2*

8-ton truck: A standard 4x6 cargo truck with limited off-road performance and capable of carrying 8 tons of cargo or an equivalent load of passengers. *Price:* $30,000 (S/S) *Tr Mov:* 100/10 *Com Mov:* 35/10 *Fuel cap:* 450 *Fuel cons:* 1 50 *Fuel Type:* D, A *Load:* 8 tons *Veh Wt: 7* tons *Mnt:* 4 *Crew: 2*

3/4-ton truck: A civilian type 4x4 pickup truck used for military service. It can carry 3/4 ton of cargo or an equivalent load of passengers. *Price:* $ 10,000 (S/S) *TrMov:* 180/35 *Com Mov:* 60/20 *Fuel cap:* 90 *Fuel cons:* 30 *Fuel Type:* G, A, AvG *Load:* 750 kg *Veh Wt: 2* tons *Mnt: 2 Crew: 2*

Wagon: A large bed wagon drawn by either two or four horses (or oxen). Four are required in hills or difficult terrain, two on roads. (If oxen are used, speed is halved and load doubled.) *Price:* $1,000 (V/V) *Tr Mov:* 20/5 *Com Mov:* 10/5 *Load:* 1 ton *Veh Wt:* 0.5 ton *Crew:* 1

Cart: A two-wheel cart drawn by one animal. If in hills or difficult country, the maximum load is halved. There is no provision made for harnessing a second animal to the cart. (If oxen are used, speed is halved and load doubled.) *Price:* $500 (V/V),

Tr Mov: 20/5 *Com Mov:* 10/5 *Load:* .5 ton *Veh Wt:* 0.25 ton *Crew:* 1

5,000-liter (5-ton) tank truck: A 5-ton truck with the cargo bed replaced with a 5,000-liter sealed tank for transportation of bulk liquids. *Price:* $1 5,000 (C/C) *Tr Mov:* 160/1 5 *Com Mov:* 55/10 *Fuel cap:* 280 *Fuel cons:* 70 *Fuel Type:* D, A *Load:* 5,000 lt. *Veh Wt:* 5 tons *Mnt:* 4 *Crew:* 2

10,000-liter (10-ton) tank truck: A heavy cargo truck with the cargo bed replaced with a 10,000-liter sealed tank. *Price:* $25,000 (S/S) *TrMov:* 100/10 *Com Mov:* 35/10 *Fuel cap:* 450 *Fuel cons:* 1 50 *Fuel Type:* D, A *Load:* 10,000 lt. *Veh Wt:* 8.5 tons *Mnt:* 4 *Crew: 2*

1 -ton cargo trailer: A small two-wheel cargo trailer which can be towed behind any motor vehicle (except a motorcycle). *Price:* $1,000 (V/V) *Load:* 1 ton *Veh Wt:* 0.5 ton

1,000-liter (1-ton) tank trailer: Identical to the 1-ton cargo trailer, the tank trailer has had the cargo bed replaced with a 1,000-liter sealed tank for transportation of bulk liquid. *Price:* $1,000 (V/V) *Load:* 1,000 liters *Veh Wt:* 0.5 ton

Armored Personnel Carriers

M2 Bradley: A tracked, amphibious infantry fighting vehicle. Main entrance to the passenger compartment is by two large hinged doors in the rear of the vehicle. There is also a driver's hatch on the left front hull deck and hatches for the commander and gunner on top of the turret. There are two firing ports on the left, two on the right, and two on the rear. These firing ports will accept only the M231 submachinegun, and the M231 can fire to extreme range. *Price:* $200,000 (S/R) *RF:* +15 *Armament:* 25mm Autocannon, twin TOW launcher, MAG MG, 6xM231 *Ammo:* 300 x 25mm, 7 x TOW II *Tr Mov:* 140/85 *Com Mov:* 50/35 *Fuel cap:* 650 *Fuel cons:* 200 *Fuel Type:* D, A *Load:* 1.5 tons *Veh Wt:* 20 tons *Mnt:* 8 *Crew:* 3 + 7

M113: A tracked, amphibious armored personnel carrier. There is a hatch on the left front deck for the driver, a hatch in the center of the deck for the commander, which has a weapons mount (C), a large rear drop ramp for access to the vehicle interior, and a large rectangular hatch on the rear deck. There are two other weapons mounts (P): one on either side of the large rear deck hatch, used by passengers standing up in the open large hatch; however, no weapons are provided. *Price:* $75,000 (S/R) *Armament:* M2HB MG (C) *Ammo:* as cargo *TrMov:* 1 20/70 *Com Mov:* 40/30 *Fuellcap:* 360 *Fuel cons:* 1 20 *Load: 2* tons *Veh Wt:* 11 tons *Fuel Type:* D, A *Crew:* 2+11 *Mnt:* 6

BMP-B: One of the standard Warsaw Pact tracked, amphibious armored personnel carriers. Main access to the vehicle interior is by a drop ramp in the vehicle rear. There is a driver's hatch on the left front deck, a commander's hatch behind it, a gunner's hatch on top of the turret, and two long oval-shaped hatches on the rear deck for the passengers. There are three rifle firing ports and one machinegun firing port on each side of the vehicle. The machinegun firing port will accept any battle rifle, assault rifle, or the PK machinegun. *Price:* $1 50,000 (R/S) *RF:* + 5 *Armament:* 30mm Autocannon, AT-5 launcher, PK MG *Ammo:* 200 x 30mm, 3 x AT-5 *Tr Mov:* 1 20/70 *Com Mov:* 40/30 *Fuel Cap:* 440 *Fuel Cons:* 110 *Load:* 1.5 tons *Veh Wt:* 12.5 tons *Fuel Type:* D, G, AvG, A *Crew:* 3 + 8 *Mnt:* 12

BMP-C: Another tracked, amphibious armored personnel carrier, the BMP-C is an upgraded model of the BMP-B, and has an identical layout and configuration. *Price:* $175,000 (R/S) *RF:* + 15 *Armament:* 30mm autocannon, PK MG, AGS-17 GL, AT-5 launcher *Ammo:* 200 x 30mm, 3 x AT-5, 100 x 30mm grenades *TrMov:* 1 30/80 *Com Mov:* 45/30 *Fuel cap:* 520 *Fuel cons:* 1 30 *Fuel Type:* D, G, A, AvG *Load:* 1.5 tons *Veh Wt:* 1 3 tons *Mnt:* 1 2 *Crew:* 3 + 8

BTR-70: An 8-wheeled amphibious armored personnel carrier. The BTR-70 has a side door and roof hatch for both the driver and commander, and a hatch in the deck of the turret for the gunner. There are large overhead hatches for the passengers on the vehicle deck. There are three firing ports on each side of the vehicle. *Price:* 75,000 (S/C) *RF:* none *Armament:* KPV MG *Ammo:* as cargo *TrMov:* 1 60/65 *Com Mov:* 55/25 *Fuel cap:* 290 *Fuel cons:* 80 *Fuel Type:* D, A *Load:* 2.5 tons *Veh Wt:* 10 tons *Mnt:* 6 *Crew:* 3+14

OT-64: An 8-wheeled amphibious armored personnel carrier jointly developed by the Czech and Polish armies, the OT-64 is used by the Czechs and Poles instead of the BTR-70. OT-64s were also used by the East German Army, but few are still serviceable due to a shortage of spare parts. It is identical in layout to the BTR-70. *Price:* 80,000 (S/C) *RF:* none *Armament:* KPV MG *Ammo:* as cargo *Tr Mov:* 1 80/70 *Com Mov:* 60/30 *Fuel Type:* D, A *Fuel cap:* 290 *Fuel cons:* 70 *Load:* 3 tons *Veh Wt:* 14 tons *Crew:* 3+15 *Mnt:* 6

Light Combat Vehicles

LAV-25: An 8-wheeled amphibious armored personnel carrier/scout vehicle based on the Mowag Piranha (an 8-wheeled armored car). There is a driver's hatch on the left front deck, hatches for the gunner and commander on the turret deck, and two large hinged doors on the rear of the vehicle. There are three firing ports on each side of the vehicle. *Price:* $100,000 (S/R) *RF:* +15 *Armament:* 25mm autocannon, MAG MG *Ammo:* 297 x 25mm *Tr Mov:* 180/70 *Com Mov:* 60/25 *Fuel cap:* 290 *Fuel cons:* 70 *Fuel Type:* D, A *Load: 2* tons *Veh Wt:* 1 2 tons *Mnt:* 6 *Crew:* 3 + 8

LAV-75: A light tank based on the suspension and drive train of the M113 armored personnel carrier with a more powerful engine and a remote turret. The driver's hatch is on the left front deck, gunner's hatch on the right front deck, and commander's hatch on the turret deck. *Price:* $250,000 (R/R) *RF:* +40 *Armament:* 75mm Autocannon, MAG MG *Ammo:* 36 x 75mm *Tr Mov:* 160/95 *Com Mov:* 55/40 *Fuel cap:* 520 *Fuel cons:* 130 *Fuel Type:* D, G, A, AvG *Load:* .5 ton *Veh Wt:* 1 5 tons *Mnt:* 10 *Crew:* 3

BRDM-3: A four-wheel armored scout car, the BRDM-3 has four additional retractable wheels which can be lowered to improve off-road performance. There is a driver's hatch and commander's hatch on the front deck and a gunner's hatch on the turret deck. *Price:* $50,000 (S/C) *RF:* +5 *Armament:* 30mm autocannon, PK MG *Ammo:* 100 x 30mm *TrMov:* 200/60 *Com Mov:* 70/25 *Fuel cap:* 290 *Fuel cons:* 80 *Fuel Type:* G, AvG, A *Load:* 600kg *Veh Wt:* 8 tons *Mnt:* 4 *Crew:* 4

OT-65: An independent development by the Hungarian Army, the OT-65 is an amphibious 4-wheeled armored scout car. It is used in place of the BRDM-3 by Poland, Hungary, Czechoslovakia, and Bulgaria. It has a side door on each side of the car and a hatch on the turret deck for the gunner. *Price:* $45,000 (S/C) *RF:* + 5 *Armament:* 23mm autocannon, PK MG *Ammo:* 1 50 x 23mm *Tr Mov:* 200/60 *Com Mov:* 70/25 *Fuel cap:* 290 *Fuel cons:* 80 *Load:* 700 kg *Veh Wt:* 8 tons *Fuel Type:* D, A *Crew:* 4 *Mnt:* 4

Main Battle Tanks

M1: A tracked main battle tank with a large turret. There is a driver's hatch in the center of the front deck, and a commander's and loader's hatch on the turret deck. The tank's gunner uses the commander's hatch. A weapons mount (C) is located by the commander's hatch. *Price:* $600,000 (R/R) *RF:* +40 *Armament:* 105mm gun, MAG MG, M2HB MG (C) *Ammo:* 55 x 105mm *Tr Mov:* 140/110 *Com Mov:* 50/40 *Fuel cap:* 1920 *Fuel cons:* 560 *Load:* 700 kg *Fuel Type:* D, G, AvG, A *Veh Wt:* 54 tons *Mnt:* 14 *Crew:* 4

M1E1: Essentially the same tank as the M1 but with a larger (120mm) gun. *Price:* $650,000 (R/R) *RF:* +40 *Armament:* 120mm gun, MAG MG, M2HB MG (C) *Ammo:* 40 x 120mm *Tr Mov:* 140/110 *Com Mov:* 45/35 *Fuel cap:* 1 920 *Fuel cons:* 560 *Fuel Type: D, G,* AvG, A *Load:* 700 kg *Veh Wt:* 55 tons *Mnt:* 14 *Crew:* 4

M1E2: An M1 with a slightly higher superstructure and a small casemate (unmanned) turret. The commander, gunner, and driver ride in the vehicle chassis and the gun is remotely controlled and automatically loaded. The driver and gunner each have a hatch on the front deck and the commander's hatch is on the turret deck. A weapons mount (C) is located by the commander's hatch. *Price:* $700,000 (R/R) *RF:* +40 *Armament:* 120mm gun, MAG MG, M2HB MG (C) *Ammo:* 40 x 120mm *Tr Mov:* 130/100 *Com Mov:* 50/40 *Fuel cap:* 1 920 *Fuel cons:* 560 *Fuel Type:* D, G, AvG, A *Load:* 700 kg *Veh Wt:* 55 tons *Mnt:* 14 *Crew:* 3

T-72: A tracked main battle tank. There is a driver's hatch on the middle front deck and a gunner's hatch and commander's hatch on the turret deck. The gun is automatically reloaded. A weapons mount is located by the commander's hatch. *Price:* $400,000 (R/R) *RF:* +30 *Armament:* 125mm gun, PK MG, DShK MG (C) *Ammo:* 40 x 125mm *Tr Mov:* 120/70 *Com Mov:* 40/25 *Fuel cap:* 960 + 400 *Fuel cons:* 240 *Load:* 500 kg *Veh Wt:* 40 tons *Fuel Type: D,* A *Crew:* 3 *Mnt:* 18

T-80: An improved version of the T-72, the T-80 has an identical layout. *Price:* $500,000 (R/R) *RF:* +30 *Armament:* 125mm gun, PK MG, DShK MG (C) *Ammo:* 40 x 125mm *TrMov:* 120/70 *Com Mov:* 40/25 *Fuel cap:* 960 + 400 *Fuel cons:* 240 *Fuel Type:* D, A *Load:* 500 kg *Veh Wt:* 40 tons *Mnt:* 18 *Crew:* 3

T-90: An enlarged T-80 chassis with a casemated remote-controlled gun. The gunner and driver have hatches on the front deck and the commander has a hatch on the turret deck. A weapons mount (C) is located at the commander's hatch. *Price:* $600,000 (R/R) *RF:* +40 *Armament:* 125mm gun, PK MG, DShK MG (C) *Ammo:* 40 x 125mm *TrMov:* 120/90 *Com Mov:* 40/30 *Fuel cap:* 960 + 400 *Fuel cons:* 240 *Fuel Type:* D, A *Load:* 500 kg *Veh Wt:* 40 tons *Mnt:* 16 *Crew:* 3

Self Propelled Artillery

M109A2: A tracked self-propelled howitzer with a large turret on the rear vehicle deck. There is a driver's hatch on the left front deck, a commander's hatch and gunner's hatch on the turret deck, and hinged doors on both sides of the turret, the rear of the turret, and the rear of the hull. A weapons mount is located by the commander's hatch. *Price:* $300,000 (R/R) *RF:* +15 *Armament:* 155mm howitzer, M2HB MG (C) *Ammo:* 36 x 155 *TrMov:* 110/65 *Com Mov:* 35/25 *Fuel cap:* 450 *Fuel cons:* 150 *Fuel Type:* D, A *Load:* 1 ton *Veh Wt:* 25 tons *Mnt:* 10 *Crew:* 6

M-988: Also known as the Sergeant York, or DIVAD (Divisional Air Defense gun), the M-988 is a tracked, self-propelled air defense gun. It has a commander's hatch and gunner's hatch on the turret deck and a driver's hatch in the middle of the front deck. *Price:* $100,000 (R/R) *RF:* +15 *Armament:* twin 40mm autocannons *Ammo:* 233 x 40mm *Tr Mov:* 100/60 *Com Mov:* 35/25 *Fuel cap:* 1400 *Fuel Type:* D, A *Fuel cons:* 280 *Load:* 500 kg *Veh Wt:* 48 tons *Mnt:* 12 *Crew:* 3

SAU-122: An amphibious, tracked self-propelled howitzer. The SAU-122 has a driver's hatch on the front left deck and has a commander's hatch and loader's hatch on the turret deck. A weapons (C) mount is located by the commander's hatch. *Price:* $200,000 (R/R) *RF:* +5 *Armament:* 122mm howitzer, DShK MG (C) *Ammo:* 40 x 122 *Tr Mov:* 120/70 *Com Mov:* 40/30 *Fuel cap:* 550 *Fuel cons:* 130 *Fuel Type:* D, A *Load:* 600 kg *Veh Wt:* 23 tons *Mnt:* 10 *Crew:* 4

SAU-152: A tracked self-propelled howitzer. The SAU-152 has a driver's hatch on the front left deck, there is a commander's hatch on the turret deck, and a loader's hatch on the right turret side (not deck). A weapons mount (C) is located by the commander's hatch. *Price:* $250,000 (R/R) *RF:* + 5 *Armament:* 152mm howitzer, DShK MG (C) *Ammo:* 30 x 152 *TrMov:* 100/60 *Com Mov:* 35/25 *Fuel cap:* 500 *Fuel cons:* 170 *Fuel Type:* D, A *Load:* 800 kg *Veh Wt:* 28 tons *Mnt:* 10 *Crew:* 5

ZSU-30-6: A self-propelled air defense gun. The ZSU-30-6 has hinged doors on the right and left front sides for the driver and loader, and has a commander's hatch and gunner's hatch on the turret deck. *Price:* $100,000 (R/R) *RF:* +5 *Armament:* 30mm gatling gun *Ammo:* 500 x 30 *Tr Mov:* 90/55 *Com Mov:* 65/40 *Fuel cap:* 250 *Fuel cons:* 80 *Fuel Type:* D, A *Load:* 600 kg *Veh Wt:* 14 tons *Mnt:* 12 *Crew:* 4

ANIMALS

Horse (broken): Used as a mount, pack animal, or draft animal. *Price:* $2000 (S/S) *Hits:* 60 *Meat:* 90 kg *Tr Mov:* 20/20 *Com Mov:* 10/30/60 *Feed:* 12 kg + graze *Load:* 120 kg *Wt:* 350 kg

Horse (unbroken): An animal unused to carrying a saddle. It must be broken before being put to any work. *Price:* $1000 (S/S)

Mule: Sterile hybrid offspring of a horse and donkey. Used as a pack and draft animal. *Price:* $600 (S/S) *Hits:* 40 *Meat:* 70 kg *Tr Mov:* 20/20 *Com Move:* 10/20 *Feed:* 10 kg + graze *Load:* 80 kg *Wt:* 300 kg

Ox: A neutered bovine, generally a bull, used as a draft animal. *Price:* $600 (C/C) *Hits:* 70 *Meat:* 250 kg *TrMov:* 5/5 *Com Mov:* 10/15 *Feed:* graze *Load:* 70 kg *Wt:* 600 kg

MISCELLANEOUS EQUIPMENT

Explosives

Dynamite Stick: The most common explosive used by civil engineers for demolitions, it is relatively easy to manufacture and is coming into more common military use. *Wt:* 30 kg per case, $10 per quarter-kilogram stick, $750 per case of 100 sticks (C/C).

Plastic Explosive: Plastic explosive can be molded to desired shapes and will adhere to desired surfaces. It will not explode if burned, and can only be detonated by another explosion, usually provided by a blasting cap. *Wt:* 30 kg per case, *Price:* $30 per 1 kilogram block, $650 per case of 20 blocks (S/R).

Mine, Antipersonel: *Wt:* 20 kg, 80 per case of 4, *Price:* $50, $200 per case (C/C).

Mine, Anti-Tank: *Wt:* 35 kg, 70 per case of 2, *Price:* $100, $200 per case (S/S).

Mine, Claymore: *Wt:* 2 kg, 12 per case of 6, *Price:* $250,

$800 per case (S/R).

Engineer Demo Kit: Contains an assortment of blasting caps, time fuses, fuse wire, and detonators to enable a character to rig explosive charges and fuse them for a time delay, remote detonation, contact, movement, pressure or tamper detonation. *Wt:* 5 kgs, *Price:* $750 (C/C).

Generators

1.5 kilowatt: *Fuel Consumption:* 2 liters per period, *Wt:* 50 kgs. *Price:* $200 (C,C)

5 kilowatt: *Fuel Consumption: 5* liters per period, *Wt:* 1 50 kgs. *Price:* $700 (C/C).

10 kilowatt: *Fuel Consumption: 7* liters per period, *Wt:* 250 kgs. *Price:* $1200 (S/S).

60 kilowatt: *Fuel Consumption:* 40 liters per period, *Wt:* 600 kgs. *Price:* $8,000 (S/S).

100 kilowatt: *Fuel Consumption:* 55 liters per period, *Wt:* 1000 kgs. *Price:* $15,000 (R/R).

500 kilowatt: *Fuel Consumption:* 1 70 liters per period, *Wt:* 2500 kgs. *Price:* $50,000 (R/R).

Stills

Small: Uses 30 kg of organic material per day and produces 5 liters of alcohol per day. *Wt:* 700 kgs. *Price:* $500 (V/V).

Medium: Uses 80 kg of organic material per day and produces 35 liters of fuel per day. *Wt:* 2,000 kgs. *Price:* $2500 (V/V).

Large: Uses 3 tons of organic material per day and produces 2,400 liters of alcohol per day. *Wt:* 83 tons *Price:* $200,000 (C/C).

Heaters & Coolers

Freezer, small: A 1 cubic-foot freezer suitable for preserving food or medical supplies. It can be powered either by a vehicle battery or a generator. *Power Consumption:* 0.12 kw, *Wt:* 20 kgs. *Price:* $100 (S/S).

Freezer, large: A 14 cubic-foot freezer. It can only be powered by a generator. *Power Consumption:* 1.4 Kw, *Wt:* 175 kgs. *Price:* $1000 (S/S)

Portable Heater: Suitable for one average sized-room. *Power Consumption:* 4.75 Kw, *Wt:* 3 kgs *Price:* $200 (C/C).

150 liter water heater: *Power Consumption:* 175 Kw, *Wt:* 180 kgs. *Price:* $15000 (C/C).

Refrigerator, small: Suitable for preserving small quantities of food or medical supplies. It can be powered by a vehicle or a generator. *Power Consumption:* 1 Kw, *Wt:* 20 kgs. *Price:* $100 (C/C).

Refrigerator, large: 14 cubic feet. *Power Consumption:* 1.3 Kw, *Wt:* 150 kgs. *Price:* $1000 (S/S).

Field Cooker, military: *Fuel Consumption:* 8 liters/period. *Wt:* 250 kgs. *Price:* $1000 (C/C).

Hand Tools

Basic Tool Kit: Small hand tools suitable for a variety of purposes, including wrenches, pliers, screwdrivers, and so on. *Wt:* 5 kgs. *Price:* $200 (V/V).

Power Hand Tools: A selection of power tools including a chainsaw, 9" rotary saw, drill, and other electrical tools. Power consumption is for the whole set. *Power Consumption:* 4 Kw, *Wt:* 35 kgs. *Price:* $500 (C/C).

Wheeled Vehicle Tools: Specialized tools for repair and maintenance of wheeled vehicles. It includes spark plug wrenches, torque wrenches, a grease gun, and so on. *Wt:* 10 kgs. *Price:* $500 (C/C).

Tracked Vehicle Tools: As above, but for tracked vehicles. *Wt:* 15 kgs. *Price:* $1000 (S/S).

Aircraft Tools: As above, but for aircraft. *Wt:* 22 kgs. *Price:* $2000 (R/R).

Excavating Tools: Picks, shovels, mattocks, and so on. *Wt: 20* kgs. *Price:* $300 (V/V).

Construction Tools: Hammers, saws, squares, hatchets, chisels, and other woodworking tools. *Wt:* 30 kgs. *Price:* $500 (C/C).

Small Arms Tools: Specialized tools for repair of small arms. *Wt: 5* kgs. *Price:* $200 (S/S).

Heavy Ordnance Tools: As above, but for heavy ordnance. *Wt:* 25 kgs. *Price:* $750 (S/S).

Electrical Repair: Specialized tools for work on electrical appliances, wiring, and non-solid state equipment. *Wt:* 3 kgs. *Price:* $500 (C/C).

Electronic Repair: As above, but for work on solid state electrical devices such as radios, radar sets, etc. *Wt:* 3 kgs. *Price:* $1000 (S/S).

Arc Welder: Operates of an integral generator, which cannot be modified for other use. *Fuel Consumption:* 40 liters per period. *Wt:* 75 kgs. *Price:* $500 (S/S).

Portable Machine Shop: A Trailer containing powered machine tools, including a bench grinder, horizontal and vertical boring machines, a milling machine, metal and wood working lathes, and numerous other machine tools. Exact components and uses are left to the discretion of the referee. It can be towed by any truck except a 3/4-ton. *Power Consumption:* 60 Kw, *Wt:* 1.75 tons. *Price:* $75,000 (R/R).

Lockpick Tools: Picks, torsion wrenches, shims, a stethoscope, and other equipment to open all types of locks. Wt: .5 kg *Price:* $20 (V/V).

Radios

2 km Hand. Powered from internal batteries. *Wt:* .5 kg, *Price:* $250 (C/C)

5/25 km Manpack/Vehicular. Powered from either internal batteries (for 5 km range) or a vehicle (25 km range). *Wt:* 5 kg, *Price:* $500 (S,S)

5/25 km Secure Manpack/Vehicular. Powered from either internal batteries (for 5 km range) or a vehicle (25 km range) Includes an integral scrambler/descrambler (conversations using this radio can only be understood by another unit equipped with a scrambler/descrambler) *Wt:* 5 kg, *Price:* $2000 (S,S)

50 km Vehicle. Powered by a vehicle. *Wt:* 10 kg, *Price:* $ 1 500 (S,S)

50 km Secure Vehicle. Powered by a vehicle, with an integral scrambler/descrambler. *Wt:* 10 kg, *Price:* $6000 (R/R)

Range Finders

Portable Laser RF. Powered from internal batteries. Reads out distance to a designated object. *Wt: .2* kg, *Price:* $1000 (R/R)

Vehicle Laser RF. Vehicular powered. *Wt:* 5 kg, *Price:* $ 1 500 (S,S)

Portable Coincidence RF. Powered from internal batteries. Reads out distance to a designated object. *Wt:* 1 kg, *Price:* $500 (S,S)

Vehicle Coincidence RF. Powered from internal batteries. *Wt: 3 kg, Price:* $700 (C/C)

Vehicle Laser RF with Ballistic Computer: Vehicular powered. Feeds target correction data directly into on-board targeting

computer. *Wt:* 5 kg, *Price:* $10,000 (S/S)

Reticle Gunsight: An old-style, non-electrical range-finder. *Price:* $10,000 (R/R)

Vision Devices

4x Binoculars. *Wt:* .5 kg, *Price:* $100 (V/V)

25 x Image Intensifier. Powered from internal batteries. These act as binoculars also. *Wt:* 1 kg, *Price:* $2500 (S,S)

Starlight Scope. Powered from internal batteries. *Wt: 2* kg, *Price:* $1000 (R/R)

IR Goggles. Powered from internal batteries. *Wt: .5* kg, *Price:* $250 (C/C)

IR Spotlight. Powered by a vehicle. *Wt:* 3 kg, *Price:* $ 150 (C,C)

White Light Spotlight. Powered by a vehicle. *Wt:* 5 kg, *Price:* $100 (V/V)

Thermal Sight. Powered from internal batteries. *Wt:* 1 kg, *Price:* $5000 (R/R)

Radars

Ground Surveillance. Vehicular powered, through a 100m cable to permit limited tactical mobility. *Wt: 7* kg, *Price:* $40,000 *(SIR)*

Mortar Counter-Battery. Vehicular powered, through a 100m cable to permit limited tactical mobility. *Wt: 7* kg, *Price:* $100,000 (S/R)

Artillery Counter-Battery. Vehicular powered, through a 100m cable to permit limited tactical mobility. *Wt: 7* kg, *Price:* $200,000 (R/R)

Laser Designators

Man Portable. Powered from internal batteries. *Wt: 3* kg, *Price:* $1000 (S/R)

Vehicle Mounted. Vehicular powered. *Wt:* 5 kg, *Price:* $2000 (S/R)

NBC Equipment

Chemical Sniffer. Powered by internal batteries. *Wt: 2* kg, *Price:* $500 (C/C)

Optical Chemical Sensor. Powered by internal batteries. *Wt: 2* kg, *Price:* $2000 (S/R)

Geiger Counter. Powered by internal batteries. *Wt:* .5 kg, *Price:* $500 (C/C)

Gas Mask. *Wt:* 1 kg, *Price:* $150 (V/V)

Steam Decontamination Trailer. Operates from integral 60 Kw generator (requires fuel as above) *Wt:* 1 ton. *Price:* $5000 (S/C)

Chemical Defense Suit. *Wt: 8* kg, *Price:* $1000 (S/C)

Medical Supplies

Anesthetic, Total (100 units). Available in two forms; liquid (for injection) and gaseous. *Price:* $1000 (R/R)

Anesthetic, Local (I, 100 units). *Wt:* .5 kg *Price:* $1000 (R/R)

Antibiotic (100 units). +, -, and ± varieties. Available in two forms; liquid (which requires refrigeration) and oral (which does not) Oral costs $250 more per 100 units. *Wt: .2* kg, *Price:* $500 (R/R)

Anti-fever (100 units). Wt: .5 kg ***Price:*** $500 (R/R)

Atropine (100 units). Liquid form. *Wt:* .2 kg, *Price:* $500 (R/R)

Atropine (10 auto-injectors) .Premeasured, automatic injectors, which can be operated by non-medical personnel. *Wt:* .5 kg *Price:* $75 (R/R)

Pain-reliever, Mild, (100). Oral (pill) form only. *Wt:* .5 kg *Price:* $500 (R/R)

Sedative, mild, (100 units). Oral form only. *Wt:* .5 kg *Price:* $500 (R/R)

Sedative, strong, (100 units). Liquid (for injection) form only. *Wt:* .5 kg *Price:* $500 (R/R)

Blood, Whole (1 unit). *Wt:* .5 kg, *Price:* $25 (S/S)

Plasma (1 unit). *Wt:* .5 kg, *Price:* $10 (S/S)

Surgical Instruments. Scalpels, forceps, haemostats, clamps, and other tools for major surgery. *Wt:* 5 kg, *Price:* $2500 (R/R)

Personal Medical Kit. An individual soldier's first aid kit. Includes bandages, 1 unit of ± antibiotic, and other first aid materials. *Wt: .2* kg, *Price:* $100 (C/C)

Doctor's Medical Kit. Medical equipment and drugs. Includes 10 units of each drug type, plus bandages and tools for minor surgery. *Wt:* 5 kg, *Price:* $1000 (S/S)

Body Armor

Kevlar Flak Jacket. *Wt:* 4 kg, *Price:* $800 (C/S)

Plate Insert Jacket. *Wt:* 8 kg, ***Price:*** $400 (C/C)

Ballistic Nylon Helmet. *Wt:* .5 kg, *Price:* $100 (C/S)

Steel Helmet. *Wt:* 1 kg, *Price:* $50 (C/C)

Personal Gear

Fatigues. These include boots, socks, and so on. *Wt:* 4 kg, *Price:* $50 (V/V)

Rucksack. Weight given is empty. *Wt: 2* kg, *Price:* $20 (V/V)

Flashlight. Powered by internal batteries. *Price:* $20 (C/C)

Combat Webbing. *Wt: **2*** kg, ***Price:*** $10 (V/V)

Shelter Half. *Wt:* .5 kg, *Price:* $25 (C/C)

Sleeping Bag. *Wt:* 4 kg, *Price:* $50 (C/C)

Thermal Fatigues. Includes boots, socks, etc. *Wt:* 6 kg, *Price:* $100 (S/S)

Parka. Includes boots, socks, etc. *Wt:* 3 kg, *Price:* $150 (C/C)

Other Equipment

20 liter Jerrycan. For fuel and other liquids. *Wt:* 1 kg, *Price:* $25 (V/V)

4-man Tent. *Wt:* 12 kg, *Price:* $100 (C/C)

10-man Tent. *Wt:* 35 kg, *Price:* $250 (S/S)

Horse Tack. Saddle, bridle, straps, stirrups, saddle-blanket and so on. *Wt:* 10 kg, *Price:* $50 (C/C).

Pack Saddle. A saddle especially designed for cargo. *Price:* $40 (C/C).

Aqualung. 2 Tanks, fins, mask and regulator. One tank contains enough air for 30 minutes underwater, up to two may be connected to a single regulator for use. *Wt:* 12 kg, *Price:* $300 (C/C).

Air Tank, Aqualung. For use with above. Can be refilled when empty with a compressor, in 5 minutes. *Wt: 5* 5 kg, *Price:* $ 100 (C/C).

Rebreather. A device which absorbs carbon dioxide from exhaled air and bleeds pure oxygen into it. One oxygen tank is used at a time, and contains enough for 30 minutes underwater. Fins and a mask are included. *Wt:* 10 kg, *Price:* $400 (R/R).

Rebreather Recharge Kit. For use with the rebreather. Includes a can of carbon dioxide absorbent and a small tank of pure oxygen, enough to recharge a rebreather for 30 minutes underwater. *Wt:* 5 kgs *Price:* $100 (R/R)

Air Compressor. For filling aqualung tanks, tires, rafts, and other items needing compressed air. *Wt:* 45 kg, *Fuel Consumption: 2* liters per period. *Price:* $200 (R/R)

Skis, Cross-country. Includes poles, skis, boots, and binders. *Wt:* 8 kg, *Price:* $250 (C/C).

Price List

WEAPONS

Magazines: except where noted, the price for a magazine is per shot.

Bows
Longbow: $300 (C/C).
Crossbow: $350 (C/C).

Automatic Pistols
9mm Parabellum: $150 (V/S).
9mm Makarov: $150 (S/V).
7.62mm Tokarev: $100 (R/C).
.380 Automatic: $100 (C/S).
.22 Automatic: $50 (C/C).
.45 Automatic: $100 (S/R).

Revolvers
.38 Special Revolver: $140 (R/R).

Submachineguns
Sterling: $600 (C/S).
Uzi: $500 (V/C).
M231: $300 (V/C).
MP-5: $400 (C/S).
AKR: $300 (S/C).
Vz24: $300 (R/S).
Skorpion: $250 (R/S).
G11: $400 (C/R).

Assault Rifles
M16A2: $400 (V/C).
AKMR: $300 (C/V).
AK-74: $300 (C/C).
IW: $500 (S/R).
AKM: $300 (C/V).

Battle Rifles
FAL: $600 (S/R).
G3: $500 (C/R).

Sniper Rifles
M40: $700 (R/R).
M21: $400 (S/R).
PSG1: $600 (R/R).
L42: $400 (R/R).
Parker-Hale: $400 (R/R).
SVD: $500 (R/S).
Vz54: $300 (R/R).

Sporting Rifles:
.30-30 Lever Action: $250 (C/S).
.30-06 Bolt Action: $300 (C/S).
.22 Bolt Action: $150 (C/C).
.22 Semi-Auto: $100 (C/C).
Mauser Bolt Action: $150 (C/C).

Shotguns
Double Barrel: $200 (V/V).
Pump: $300 (V/C).
HK Combat Assault Weapon: $800 (C/R).

Automatic Rifles
M249: $1,500 (S/R).
LSW: $1,500 (R/R).
RPK-74: $1,000 (S/C).

Melee Weapons
Knife: $5 (V/V).
Bayonet: $20 (C/C).
Spear: $10 (V/V).
Club: $0 (V/V).
Hatchet: $20 (V/V).
Axe: $50 (V/V).
Machete: $20 (C/C).

Machineguns
M60: $1,500 (S/R).
MG3: $1,700 (S/R).
MAG: $1,500 (S/R).
PK: $2,000 (R/S).
Vz59: $1,500 (R/R).

Heavy Machineguns
M214: $10,000 (R/R).
M2HB: $1,600 (V/C).
DShK: $2,000 (C/V).
KPV: $3,000 (S/C).

Grenade Launchers
M203: $500 (C/S).
HK-63: $500 (S/R).
AGS-17: $3,000 (R/S).
Mark-19: $5,000 (S/R).

Rocket Launchers
M202: $2,000 (S/R).
RPG-16: $1,000 (S/C).
Armbrust: $200 (S/R).

Antitank Missile Launchers
Tank Breaker: $5,000 (S/R).
AT-4: $3,000 (S/C).
TOW II: $10,000 (S/R).
AT-5: $6,000 (R/S).

Large Caliber Guns
125mm (Rapira-3) Gun: $50,000 (R/S).

Howitzers
122mm (D-30) Howitzer: $50,000 (S/C).

Mortars
60mm: $5,000 (C/S).
81mm: $10,000 (C/S).
82mm Vasilek: $20,000 (R/S).
4.2": $12,000 (C/S).
120mm: $15,000 (C/C).

TRIPODS

NLT (Nato Light Tripod): $200 (C/S).
NMT (Nato Medium Tripod): $200 (S/R).
NHT (Nato Heavy Tripod): $350 (C/S).
PLT (Pact Light Tripod): $250 (S/C).
PM7 (Pact Medium Tripod): $300 (S/C)
PHC (Pact Heavy Carriage): $1000 (R/S).

AMMUNITION

Small Arms & Machinegun
Longbow Arrow: $50/24 (C/C).
Crossbow Bolt: $30/24 (C/C).
4.7 Cls: $1300/case of 600 (S,R)
5.45 B: $100/case of 280 (C/V).
5.56N: $100/case of 280, $200/335-shot drum. (V/C).
.22 LR: $225/case of 1,600 (C/S).
7.62 T: $250/case of 840 (R/S).
7.62 S: $80/case of 220 (S/C).
.30-30: $170/case of 300 (C/S).
7.62 N: $65/case of 200 or 165 belted (C/S).
7.62L: $70/case of 200 or 165 belted (S/C).
.30-06: $80/case of 150 (S/R).
.32 ACP: $150/case of 800 (S/S).
8mm M: $30/case of 100 (S/S).
.380 ACP: $125/case of 480 (C/S).
9mm M: $200/case of 480 (S/C).
9mm P: $225/case of 480 (V/C).
.38 Special: $175/case of 300 (S/R).
.45 ACP: $63/case of 300 (S/R).
72.7 S: $35/case of 34 belted (S/C).
.50 BMG: $35/case of 35 belted (C/S).
.50 SLAP: $60/case of 35 belted (S/R).
74.5 B: $30/case of 33 belted (S/C).
72 Gauge: $100/case of 240 (C/C).

Hand Grenades
Fragmentation: $4, $100/case of 30 (C/C).
CHEM (HC Smoke): $3, $40/case of 16 (C/S).
CHEM (Irritant Gas): $6, $80/case of 16 (S/R).
Antitank: $10, $120/case of 15 (R/S).
Concussion: $4, $70/case of 20 (C/S).
Thermite: $10, $140/case of 16 (S/R).
WP: $20, $280/case of 16 (S/S).

Grenade Launcher Rounds
30mm HE: $3, $75/29-shot drum (R/C).
40mm HE: $4, $200/case of 72 (C/S).
40mm HEDP: $5, $250/case of 72 (S/R).
40mm CHEM (Irritant Gas): $4, $150/case of 44 (S/R).
40mm ILLUM: $6, $225/case of 44 (S/R).
40mm HVHE: $6, $250/case of 50 belted (S/R).
40mm HVHEDP: $10, $400/case of 50 belted (S/R).

Rockets
58.3mm HEAT: $50, $125/case of 3 (R/S).
66mm HEAT: $250/4-shot clip (S/R).
66mm WP: $400/4-shot clip (S/R).

Rifle Grenades
HEAT: $12, $100/case of 10 (S/R).
WP: $25, $200/case of 10 (S/R).
740mm RAW HE: $50 (S/R).
740mm RAW HEAT: $100 (S/R).

Antitank Missiles
Tank Breaker: $1000 (S/R).
TOW II: $1500 (S/R).
AT-4: $750 (R/S).
AT-5: $1200 (R/S).

Large Caliber Rounds
23mm API: $500/case of 33 belted (S/C).
23mm HE: $500/case of 33 belted (S/C).
25mm API: $650/case of 33 belted (C/S).
25mm HE: $650/case of 33 belted (C/S).
25mm APFSDSDU: $2500/case of 33 belted (S/R).
30mm API: $750/case of 33 belted (S/C).
30mm HE: $750/case of 33 belted (S/C).
40mm HE: $6000/case of 64 (C/S).
40mm HEPXPF: $8,000/case of 64 (R/R).
75mm HE: $250 (C/S).
75mm WP: $500 (R/R).
75mm APFSDS: $600 (S/R).
105mm HEAT: $600 (C/S).
105mm APFSDS: $600 (S/R).
105mm APFSDSDU: $1000 (R/R).
105mm WP: $1000 (R/R).
120mm HEAT: $800 (C/S).
120mm APFSDS: $800 (S/R).
120mm APFSDSDU: $1500 (R/R).
120mm WP: $1000 (R/R).
125mm HE: $800 (S/C).
125mm HEAT: $800 (R/S).
125mm APFSDS: $800 (S/R).
125mm APFSDSDU: $1500 (R/R).
125mm Powder Charge: $80 (S/C).

Howitzer Rounds
122mm HE: $350 (S/C).
122mm HEAT: $500 (R/S).
122mm ICM: $2000 (R/R).
122mm WP: $700 (R/S).
122mm CHEM: $350 (R/S).
122mm ILLUM: $350 (R/R).
122mm Powder Charge: $40 (C/V).
152mm HE: $500 (S/C).
152mm HEAT: $750 (R/S).
152mm ICM: $3000 (R/R).
152mm WP: $1000 (R/S)
152mm WP: $1000 (R/S).
152mm CHEM: $500 (R/S).

152mm ILLUM: $500 (R/R).
152mm Powder Charge: $60 (C/V).
155mm HE: $500 (C/S).
155mm HEAT: $750 (C/S).
155mm ICM: $3000 (R/R).
155mm WP: $1000 (S/R).
155mm CHEM: $500 (S/R).
155mm ILLUM: $500 (S/R).
155mm VLGP: $5000 (R/R).
155mm FASCAM: $5000 (R/R).
155mm Powder Charge: $60 (V/C).

Mortar Rounds
60mm HE: $300/case of 12 (C/S).
60mm WP: $600/case of 12 (S/R).
60mm ILLUM: $300/case of 12 (S/R).
81mm HE: $150/case of 3 (C/S).
81mm WP: $300/case of 3 (S/R).
81mm ILLUM: $150/case of 3 (S/R).
82mm HE: $300/5-shot clip (S/C).
82mm HEDP: $600/5-shot clip (R/S).
82mm WP: $300/case of 3 (R/S).
82mm ILLUM: $150/case of 3 (R/S).
4.2" HE: $200/case of 2 (C/S).
4.2" ICM-DP: $2000/case of 2 (R/R).
4.2" WP: $400/case of 2 (S/R).
4.2" CHEM: $200/case of 2 (S/R).
4.2" ILLUM: $200/case of 2 (S/R).
120mm HE: $200/case of 2 (V/V).
120mm WP: $400/case of 2 (S/S).
120mm CHEM: $250/case of 2 (S/S).
120mm ILLUM: $200/case of 2 (S/R).

VEHICLES

Unarmored Cargo Vehicles
Bicycle: $1000 (V/V).
Civilian Car: $6,000 (V/V).
HMMWV (Hum-Vee): $20,000 (C/S).
UAZ-469: $8,000 (S/C).
Motorcycle: $5000 (V/V)
2.5-ton truck: $15,000 (C/C).
5-ton truck: $20,000 (S/S).
8-ton truck: $30,000 (S/S).
3/4-ton truck: $10,000 (C/C).
Wagon: $1,000 (V/V).
Cart: $500 (V/V).
5,000-liter (5-ton) tank truck: $15,000 (C/C).
10,000-liter (10-ton) tank truck: $25,000 (S/S).
7-ton cargo trailer: $1,000 (V/V).
1,000-liter (1-ton) tank trailer: $1,000 (V/V).

Armored Personnel Carriers
M2 Bradley: $200,000 (S/R).
M113: $75,000 (S/R).
SMP-B: $150,000 (R/S).
BMP-C: $175,000 (R/S).
BTR-70: $75,000 (S/C).
07-64: $80,000 (S/C).

Light Combat Vehicles
LAV-25: $100,000 (S/R).
LAV-75: $250,000 (R/R).
BRDM-3: $50,000 (S/C).
OT-65: $45,000 (S/C).

Main Battle Tanks
M1: $600,000 (R/R).
M1E1: $650,000 (R/R).
M1E2: $700,000 (R/R).
T-72: $400,000 (R/R).
T-80: $500,000 (R/R).
T-90: $600,000 (R/R).

Self-Propelled Artillery
M109A2: $300,000 (R/R).
M988: $100,000 (R/R).
SAU-122: $200,000 (R/R).
SAU-152: $250,000 (R/R).
ZSU-30-6: $100,000 (R/R).

ANIMALS

Horse (broken): $2000 (S/S).
Horse (unbroken): $1000 (S/S).
Mule: $600 (S/S).
Ox: $600 (C/C).

MISCELLANEOUS EQUIPMENT

Explosives
Dynamite Stick: $10, $750/case of 100 (C/C).
Plastic Explosive Block: $30, $650/case of 20 (S/R).
Mine, Antipersonnel: $50, $200/case of 4 (C/C).
Mine, Anti-Tank: $100, $200/case of 2 (S/S).
Mine, Claymore: $250, $800/case of 6 (S/R).
Engineer Demo Kit: $750 (C/C).

Generators
7.5 kilowatt: $200 (C/C).
5 kilowatt: $700 (C/C).
10 kilowatt: $1200 (S/S).
60 kilowatt: $8000 (S/S).
100 kilowatt: $15000 (R/R).
500 kilowatt: $50000 (R/R).

Stills
Small: $500 (V/V).
Medium: $2500 (V/V).
Large: $200,000 (C/C).

Heaters & Coolers
Freezer, small: $100 (S/S).
Freezer, large: $1000 (S/S).
Portable Heater: $200 (C/C).
150 liter water heater: $ 1500 (C/C).
Refrigerator, small: $100 (C/C).
Refrigerator, large: $1000 (S/S).
Field Cooker, military: $1000 (C/C).

Hand Tools
Basic Tool Kit: $200 (V/V).
Power Hand Tools: $500 (C/C).
Wheeled Vehicle Tools: $500 (C/C).
Tracked Vehicle Tools: $1000 (S/S).
Aircraft Tools: $2000 (R/R).
Excavating Tools: $300 (V/V).
Construction Tools: $500 (C/C).
Small Arms Tools: $200 (S/S).
Heavy Ordnance Tools: $750 (S/S).
Electrical Repair: $500 (C/C).
Electronic Repair: $1000 (S/S).
Arc Welder: $500 (S/S).
Portable Machine Shop: $75,000 (R/R).
Lockpick Tools: $20 (V/V).

Radios
2 km Hand: $250 (C/C).
5/25 km Manpack/Vehicular: $500 (S/S).
5/25 km Secure Manpack/Vehicular: $2000 (R/R).
50 km Vehicle: $1500 (S/S).
50 km Secure Vehicle: $6000 (R/R).

Range Finders
Portable Laser RF: $100 (R/R).
Vehicle Laser RF: $1500 (S/S).
Portable Coincidence RF: $500 (S/S).
Vehicle Coincidence RF: $7000 (C/C).
Vehicle Laser RF with Ballistic Computer: $10,000 (R/R).
Reticle Gunsight: $10,000 (R/R).

Vision Devices
4x Binoculars: $100 (V/V).
25x Image Intensifier: $2500 (S/S).
Starlight Scope: $1000 (R/R).
IR Goggles: $250 (C/C).
IR Spotlight: $150 (C/C).
White Light Spotlight: $100 (V/V).
Thermal Sight: $5000 (R/R).

Radars
Ground Surveillance: $40,000 (S/R).
Mortar Counter-Battery: $100,000 (S/R).
Artillery Counter-Battery: $200,000 (R/R).

Laser Designators
Man Portable: $1000 (S/R).
Vehicle Mounted: $2000 (S/R).

NBC Equipment
Chemical Sniffer: $500 (C/C).
Optical Chemical Sensor: $2000 (S/R).
Geiger Counter: $500 (C/C).
Gas MasAv $150 (V/V).
Steam Decontamination Trailer: $5000 (S/C).
Chemical Defense Suit: $1000 (S/C).

Medical Supplies
Anesthetic, Total: $1000/100 units (R/R).
Anesthetic, Local: $1000/100 units (R/R).
Antibiotic, Liquid (+, -, & ±): $500/100 units (R/R).
Antibiotic, Oral (+, -, & ±): $750/100 units (R/R).
Anti-fever: $500/100 units (R/R).
Atropine, Liquid: $500/100 units (R/R).
Atropine Auto-Injector: $75/10 (R/R).
Pain-reliever, Mild: $500/100 units (R/R).
Sedative, Mild: $500/100 units (R/R).
Sedative, Strong: $500/100 units (R/R).
Stood, Whole: $25/1 unit (S/S).
Plasma: $10/1 unit (S/S).
Surgical Instruments: $2500 (R/R).
Personal Medical Kit: $100 (C/C).
Doctor's Medical Kit: $1000 (S/S).

Body Armor
Kevlar Flak Jacket: $800 (C/S).
Plate Insert Jacket: $400 (C/C).
Ballistic Nylon Helmet: $100 (C/S).
Steel Helmet: $50 (C/C).

Personal Gear
Fatigues: $50 (V/V).
Rucksack: $20 (V/V).
Flashlight: $20 (C/C).
Combat Webbing: $10 (V/V).
Shelter Half: $25 (C/C).
Sleeping Bag: $50 (C/C).
Thermal Fatigues: $100 (S/S).
Parka: $150 (C/C).

Other Equipment
20 liter Jerrycan: $25 (V/V).
4-man Tent: $100 (C/C).
10-man Tent: $250 (S/S).
Bayonet: $50 (V/V).
Horse Track: $50 (C/C).
Pack Saddle: $40 (C/C).
Aqualung: $300 (C/C).
Air Tank: $100 (C/C).
Rebreather: $400 (R/R).
Rebreather Recharge Kit: $100 (R/R).
Air Compressor: $200 (R/R).
Skis, Cross-Country: $250 (C/C).

TWILIGHT: 2000

Beginning Adventure: *Escape from Kalisz*

BEGINNING THE GAME

Once characters have been generated, the best place to start is in the confused melee that finished 5th Division as an effective force. The characters are in the middle of the final collapse and have been instructed to break out on their own.

Preparation: First, make sure you are familiar with the situation. Read the sheet entitled "Adventure Handout: *Escape from Kalisz"* and look at the map of the area surrounding Kalisz. Familiarize yourself with the terrain. For the first several days it is likely that the players will remain in this area, primarily because they probably will not have sufficient fuel to get away in one quick dash. Next, make a copy of the map of the area for your own reference and mark on it the positions of the Warsaw Pact units involved in the operation. These are given in Enemy Units and Positions below. However, you should feel free to vary these, particularly if you think the players may have read this. Remember, troops of the 5th Division are not aware of the precise locations of the enemy troops except those actually involved in the final assault.

Setting the Scene: First, give the typewritten sheet marked "SECRET" to the players, entrusting it to the unit's commander or intelligence specialist. This is the last intelligence report issued by 5th Division, just before beginning the offensive into Poland, and contains valuable information, although some of it is considerably out of date or false. (The true situation of all units described is given in the referee's manual, in the chapter entitled *Poland.)* Next, give them the adventure handout sheet. They should be allowed to keep both of these sheets; they contain much valuable intelligence that should help them in making their initial decisions.

The final battle was more of a confused brawl. As the division was being overrun from the rear, the 1st Brigade on the left flank jumped off to punch a hole through to the south. Most of its tanks and armored vehicles were destroyed (although one or two may have broken through) but they succeeded in disorganizing the screen sufficiently for parties of fugitives to break free and escape to the south.

The referee should assign the characters to a unit (or let them choose a unit) and describe the morning battle to them and the situation they find themselves in as the Poles overrun the division rear. They will be cut off from the main body of their unit and make their escape in any direction they choose. Most of the division does not escape, but small parties do and the characters comprise one of these parties. The referee, therefore, should not game out actual firefights but rather assume that the characters have been lucky enough to avoid serious opposition in the confusion. The referee should also point out that attempting to escape north is liable to lead them into a box now that the Warta River bridges have been blown.

With the alcohol in the fuel tanks of their vehicles, they should be able to make it out of the immediate area of the fight in four hours of driving and should be able to get to the cover of woods, probably the woods between Kepno and Zloczew. From that point, the actual play of the game begins.

Follow-up: Whichever way the characters go, they are heading into hostile territory and will have to exercise extreme caution. North and east of them are the search parties of the 4th Guards Tank Army. Southeast of the town of Praszka are marauders. Due south the way is clear to Opole, where there are soldiers, and south of them is the mad Markgraf of Silesia. Southwest will eventually lead to the 3rd Shock Army's screen, with more troops beyond them. There is no perfect route, and only cunning will allow the group to survive.

Special Encounters: The seeds of a number of special encounters are sown in the background notes below. There are Soviet stragglers to be captured, headquarters groups to be attacked, and supply dumps to be blown up. The intense fighting in the area has driven the population of many towns and villages from their homes, and thus there are many refugees to be helped (or ignored, if the players wish). The disordered state of the Soviet forces will provide a perfect opportunity for the more violent to take to marauding, and there will be bands of men who days before were soldiers but now are beginning to turn to plunder and pillage.

ENEMY UNITS AND POSITIONS

Soviet 4th Guards Tank Army: Commanded by Colonel General B. A. Chetverkov. Headquarters and staff along with a small security party (in all perhaps 1 50 men) are in Piotrkow. 4th Guards Tank Army has assumed control of the operation and thus destruction of the headquarters would seriously disrupt the search and pursuit operations of the other units.

Soviet 20th Tank Division: Commanded by Colonel R. N. Zhelnin. The division is badly mauled and has lost all of its remaining tanks. Current effective strength is about 1,000 infantry with a few armored personnel carriers, two howitzers, four antitank guns, and about fifty soft-skinned vehicles. The division's supply dumps and rear services (about 100 men) are at Lodz, along with the division's field hospital. At the moment the hospital is choked with nearly 200 wounded, and the half dozen doctors and nurses of the division are working around the clock. Tactical headquarters of the division with a security party of about forty men is at Ozorkow, while the combat elements of the division are spread out along the Warta River guarding potential crossing points. The three main tactical subunits of the division, with about 250 to 300 men each, are based at Szadel, Uniejow, and the destroyed road bridge between Kolo and Uniejow.

Soviet 21st Motorized Rifle Division: Commanded by Major General K. I. Rubachenko. The division is assaulting Kalisz, taking serious losses in the process. The division begins the assault with 8,000 men and 30 tanks. By dawn, it will be down to 3,000 men and 8 tanks but will have overcome all resistance in Kalisz by 1-40th Armored and 4-12th Cavalry. It will be seriously disorganized and unable to put together any sort of pursuit or search patrols until the next day. General Rubachenko's tactical headquarters is in Ostrow, along with a signals and security

detachment of about 100 men. The supply dump and rear service hub of the division is in Wielun and includes about 200 men: supply personnel, drivers, laborers, medical personnel, etc. The divisional engineers (65 men with some heavy equipment) are attempting to repair the road bridge across the Warta River on the road between Wielun and Piotrkow.

Soviet 124th Motorized Rifle Division: Commanded by Major R. B. Bologov. The division took very heavy casualties the previous day, including the three highest ranking officers in the division. Current effective strength is 3,000 men and 6 tanks, but they are scattered and very short of ammunition and fuel (most of their forward supply vehicles have been destroyed). Small groups of troops were reorganizing and trying to hold a thin line astride the Sieradz-Kalisz road, but this line has been shattered by the final breakout attacks. There are other pockets of troops in Sieradz, Zloczew, and the woods west of Zloczew. The woods east of Zloczew contain several hundred stragglers from the division. The woods southeast of Zloczew are also full of demoralized stragglers. None of the small groups reorganizing have more than 200 men and a tank or two. Major Bologov has his headquarters in Sieradz and is collecting stragglers as they try to cross the bridge. He has assembled about 300 men there. The supply dump and rear echelon hub of the division is at Piotrkow. There are about 200 men there from the division. Morale is very low and most of the men are not prepared to put up any sort of a stiff fight.

Soviet 12th Guards Tank Division: Commanded by Major P. F. Srividenko. Detached from 3rd Shock Army to close the escape routes to the southwest of 5th U.S. Division, the 12th Guards has come under control of 5th Guards Tank Army. The division has only 500 infantry mounted in 30 trucks and 5 armored personnel carriers. It has no rear supply services to speak of but has 10 medium stills on 2 1/2-ton trucks. It is currently deployed along the northeast edge of the woods due south of Kalisz in five battlegroups (each with an APC, six trucks, 2 stills, and 100 men, more or less), with one group roughly every four or five kilometers. Major Srividenko is with the central group, which also includes a towed howitzer.

Soviet 89th Cavalry Division: Commander Colonel Y. K. Mikhaylov. The division is under the command of the 22nd Cavalry Army to the north but is cooperating with the operations of 4th Guards Tank Army. The division has 300 cavalry troopers and two horse-drawn 120mm mortars. It is currently covering the Warta River crossing points at Konin and Kolo and is patrolling the riverbanks in between. Colonel Mikhaylov is under orders from 22nd Cavalry Army not to become seriously engaged and not to move south of the road running west from Lowice and passing just south of the Warta. Nevertheless, he has pushed small patrols of a dozen troopers each across the river and is probing as far south as Turek. Colonel Mikhaylov's headquarters detachment, with forty men, is in Sompolno.

Polish 10th Tank Division: Commanded by Colonel S. Maczek. The division is assaulting from Pleszew along the road to Kalisz and has passed behind Kalisz into the division rear area. It began the assault with 2,500 men and 25 tanks, but by noon will be down to 2,000 men and 5 tanks. Most of its tank losses came in the close-range melee with the 3-77th Armored a kilometer northeast of Kalisz, and some confused fighting will continue in that area until nightfall. But elements of the division passed through the area and overran 3-19th Field Artillery's firing positions as well as the rear elements and headquarters of the division and most of the 1 -61st Infantry. It took 1st Brigade in the rear, but most combat elements had already jumped off on the final breakout attempt to the south, and the former 1st Brigade positions are covered with groups of Polish infantry and vehicles trying to regroup to continue the pursuit. The advanced elements will roam that general area and fire on anyone encountered but will not be able to move out and pursue until the next morning. Colonel Maczek's headquarters is at Pleszew with about 100 men. There is a detached combat group of the division with 250 men, a half dozen APCs, and two tanks north of the Warta River, now trying to march south to rejoin the division main body. This detachment will not arrive for another week.

Polish 6th Border Guard Brigade: Commanded by Colonel T. A. Komorowski. The brigade has 400 infantry garrisoning the city of Lodz. There are also 1,500 lightly equipped ORMO (People's Militia) troops in the city under Komorowski's command, which are organized as two brigades of three battalions each (between 200 and 300 men per battalion). Most of Komorowski's regulars, along with one battalion of ORMO troops, hold the blocking position at Zgierz. The brigade is now under command of 4th Guards Tank Army. If the 6th Brigade moves out, the ORMO troops will stay behind. Most of the ORMO troops will probably not put up much of a fight in any event; all of the "reliable" ORMO troops were concentrated in the battalion at Zgierz.

Polish 11th Border Guard Brigade (Cavalry): Commanded by Major General G. S. Rydz. Current strength 400 troopers and two horse-drawn howitzers. The brigade was responsible for guarding the current site of the national command headquarters at Lublin, but was dispatched west to take part in the operation as soon as the 5th Division began its raid. The brigade is now combing the woods south of Lask and Zdunska Wola rounding up the survivors of the 256th Brigade.

PLACES OF INTEREST

The following is an alphabetical listing of every town and city on the adventure map. Much of the information given above is duplicated here, but is in handier form for finding the information relevant to a particular place. There is also some elaboration on what has happened or is happening to a town, and there are many adventure possibilities contained in these descriptions.

Kalisz: Kalisz was badly devastated by the recent fighting. Most of the city is in ruins and parts are in flames. The fires will probably burn for many days and a depressing pall of smoke will hang over the smoldering ruins for at least a week. Because of the heavy artillery bombardments and intense street fighting toward the end, there have been hundreds of civilian casualties, and many civilians fled to the woods north of the city. There are numerous individual American stragglers still hiding in the ruins, as well as Soviet and Polish deserters looting the city.

The main combat elements of the Soviet 21st Motorized Rifle Division are reorganizing in and near Kalisz, and current strength is about 3,000 men and 8 operational tanks. There are also about twenty or thirty armored personnel carriers of various types along with mortars and howitzers moving into town from the direction of Ostrow. As parts of the division regroup and become combat-worthy, the division will begin patrolling the area north and northeast of Kalisz, and most army units contacted in that area will probably be from the 21st Division. Later, when the division is in better shape to move, it will be the main pursuit force.

East of Kalisz are the combat elements of the Polish 10th Tank Division (current strength 2,000 men and 5 tanks) also trying

to reorganize. As parts of this division regroup, they will begin patrolling south into the woods between Kepno and Sieradz. Eventually, this division will garrison the Kalisz area. The pursuit will be turned over to Soviet units of the 4th Guards Army who will carry it out with gasoline rather than alcohol. 10th Polish Division could be outfitted to run on gasoline, but the Soviets do not want to give the gas they have to the Poles.

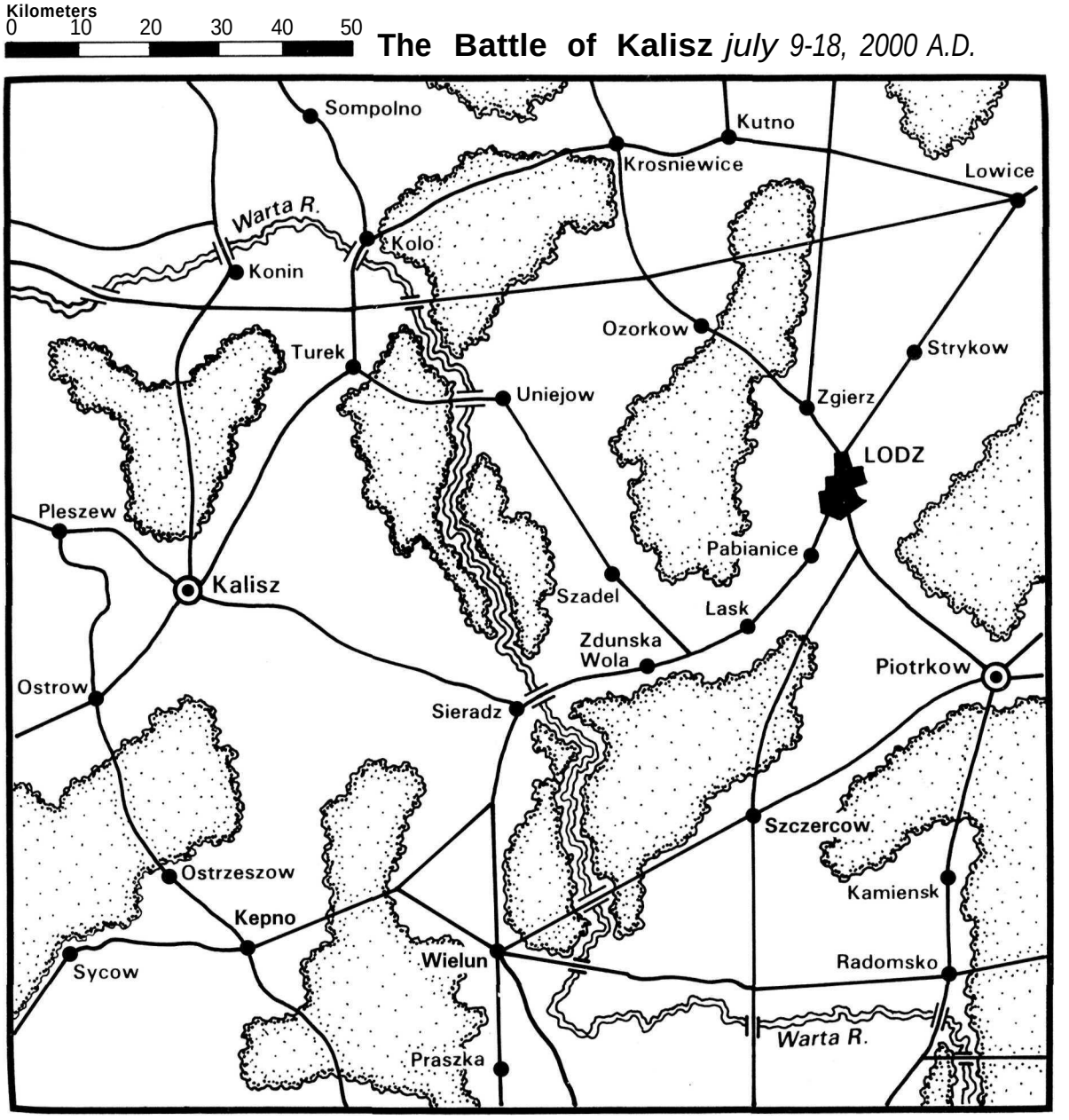
Kamiensk: Until recently, Kamiensk was controlled by a band of 50 marauders, mostly Asian-nationalities Soviet deserters. With the appearance of the Red Army in such force, they decided to withdraw until things cooled down and are now living in the woods to the east. The townspeople are fortifying the town to keep them from returning and would like help defending their homes. They have not called on the Soviets, however, as they don't want a large military unit there eating all their food.

Kepno: So far, Kepno has been undamaged by the recent fighting and has few complaints. There is a small detachment of Soviet military police (10 men) in town who direct traffic for the supply convoys that move through town several times a day. The local militia has been put on alert to watch for American stragglers but are content to do so from the safety of town. When convoys stop for the night or a rest break, the citizens sell the soldiers food and other small comforts and have benefited from the recent campaign.

Kolo: The recent fighting has caused most of the citizens to flee into the woods east of town, but some are now coming home. The town is garrisoned by 110 troopers of the Soviet 89th Cavalry Division, who regularly send patrols of 10 or 20 troopers south of the river. This detachment of the division has a permanent patrol of 30 men south of the river at Turek.

Konin: There was some fighting around Konin and some of the population fled south into the woods, but most are now back and are working at repairing the bridge across the Warta River. There are 1 20 troopers of the 89th Cavalry division, with one 1 20mm mortar, camped across the river, and they are helping the townspeople rebuild their bridge. The townspeople are impressed with the conduct of the Soviet troopers and their local commander, Captain L. I. Savchuk, and they are resentful of the Americans who blew up their bridge.

Krosniewice: There was never any serious fighting in Krosniewice, although the Americans were based there for quite a while. When Soviet cavalry passed through, they confiscated



the few remaining horses in town and rounded up and shot several prominent citizens as collaborators. The citizens are resentful of this. They had good relations with the Americans while they were there and were impressed with their proper conduct. There are half a dozen American stragglers who escaped from Kutno being sheltered in the town, and many citizens would be glad to help Americans trying to escape from the Soviets.

Kutno: Kutno was the scene of some fighting between American infantry and Soviet cavalry, and the town has suffered some damage. There were over a dozen civilians killed in the fighting and many more fled south into the woods. Most of them have now returned and are trying to repair the damage. The people are tired and depressed, in general, and have no great love or hatred for either side.

Lask: The town has been badly damaged by the recent fighting and many of the inhabitants have fled. About half remained, and some are now coming home. It is garrisoned by the headquarters and about a third of the troopers of the Polish 11th Border Guard Brigade (Cavalry), in all about 150 men. Their two howitzers are emplaced in the town square. Relations between the townspeople and the border guards are bad. The border guard commander, Major General Rydz, blames the citizens for not resisting the American troops who occupied the town during the battle. Several of them who openly helped the Americans or were friendly with them have been shot, and this has made the townspeople resentful and frightened.

Lodz: One of the few major cities left in Poland. Large parts of the population are worried and angry at the Soviets and the central government, as the large influx of troops are eating up the city's food supplies at an alarming rate. The mayor, Wojchiech Sobieski, is bombarding local military officials with requests to move on, although for form's sake he usually couches these as patriotic demands for action against the invaders still at large near Kalisz. In fact, he doesn't care where the army goes, as long as it goes away. The food situation is getting serious and will soon become disastrous unless something is done.

Located in Lodz are the headquarters of the Polish 6th Border Guard Brigade and the rear services of the Soviet 20th Tank Division. These units are described in more detail elsewhere, but the detachments present have about 100 Polish headquarters and supply troops, 100 Soviet rear echelon supply and maintenance troops, and over 200 wounded Soviet soldiers from the 20th Tank Division. The commander of the Polish brigade, Colonel Komorowski, is also overall commander of the occupation forces. More wounded soldiers are arriving every day from the other divisions, and within a week the number of wounded will grow to about 1,000.

As a garrison, there are five battalions of local militia (total of 1,200 men) lightly equipped and organized in two defense brigades. Their morale is low and usually less than a battalion is active at any one time. The rest could be activated in about twelve hours, in theory. In practice, about half of them would not show up. Some are already talking about taking armed action against the weak army garrison in town in order to expel them. As rumors of the terrible beating 4th Guards Tank Army has taken filter back, the citizens are beginning to think that there's not much the Soviets could do to them if they were to eject the rear area troops from town and then fortify the outskirts.

Lowicz: Virtually untouched by the fighting, Lowicz was briefly the headquarters of the Soviet 89th Cavalry Division. The Russian troopers behaved themselves while near the town and the civilians got along well with them. Nevertheless, everyone breathed a sigh of relief when they moved on, and didn't even mind when they took most of the horses left in the town. The townspeople do not want any trouble, and would not offer help to Americans for fear of reprisals. Some would probably turn in Americans for a reward or to prove their loyalty.

Ostrow: During the last two days of the battle, Ostrow was shelled by American artillery. There was extensive damage and a number of civilian casualties, which the citizens blame on the Soviets. There were many Soviet troops in the town and the mayor and city council repeatedly begged the Soviets to move either into the woods or north on the road to Pleszew. They knew the Americans would shell the town sooner or later if the Soviets stayed. The mayor, Jerzy Syrokomski, lost his wife in the shelling, and he is particularly bitter against the Russians. He would gladly help anyone who had a plan that would hurt the Soviet garrison, particularly the division commander. He knows other men, some of whom are militiamen, who feel the same way.

The commander of the Soviet 21st Motorized Rifle Division, Major General Rubachenko, and his headquarters with about 100 men are in the town. Few of these are combat soldiers, but all are armed. Mostly they are staff officers, radiomen, mechanics, and medical personnel. The town is filling up with the division's wounded. Many are being sent back to Lodz as trucks are available, but there are still about 2,000 wounded in town. The Soviet doctors and nurses are near exhaustion and have run out of most medical supplies.

Ostrzeszow: The town has so far been untouched by the actual fighting, but a rear casualty station for the Soviet 21st Motorized Rifle Division has been established in the town. There are 6 overworked doctors and nurses with 800 wounded soldiers. About twenty local citizens are working as medical volunteers. There is also a detachment of 10 Soviet military police in town who direct traffic when convoys pass through. The citizens are worried that the Soviet wounded soldiers will eat up all of the town's food. There are some in town who suggest attacking the Soviets, as there aren't very many of them, and killing them. They think they can then blame it on the

Americans if more Soviet soldiers come around and ask questions. Others aren't willing to take action that bloodthirsty, yet.

Ozorkow: Although there was no fighting in Ozorkow, Americans were based there for about a week and the townspeople got along well with them. At first they were fearful and hostile but gradually warmed up. Now the headquarters of the Soviet 20th Tank Division (Colonel Zhelin with 40 of his men) is in the town. The townspeople have no great animosity for the Soviets, but many secretly rejoiced when they heard what a beating "their" Americans gave the Soviet division.

Pabiance: Virtually a ghost town. Several days of fighting in the town and shelling by U.S. troops have chased nearly all the civilians out, either to Lodz or into the woods to the north. Now that the army has moved out, the ruins of the town have been taken over by looters and deserters. There are about thirty of them in town, and the refugees in the woods would like someone to chase them away so they can move home.

Piotrkow: Until recently the city was under intermittent siege by marauders, and the citizens welcomed the advancing Soviet troops as rescuers. Now, they are not nearly as happy with the situation. So many tanks and vehicles have passed through the town that the roads are ruined, and several road-side buildings have had the fronts knocked off by passing tanks that strayed from the road. There have been numerous cases of rape and looting, and the Soviet command doesn't seem interested in finding the criminals. (In fairness, they have a lot on their minds at the moment, but this doesn't help the citizens of Piotrkow.)

At present, Piotrkow is occupied by the headquarters of Colonel General Chetverkov's 4th Guards Tank Army (with about 1 50 men) and the rear services and supply dump of the 1 24th Motorized Rifle Division (with 200 men).

Pleszew: The town has not suffered much damage in the fighting, but the presence of Colonel Stanislaw Maczek's Polish 10th Tank Division in town put a severe strain on food supplies. Now, however, the supply columns of the division are catching up, and Colonel Maczek has turned over large quantities of food to the town to replace rations requisitioned earlier. This has impressed the townspeople, and they are also proud that a Polish division, with fewer men and older equipment than the Soviet divisions, did better than all the other Warsaw Pact units involved. There are now over 1,000 Polish wounded in the town and the medical personnel of the division couldn't have dealt with the work load if the town hadn't made an all-out effort to help, resulting in the Polish wounded being much better cared for than any other troops in the area. The citizens are also helping as much as possible in the reorganization of the division. Workshops in the town are repairing vehicles and weapons, women are sewing uniforms and all civilian vehicles have been voluntarily put in storage while the large municipal stills work 24 hours a day to build up a fuel reserve for the division.

Praszka: This town is ruled by a Soviet former sergeant from the 9th Tank Division along with his band of 50 deserters. He is fearful of the Soviet troops north of him but has found a good spot here in Praszka and doesn't want to give it up. The town is (or was) prosperous, and he and his men have everything they want just for the taking. The townspeople hate him, but fear him even more.

Radomsko: This town is controlled by a group of 70 marauders who also raid the town of Kamiensk. The leader of the marauders is named Shotkin, a former lieutenant, and the marauders have a BMP-C armored personnel carrier that is the basis of their real strength. It is usually parked in the town square under armed guard. While the townspeople resent Shotkin, once he seized control of the town, he kept his men from doing too much damage. He realizes that it is important to keep the townspeople reasonably happy so that they will work for him and his men. On occasion he even gives part of the spoils of their raids to some of the leading citizens of the town and is beginning to be accepted by them.

Sieradz: There was no actual fighting in the town, but the inhabitants feel war-weary from the tension and excitement of the last week. After the Americans left, Soviet troops of the 21st Motorized Rifle Division occupied the town, seized a lot of the food, and then left heading west. A little later the 124th Motorized Rifle Division entered the town and took most of the remaining food and moved out northwest. When the division was smashed by the 1st Brigade of the 5th Division, large numbers of demoralized troops streamed back into the town and many began looting. A number of fires were set, and the population was terrorized all afternoon and that night.

The next morning Major R. B. Bologov arrived and began reorganizing the troops. He had several of the looters shot, which helped reestablish the morale of the townspeople somewhat. However, he also has called out the town's militia and temporarily incorporated it into his force. The militiamen are nervous about this. It means there might be an attack, and from the looks of the Soviet troops they won't be much help.

Bologov has 200 of his own men in the town, but almost half of them have no firearms or are armed only with pistols. There is very little ammunition and nothing in the way of heavy weapons except a single RPG-16 with five rockets. Bologov does have three T-80 tanks in the town, but two of them are broken down and cannot move. He has used the operational tank to haul the other two into positions guarding the western approaches to the town, hoping their presence will scare off any strong parties of Americans until he can reorganize his troops. There are 100 militia, mostly armed with assault rifles, as well.

Sompolno: A peaceful town which hasn't suffered from the current campaign much. The town is the current headquarters of Colonel Mikhaylov's 89th Cavalry Division, and the people are unhappy about the fact that the Russians have confiscated the few horses left in town. They did pay for them with food and ammunition, however, and most people think that this is better than they could normally expect to be treated. Most of the people in the town think of the Soviets as benevolent conquerors rather than troublesome allies.

Strykow: Untouched by the current fighting, many of the young men of the town are excited by the rumors of the battle and wish they knew more. Many wish that they could have been in the battle, although there is some difference of opinion as to which side. Many of the people of the town will be friendly and excited by the approach of Americans and will want them to tell as much as they know about the battle. Many others will be excited at the prospect of an "invasion" and want to turn out the militia to repel the foreigners. If they were to fight a skirmish against half a dozen Americans and turn them away, they would probably tell and retell the story for years.

Sycow: This is a quiet community with no soldiers. The militia has been drilling, however, due to the steady approach of the marauders to the southwest. There have been many town meetings to discuss what they will do when the marauders get closer, and all have decided to defend their homes. They are business-like and efficient about their militia training, and the town guards are always vigilant. They have not thought much

about the war sweeping Europe, since they are preoccupied with their own local problems. If Americans were to appear, there would be much argument back and forth as to whether to help them or turn them over. The mayor of the town, Roman Szomanski, is an ardent communist, and in fact the town is an efficient little collective community surviving amidst chaos. Szomanski, however, no longer sees the war as a struggle between capitalism and communism. He views it as unchecked madness. He holds no animosity towards Americans and would gladly accept them if he thought they could help the community. The commander of the town's ORMO is Aleksander Wankowicz. He is a modest man in his middle years, and looks more like a shopkeeper than a military commander. Nevertheless, he is very intelligent and is aware of his own limitations and those of his defense troops. In an actual fight he would be a cunning commander who would use his men wisely. If the Americans offered to help train them to fight the marauders, they would probably accept the offer and give them shelter.

Szadel: While there was considerable troop movement back and forth through Szadel, there was no real fighting there. Now, there are 250 men and a few armored personnel carriers of the Soviet 20th Tank Division garrisoning the town, commanded by Captain E. Zh. Demidov. They are a pretty sorry-looking and beat-up group, and the townspeople aren't much impressed with them. Some of the Soviets brag about having beaten the Americans, but most people in town don't believe them.

Szczercow: The town had been raided and looted several times by marauding bands of deserters before the 4th Guards Tank Army arrived. Since the marauders were mostly former Soviet soldiers, the inhabitants had no love for the newly arrived troops. When Polish cavalry arrived, it just meant more mouths to feed, and the townspeople treat the soldiers, Polish and Soviet alike, with sullen resentment. At present, there are 125 cavalry troopers of the Polish 11th Border Guard Brigade, under the command of Major Feliks Bolsunowski, and a detachment of 20 Soviet military police in town. Since the townspeople are surly and hostile, the Soviets have responded in kind and relations between the two are deteriorating. Although the police post is fairly far away from any other Soviet garrison, convoys pass back and forth through the town several times a day, making the Soviets feel secure.

Turek: Currently occupied by a small 30-man patrol of the Soviet 89th Cavalry division under the command of Captain A. N. Antu'yev. The citizens were frightened by the arrival and then rapid departure of the Americans (the whole 1st Brigade and most of the division services passed through the town in a 24-hour period). When the Soviet cavalry troopers arrived, they received a cold welcome, with most of the inhabitants staying indoors. They are still uneasy, wondering if the fighting will spread to their town.

Uniejow: At present there is a group of 300 men with four armored personnel carriers from the 20th Tank Division in the town. When the 1st Brigade of the the 5th Division limped into town, its trucks loaded with wounded and its tanks towing disabled vehicles, the townspeople were certain they had lost a major battle. Now that they've seen the troops of the 20th Tank Division, they aren't so sure. The feeling now is that both sides have pretty much destroyed each other, and from now on the villagers and townspeople will have to take care of themselves. They are now making plans for defense against marauders and trying to contact outlying villages for mutual assistance. They virtually ignore the Soviet garrison, treating them as if they don't count anymore. (Perhaps they are closer to being right than most people in the area.)

Wielun: The town had been held by marauders who had gone on a drunken spree of looting, murder, and rape that left forty people dead and caused many of the citizens to flee into the woods east and west of town. When the Red Army arrived, they rounded up the marauders and shot them and thus have the everlasting gratitude of the townspeople.

In the town are the rear services and supply dump of the 21st Motorized Rifle Division, with about 200 men, commanded by Major T. B. Amramovich. The 65 engineers (Captain S. V. Popov) of the division are trying to repair the bridge northeast of town on the Wielun-Piotrkow road.

Zdunska Wola: There is a 1 25-man cavalry detachment of the Polish 11th Border Guard Brigade in town, searching for American fugitives to the south. It is commanded by Captain Grochawalski. At any given time, 1D10x10 troopers will be gone on patrol. Any army units met in the woods south of town will be from the 11th Brigade. There is a prisoner compound with sixty American prisoners, many of them wounded. They are out in the open and are not well cared for. Some of the townspeople have taken pity on them, and most of the food they have has been given to them by civilians. The Poles don't torture or abuse them; they just ignore them for the most part. Every day a few more are brought in, and one or two are buried. No one really knows what to do with them.

Zgierz: A small town that is now largely deserted. The intense fighting of the last several weeks have caused most of the population to flee. Many have fled to Lodz, but some are living in the woods to the west and southwest of town.

The town itself is badly damaged by the fighting. There are extensive field works around it, and it is garrisoned by the main combat elements of the Polish 6th Border Guard Brigade (about 300 men) and a battalion of the Lodz ORMO (about 200 men). The ORMO troops (also from Lodz) are the best soldiers and most politically reliable troops. After fighting alongside the border guards (who are combat veterans and good soldiers), the ORMO troops are weary but elated at their victory. They get along well with the border guard troops, who have developed a grudging respect for the bravery of the citizen soldiers, and morale in both units is high. The position is commanded by Lieutenant Colonel Ludomil Nizewski, who is also the second in command of the 6th Border Guard Brigade. The position has a Rapira-3 towed antitank gun and two 1 20mm mortars, all belonging to the border guards, and some light antitank weapons in both units.

Zloczew: When the Soviet 1 24th Division was routed on the Sieradz-Kalisz road, many of the stragglers fled back to Zloczew and began an orgy of looting and pillaging. Many civilians were killed or molested and much of the town was burned that night. When a captain arrived the next morning, he began restoring order and reorganizing the troops. Many of them slipped away into the woods south of town rather than go into battle again, but most of them followed orders. They realized that they were foreigners in a land that their rampage of the previous night had made more foreign than ever, and they would have to stick together to survive.

The town officials demanded justice, but the captain took them aside and asked them how he was expected to deliver it. Was he supposed to have all his men shoot themselves? They were all guilty.

There are now 200 soldiers in the town under command of

the captain. The townspeople hate them intensely. Most of the soldiers have only what they carried with them, and many had thrown away their rifles when they ran away. The captain has ordered all the arms and ammunition in town seized, and this almost caused an uprising. Now the population is both frightened of what will happen to them if the Soviets leave them without weapons and aching for revenge.

RUMORS

A variety of rumors are available to the characters. The ones listed below are just a sample.

Civilian:

The area to the southeast is heavily infested with marauders. The Soviet troops chased some of them out, but they'll be back and meaner than before.

There are hundreds of wounded Russians at Lodz, but hardly any combat troops.

The ORMO troops in Lodz don't want to fight. They don't consider this their war anymore and would just as soon concentrate on gathering enough food for the winter. There is a lot of resentment in Lodz at all the food eaten by the Russian soldiers that have passed through.

A civilian's brother traveled to Krakow a month ago. They actually have factories working there again, and have declared their independence from everyone! They have an army of their own and anyone's welcome in the city, so long as they can prove they have enough money to support themselves. Parts of the city have electricity and running water again.

A civilian has twenty liters of gasoline. He says he bought it from a Russian lieutenant for five big smoked hams. He can't believe he got it so cheap.

Military Prisoners and Stragglers:

A soldier from the 12th Guards Tank Division says he heard one of the officers complaining about being attached to 4th Guards Tank Army. He called their staff officers rear-echelon heroes who hadn't been in the line for almost a year. They didn't understand how tough the Americans were, and were used to chasing Ukrainian peasants in ox carts instead of M1's. But things will probably get better once the rest of 3rd Shock Army gets here from Wroclaw. Maybe then they'll get some tanks. It's embarrassing being in a tank division with no tanks.

A vehicle driver tells you that the 4th Guards Tank Army was able to move so fast because it's running on gasoline! A whole month's output from the Ploesti oil fields in Romania was earmarked for the 4th Guards just so the Warsaw Pact would have one mobile army. There are thousands, maybe millions, of liters of it in the supply dumps of the divisions. A lot of supply officers are getting rich selling it to the black market.

A Zampolit (political officer, or comissar) tells you that the whole 1st and 2nd Western Fronts have gone over to the offensive in Germany and are pushing back the NATO lines everywhere. Up north the Germans have pulled back and left the U.S. Ninth Corps to fight a rearguard. He suggests that you surrender.

A Soviet captain from the 124th Motor Rifle Division is still stunned from the beating his division took from the 1st Brigade. He just keeps shaking his head and cursing "Those damned M1's!" He commanded a battalion of twelve tanks, and his whole battalion was wiped out in the first ten minutes of the battle. Most of the crews were killed, and he was the only one to escape from his command tank when the fuel exploded. All of the battalion supply vehicles were destroyed, and he hasn't been able to find a single man from his unit. For all he knows he may be the only survivor. The area along the Warta River on either side of Sieradz is the responsibility of the 1 24th Motor Rifle Division, but he says there's hardly anything left of it, just shell-shocked survivors here and there.

A radioman tells you that he routinely routed messages from his regiment up to the 4th Guards Tank Army HQ, which is now at Piotrkow.

RADIO TRANSMISSIONS

For the first several weeks, the characters will pick up sporadic radio transmissions from the German Third Army and the U.S. Ninth Corps. Both are taking a beating, particularly the Ninth Corps, and are retreating back into Germany. Pact forces all along the front are attacking.

As the weeks wear on, the messages become less frequent and more confused. The front seems to be breaking up and both armies are tearing themselves apart. Tank and manpower losses are high and central direction of the battle is disappearing. Most units are becoming less concerned with maintaining contact with friendly units on their flanks and keeping a continuous front, and are more concerned with protecting the local territory they occupy—their source of food and civilian labor. The characters will start to hear more and more units, on both sides, refuse direct orders to leave their areas and move to another part of the front to help a friendly unit or beef-up an offensive. Most of these will be accompanied with excuses and explanations as to why the move is impossible, but some will just be flat disobedience of orders. At some point, the referee may have the characters listen in on a conversation between a Soviet front commander and a division commander that ends with a direct and peremptory order to move north and the response "Why don't you come and try to make me, you fascist bastard!"

WAYS, MEANS, AND GOALS

What little structure and order are left in this part of the world is unraveling around the characters. In the short run, this is to the characters' advantage. It will be easier to escape in the confusion. In the long run, however, it raises the question, "Escape to WHERE?" The answer to this second question is what much

of the game is about, and the players have tremendous latitude in choosing their long-term goals.

This adventure, however, deals with the short-term goal of surviving and escaping from the 4th Guards Tank Army. This Soviet army is finished as any sort of a serious offensive force, and perhaps as any sort of organized force at all. But even the smallest part of it is more than a match for the characters and thus poses extreme danger.

The most obvious goal that presents itself, aside from escaping from the immediate battle area, is to somehow delay or disrupt the organization of search and pursuit parties by the Warsaw Pact forces. Within days they will begin scouring the countryside in wider and wider circles in an attempt to round up as many survivors as possible.

Two means of disrupting pursuit present themselves. One is to damage the command structure of the enemy units and the other is to disrupt their supplies. Command structures are disrupted by attacking unit headquarters. Killing or wounding a unit commander and his staff officers, scattering his communication specialists or destroying their radios and telephones are all ways of disrupting a unit's command structure. Given the size of the rear area headquarters groups (at least a hundred men), a direct assault will be out of the question. A commando raid, however, may be possible if the group has characters with sufficient skills. Most of the best soldiers of the enemy units are in the front lines, and the rear area troops tend to be poor soldiers, sloppy and not very vigilant.

A second means of slowing the pursuit is to attack the supplies of the units. The divisions of 4th Guards Tank Army are running on gasoline and are probably the only force of this size in the world doing so. This is a great strength but can also prove to be a great weakness. If a unit's gasoline dumps or fuel convoys are destroyed, it will become immobilized. Since the divisions are running on gasoline, their engines are not set up to run on alcohol, and it will take time to convert them. In addition, the divisions did not bother to bring any alcohol stills with them, and it will take time to assemble them. (This will mostly be done by confiscation of civilian stills, which is likely to cause considerable resentment by the local population. That resentment can be used to the characters' advantage as well.)

How much difference can the characters make on their own? Quite a bit. A good-sized fuel convoy probably represents all the fuel vehicles for a division. Additionally, the characters are not the only group to have escaped, and the referee may want to assume that one or more other groups are practicing the same hit-and-run raids as the characters, thus multiplying their effects. Finally, the group may be able to recruit local anti-Soviet civilians to assist in one or more raids, although they would be unlikely to accompany the characters outside of their immediate area.

Eventually the characters will probably succeed in escaping from the area, and as they do so the end of this adventure will gradually blend in with the beginning of the overall campaign.

TWILIGHT: 2000

Adventure Handout: *Escape from Kalisz*

Death of a Division

The United States 5th Infantry Division (Mechanized) jumped off on its raid on June 19th from Chojnice and Czluchow in a converging drive on the Bydgoszcz and Torun area. Contact was made with partisans of the 2nd Polish Free Legion in Tuchola, and they reported the road ahead clear. Guides were provided and on the 21st advanced elements of the division had reached Torun, with follow-up forces closing up. Only scattered resistance from some local militia had been encountered. The division spent a week in the Torun area distilling fuel in anticipation of the second bound. On June 29th it moved out south on the road to Wloclawek, which the division's recon battalion (4th squadron of the 12th Cavalry, mounted on horseback) had scouted as far south as Krosniewice. The division closed up on Wloclawek by the evening of June 30 and advanced elements were in the strategic road junction of Krosniewice by July 1.

The division again paused for maintenance and fuel distillation while the cavalry scouted south. On July 3rd the 4-12 Cavalry reported a strong blocking position in front of Lodz at the town of Zgierz. Interrogation of prisoners revealed the blocking force to be the Polish 6th Border Guard Brigade. The division commander ordered the division's 256th Mechanized Brigade (Louisiana National Guard) to deploy against the blocking position while the 4-12 Cavalry made a wide turning movement through Kolo, Uniejow, Szadel and Lask to hit Lodz from the southwest. The division's 1st Brigade consolidated the division base camp area at Krosniewice, while the division's 2nd Brigade was pushed west toward Konin to guard against a possible counterattack by the 1st Polish Tank Army, known to be in the Poznan area.

July 9th: The 4-12 Cavalry reported by radio that it had encountered Polish cavalry in superior strength at the town of Pabiance, a few kilometers south of Lodz, and that it was falling back to Lask. Later, outposts of the 2nd Brigade guarding the road bridge across the Warta river at Konin successfully resisted an attack by mechanized troops identified as elements of the Polish 10th Tank Division. The Polish troops withdrew, but could be seen digging in several kilometers from the bridge.

July 10th: The division commander ordered the 3-11 Infantry of the 1st Brigade, then in Kutno, to move out east toward Lowice to develop an attack from the northeast against Lodz. At the same time he ordered 256th brigade at Ozorkow to detach a battalion and move it overland south to Uniejow in preparation to support the 4-12 Cavalry. Almost immediately, the 3-11 Infantry from Kutno encountered advancing mounted troops in superior numbers and was driven back to Kutno under heavy pressure. By evening, 3-11 infantry had determined that it was facing the advanced elements of the Soviet 89th Cavalry Division (formerly 89th Motorized Rifle Division), which had last been identified as being deep in Byelorussia. 4-12 Cavalry had identified its antagonist as the Polish 11th Border Guard Brigade, formerly at Lublin.

July 11th: German Third Army reported by radio that it was under attack by strong cavalry and mechanized forces from the Pila area, and had identified elements of the 1st Polish Tank Army. It also reported the Torun area had been overrun by elements of the Soviet 22nd Cavalry Army from Byelorussia. The division commander held an afternoon conference with his brigade commanders and staff and decided that the division should attempt to break out through Lodz and then drive east through Piotrkow and Radom to be positioned for a drive north. This would avoid the major enemy troop concentrations, cause maximum damage to the lines of communications of the newly committed 22nd Cavalry Army, and leave the door open for a possible link-up with troops on the northern Baltic coast. Accordingly, 256th Brigade began shifting southwest toward Szadel while 1st Brigade took over the position at Ozorkow.

July 12th and 13th: Little enemy resistance was encountered, and all units successfully completed their planned movements.

July 14th: The 1st and 256th Brigades began their attacks on Lodz, and immediately encountered stronger resistance than had been anticipated. The right hand attack by 256th Brigade along the Lask-Pabiance road brushed aside outlying cavalry pickets, but then encountered entrenched and well-equipped infantry in front of Pabience. After several of the brigade's remaining tanks and infantry fighting vehicles had been knocked out, the brigade paused to regroup. Within an hour, however, the brigade was struck in the flank by tanks and armored personnel carriers advancing from Piotrkow and was pushed back to Lask. 1st Brigade's attack had encountered dug-in tanks of the Soviet 20th Tank Division as soon as it crossed its start line and had made no progress all day. The 20th Tank Division had last been reported in the Ukraine as an element of the 4th Guards Tank Army. At midday, the 2nd Brigade's 3-77 Armored at Kolo was probed by Polish mechanized forces, and the division rearguard at Krosniewice came under attack by the Soviet 96th Cavalry Division.

By nightfall, it was apparent that there had either been a major intelligence failure or the Warsaw Pact had succeeded in moving up reserve formations with more speed than anyone had anticipated. It was also clear that, rather than making headway toward a breakout, the 5th Division was badly scattered and hard pressed on all fronts. The division commander decided that it was time to concentrate and attempt to get some room to maneuver. The division would move west toward Kalisz. 2nd Brigade would remain roughly in place, with the 3-77 Armored holding Kolo as a bridgehead across the Warta River. 1st Brigade and the division command would move overland to Uniejow. A battalion would hold the river crossing while the main body moved into reserve across the river. 256th Brigade was to fall back along the road to Sieradz and hold the Warta River crossing there.

July 15th: In the morning, the 1st brigade began its withdrawal but was hit by the Soviet 20th Tank division while moving across the open ground to Uniejow. By afternoon, over a dozen Soviet tanks were burning and the 20th Tank Division had been driven back badly mauled. 2-11 Infantry, however, had been overrun at Kutno. A badly depleted brigade limped in

to Uniejow by nightfall, only to find the bridge across the Warta blown. The 7th Engineer Battalion began rebuilding the bridge by torchlight with what local materials it could find. 256th Brigade's main body remained in Lask all day due to lack of fuel, but 4-12 Cavalry moved back and secured Sieradz and the Warta River bridge there. 1st Brigade, with the 3-143 Infantry at Konin and the 3-77 Armored at Kolo, sent its remaining battalion, 1-40 Armored, south to Kalisz to secure the division rear area.

July 16th: The division's situation began deteriorating rapidly. 256th Brigade at Lask was hit hard from the east and northeast by strong mechanized forces and the brigade headquarters was overrun. Still short of fuel, most of the brigade's tanks fought and died in place, and surviving personnel broke out on foot into the woods to the southwest. The attacking force was identified as the Soviet 124th Motorized Rifle Division, another component of the 4th Guards Tank Army. At the same time that the 256th Brigade was being overrun, advanced elements of the Soviet 21st Motorized Rifle Division appeared behind 4-1 2 Cavalry's positions at Sieradz, having approached on the road from Zloczew. This was yet another division of the 4th Guards Tank Army. 4-12 Cavalry, by now reduced to only 200 troopers, withdrew up the road to Kalisz.

By late afternoon, the 1-40 Armored of the 1st Brigade at Kalisz was pushing back infantry probes from the direction of Pleszew to the west and Ostrow to the southwest. The bridge at Uniejow was completed by late morning and 1st Brigade began bringing across its heavy equipment. Polish cavalry from the west was cautiously probing 1st Brigade's positions at the crossing point.

That evening, the division commander ordered all elements of the division to blow the Warta River bridges and concentrate at Kalisz. While this was possible at Konin, Kolo and Uniejow, the bridge at Sieradz had already fallen and the 21st Motor Rifle Division had crossed further south at Wielun, in any event.

July 17th: By daybreak, the pressure on 1-40 Armored, by now joined by the remnants of 4-12 Cavalry, was mounting. Polish infantry from Pleszew was now being joined by light armored vehicles believed to be from the 10th Polish Tank Division. The infantry at Ostrow had been identified as elements of the Soviet 12th Guards Tank Division, a weak formation which had been in reserve near Legnica. However, it was now being joined by mechanized vehicles believed to belong to 21st Motorized Rifle Division. At midday, advanced pickets of the 4-12 Cavalry reported a large mechanized column advancing up the road from Sieradz toward Kalisz. 1-40 Armored was beginning to strain under the pressure from the west and southwest and couldn't spare any troops for the new threat.

Advanced elements of the 1st Brigade were approaching from the north, however, and the remaining 10 M1E2s of 3-70 armor turned south off the road between Kalisz and Turek and advanced overland to take the Soviet column in flank. 2-21 Field Artillery pulled its six howitzers off the road behind them and set up to deliver supporting fires. 3-10 Infantry, mostly in trucks, would follow up to support the tanks.

3-70 Armored reached a position two kilometers north of the road at 1100 hours with nothing left in its fuel tanks but fumes. Taking up defilade positions atop a low rise, the battalion commander saw the main body of the Soviet 124th Motor Rifle Division stretched out on the road below him. At 1110 hours the battalion opened fire and immediately began registering hits along the length of the column. Soon the column was covered in dense black smoke from burning vehicles, through which the tankers could see numerous secondary explosions as ammo vehicles went up.

By 1220 hours the Soviets were counterattacking, but several attempts to storm the position by tanks and armored personnel carriers were broken up, and the 2000 meters of open ground between 3-70 Armored's position and the road became littered with the wrecks of most of the Soviet division's remaining armor. A late afternoon attempt to outflank the position was thwarted by the arrival of 3-10 Infantry.

As night fell, the division commander took stock of the situation. 1st Brigade, with 3-70 Armored and 3-10 Infantry, was on the left overlooking the Sieradz road. 4-12 Cavalry and 1-40 Armored were holding Kalisz. 3-143 Infantry of 2nd Brigade was in the woods north of Kalisz on the road to Konin, guarding the division's right, while 2nd Brigade's 3-77 Armored formed a small division reserve just behind Kalisz. 3-19 Field Artillery was deployed with 3-77 Armored, while 2-21 Field Artillery was still several kilometers to the northeast, along with most of the division supply and maintenance echelon.

The Soviet 1 24th Motor Rifle Division had been shattered on the Sieradz road, but pressure was building from the Soviet 21st Motor Rifle Division at Ostrow and the Polish 10th Tank Division at Pleszew. Rearguard parties were reporting increased activity along the Warta River line behind the division, and the remnants of the Soviet 20th Tank Division were still out there somewhere.

The division commander decided on a breakout to the south, exploiting the damage 1st Brigade had handed to the 124th Motor Rifles the day before. The division's emergency fuel reserve would be dispersed to the units, everyone would top off and draw as many rations and as much ammo as they could carry. Supply and maintenance parties would split up and attach themselves to the nearest combat unit and follow them out.

2nd Brigade would spearhead with the 3-77 Armored and 3-143 Infantry (moved down by night from the north), driving south by southeast from behind Kalisz. 1st Brigade would cover its left flank with a drive south from its blocking position. The division artillery would put every available round on Ostrow to break up any potential attack from the 21st Motor Rifles. 4-12 Cavalry would follow up the 2nd brigade and work its way into the woods between Ostrow and Ostrzeszow to cover the right flank. 1-40 Armored would hold Kalisz until the remaining elements of the division had moved south, and then fight a delaying action against pursuit. Considering the odds, the chances of success were slim, but it was the only show in town.

As it happened, the 21st Motorized Rifle Division and Polish 10th Tank Division struck first. The attack came in hard three hours before dawn, using infrared lights. 1-61 Infantry had already pulled out of its blocking position north of Kalisz and was in road march passing through the crossroads when the first artillery rounds began falling on the town. 1-40 Armored holding the perimeter had the advantage of being in place and its thermal sights were less affected by the smoke that soon covered everything than were the Soviet IR lights. But 10th Polish Tank Division's attack hit empty positions, and within an hour they were behind Kalisz in the division rear. Shortly before sunup, Polish armored vehicles entered the division headquarters area. The division commander radioed in the clear to all units, "Good luck. You're on your own, now."

G2, 5ID(M)
120100
120545 Jun 2000

ANNEX A (Enemy Dispositions) to INTELLIGENCE ESTIMATE NO 142

References: Per para 1, Intel Est 142

1. Three major groupings of Warsaw Pact forces have been identified in Poland. These are, from north to south, Baltic Front, 1st Western Front, and 2d Western Front. Together with Central Front in Czechoslovakia, these three fronts comprise the Western Strategic Direction (Western T.V.D.) of the Warsaw Pact, the headquarters of which is believed to be located in Lublin.

2. The recent offensive of German 3d Army has caused considerable losses in the Baltic Front grouping, and thus the strengths listed can no longer be considered accurate.

3. While the front has been quiet in the areas of 1st and 2d West Front, it is likely that some reserve formations have been detached from these groupings and have been shifted north to deal with the German Third Army breakthrough. Fuel shortages are likely to prevent the rapid completion of this redeployment.

4. The following abbreviations are used in this annex:
TD: Tank Division
GTD: Guards Tank Division
MRD: Motorized Rifle Division
GMRD: Guards Motorized Rifle Division
MarDiv: Marine Division
BGB: Border Guard Brigade
Unit identifications followed by (C) indicate units which are assessed as having been converted entirely to horsed cavalry.

NORTHERN POLAND: Baltic Front HQ: Malbork
1st Polish Army, HQ: Gdynia
Pol. 2nd MRD(C) (500 men): Wicko
Pol. 3rd MRD(C) (2,000 men): Lebork
Pol. 9th MRD (3,000 men, 10 tanks): Koscierzyna
Pol. 12th MRD(C) (2,000 men): Starogard
Pol. 19th MRD(C) (500 men): Malbork
Pol. 3 BGB (500 men): Gdynia
Pol. 12th BGB (500 men): Dabrowka
2nd Polish Army, HQ: Pita
Pol. 1st MRD (4,000 men, 20 tanks): Pita
Pol. 7th MarDiv (500 men): Czarnkow
Pol. 13th MRD(C) (1,000 men): Jastrowie
Pol. 4th BGB(C) (400 men): Chodziez
Pol. 5th BGB (500 men): Wronki

WEST CENTRAL POLAND: 1st Western Front, HQ: Poznan
1st Soviet Guards Tank Army, HQ: Gorzow Wielkop
Sov. 9th GTD (4,000 men, 25 tanks): Swiecko
Sov. llth GTD (500 men, 5 tanks): Sulechow
Sov. 25th TD (1,000 men, 5 tanks): Swiebodzin
Sov. 1st TD (3,000 men, 10 tanks): Rzepin
1st Polish Tank Army, HQ: Poznan
Pol. 5th TD (4,000 men, 35 tanks): Lwowek
Pol. 10th TD (2,000 men, 25 tanks): Steszew
Pol. 17th MRD(C) (3,000 men): Smigiel
Pol. 8th BGB (500 men): Poznan
Pol. 7th BGB (1,000 men): Kornik
8th Soviet Guards Army HQ: Gorlitz, Germany
Sov. 131st MRD (2,000 men, 15 tanks): Skwierzyna
Sov. 20th GMRD(C) (1,000 men): Miedyrzecz
Sov. 39th GMRD (3,000 men, 25 tanks): Kostrzyn

SOUTHWEST POLAND: 2nd West Front HQ: Legnica
2nd Soviet Guards Army, HQ: Gorlitz, Germany
Sov. 94th GMRD(C) (500 men): Swiebodzin
Sov. 21st GMRD (1,000 men, 5 tanks): Bautzen, Germany
Sov. 103rd MRD (4,000 men, 30 tanks): Cottbus, Germany
Sov. 117th MRD(C) (100 men): Gorlitz, Germany
Sov. 157th MRD (1,000 men, 5 tanks): Hoverswerda, Germany
20th Soviet Guards Army HQ: Gubin
Sov. 132nd MRD(C) (3,000 men): Peitz, Germany
Sov. 12th GMRD (4,000 men, 30 tanks): Gubin
3rd Soviet Shock Army HQ: Legnica
Sov. 12th GTD (2,000 men, 20 tanks): Legnica
Sov. 129th MRD (3,000 men, 5 tanks): Jelenia Gora
Sov. 127th MRD(C) (2,000 men): Glogow
Interior Forces:
Pol. 6th BGB (500 men): Lodz
Pol. 11th BGB(C) (500 men): Lublin

OTHER ARMED COMBATANT FORCES:

Polish 14th MRD: Last reported strength 2,000 men and 5 operational tanks. Commanding officer (Col. Julian Filipowicz) is believed to have refused orders to join forces moving against the allied concentration on the Baltic coast, and to have set up a semi-independent region in the vicinity of HLiwice. Agents attempting to open relations with him have not returned, and he must be assumed to be hostile to all parties to the war.

Polish 1st Free Legion (formerly 1st Border Guard Brigade): Last reported strength 600 men. Actively supports the Polish Government in exile, and has on occasion cooperated with DIA intelligance operations. Commanded by a former sergeant (S. I. Mastelarz). Radio contact recently lost with this unit. Believed to be operating in the area between Poznan and Glogow.

Polish 2nd Free Legion (formerly 10th Border Guard Brigade): Last reported strength 200 men. Commanded by Major M. K. Sikorski. Actively supports the Polish Government in exile and has engaged in extensive guerrilla attacks against Soviet troop convoys. Believed now to be operating in the area between Chojnice and Malbork.

Polish 8th Motorized Division: Last reported strength 2,000 men. Previously served as garrison of the city of Krakow. When Krakow Declared itself a free city, the division apparently did not leave the city and is presumed to form the cadre of the city's defensive force, which the former division commander, Major General Zygmunt Bohusz-Szyszko, may now be commanding.

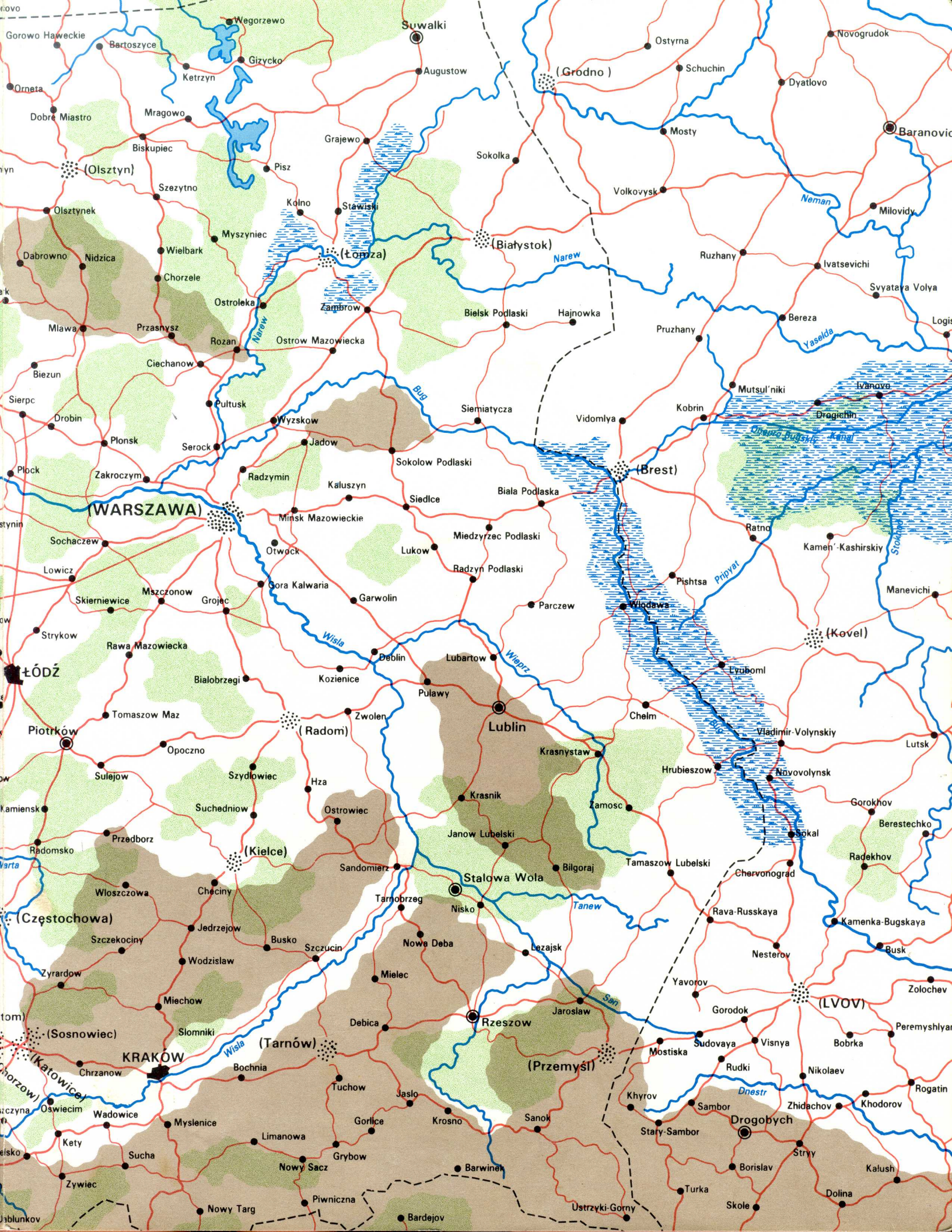
Soviet 10th Guards Tank division: Last reported strength 1,000 men and six operational tanks. Unit has nominally defected, but current attitude of unit and exact nature of command structure not known. There have been reports of contacts between senior officers of the unit and the CIA. Believed to be in the vicinity of Warsaw.

Soviet 6th Guards Motorized Rifle Division: Last reported strength 2,000 men and 10 operational tanks. Commanding officer Colonel Ya. N. Chekanov. An outstanding combat unit, three months ago the unit withdrew from the lines in the area between Frankfurt and Gorlitz, apparently without orders, and has not answered numerous radio communications from Warsaw Pact command. Current location and disposition unknown.

Soviet 9th Tank Division: Last reported strength 2,000 men. Unit mutinied in September of 1999 and later disintegrated into smaller bands of armed marauders, now believed to infest the area between Lodz and Czestochowa.

Soviet 207th Motorized Rifle Division: Last reported strength 600 men. Attached to Polish 1st Army but sustained serious losses in the attacks by German 3rd Army. Believed to have disintegrated, and bands of deserters may now infest the area between Pila and Bydgoszcz, the last reported position of the division.

TWILIGHT: 2000
Campaign Map - Poland
Copyright 1984, Game Designers' Workshop
All rights reserved. Printed in U.S.A.
Scale in kilometers
0
50
100
Wejherowo
Reda
Gdynia
(Gdańsk)
Wicko
Lebork
Ustka
Słupsk
Kartuzy
(Elbląg)
Braniewo
Darlowo
Slawno
Dabrowka
Sassnitz
Binz
Gohren
Sianow
Bytow
Koscierzyna
Tczew
Malbork
Pasłek
Kołobrzeg
Koszalin
Palanow
Starogard
Sztum
Mrzezyno
Karlino
Miatsko
Ostroda
Prabuty
Bialogard
Czerk
Gniew
Dziwnow
Trzebiatow
Bobolice
Bialy Bor
Nowe
Kwidzyn
Ilawa
Zinnowitz
Ahlbeck
Kamien Pomor
Polczyn Zrdroj
Szczecinek
Cztuchow
Chojnice
Tuchola
Grudiadz
Wisła
Usedom
Swinoujscie
Wolin
Ploty
Resko
Swiecie
Anklam
Nowogard
Lobez
Sepolno
Radzyn
Lidzbark
Ueckermunde
Zlocieniec
Czaplinek
Podgaje
Chelmno
Brodnica
Friedland
Goleniow
Wegorzyno
Jastrowie
Wiecbork
Chelmza
Pasewalk
(SZCZECIN)
Miroslawiec
Rypin
(Stargard)
Kalisz
Naklo
(Bydgoszcz)
Torun
Locknitz
Recz
Walcz
Pila
Szubin
Gryfino
Choszczno
Rusinowo
Kcynia
Lipno
Prenzlau
Gartz
Czlopa
Sluzewo
Chodziez
Znin
Wisła
Gramzow
Pyrzyce
Dobiegniew
Czarnkow
(Włocławek)
Schwedt
Oder
Banie
Inowroclaw
Mimersdorf
Chojna
Wagrowiec
Radziejow
Kowal
Angermunde
Strzelce
Strzelno
Mysliborz
Wronki
Oborniki
Mieszkowice
(Gorzów Wielkop)
Gniezno
Witnica
Warta
Sompolno
Krosniewice
Kutno
Bad Freienwalde
Pniewy
(Poznań)
Kostrzyn
Bernau
Skwierzyna
Lwowek
Wrzesnia
Konin
Kolo
Werneuchen
Seelow
Kostrzyn
Munchеburg
Miedzyrzec
Kornik
Ozorkow
Trzciel
Steszew
Sroda
(BERLIN)
Fustenwalde
Turek
Uniejow
Zgierz
(Frankfurt-an-Oder)
Grodzisk Wielkopolski
Swiebodzin
Koscian
Srem
Jarocin
Pleszew
Mullrose
Wolsztyn
Smigiel
Konigswusterhausen
Furstenberg
Szadek
Pabianice
Beeskow
Sulechow
Krosno Orczanskie
Kalisz
Zossen
Gostyn
Leszno
Zdunska Wola
Lask
Lieberose
Zielona Gora
Krotoszyn
Ostrow
Sieradz
Gubin
Wschowa
Lubben
Nowogrod
Nowa Sol
Rawicz
Milicz
Zloczew
Szczercow
Luckau
Spree
Peitz
Wasosz
Ostrzeszow
Cottbus
Forst
Zagan
Zary
Głogów
Zmigrod
Herzberg
Sycow
Kepno
Wielun
Finsterwalde
Spremberg
Berg Muskau
Szprotawa
Przemkow
Scinawa
Trzebnica
Bad Liebenwerda
Senftenberg
Lubin
Olesnica
Praszka
Oder
Hoverswerda
Chojnow
Namyslow
Krzepice
Elsterwerda
Rothenburg
Boleslawiec
Elbe
Legnica
(WROCŁAW)
Kluczbork
Riesa
Konigsbruck
Niesky
(Görlitz)
Zlotoryja
Olawa
Olesno
Grossenhain
Bautzen
Luban
Jawor
Pokoj
Meissen
Lobau
Brzeg
Lubliniec
Bischofswerda
Swidnica
Dobrodzien
Nossen
Ebersbach
(DRESDEN)
(Jelenia Góra)
Grodkow
Pirna
Rumburk
Szklarska Poreba
Walbrzych
(Opole)
Strzelce Opolskie
Liberec
Kamienna Gora
Cesky Kamenice
Zabkowice
Pyskowice
Freiberg
Podmokly
Jablonne
Jablonec nad Nisou
Krapkowice
(Gliwice)
Nysa
Ceska Lipa
Trutnov
Prudnik
Teplice
Turnov
Klodzko
Glucholazy
Kozle
Ústí nad Labem
Nachod
Jenenik
Marienberg
Litomerice
Mnichovo Hradiste
Bystrzyca
Raciborz
Most
Horice
Jaromer
Rybnik
Annaberg
Lovosice
Jicin
Mierdzylesie
Chomutov
Melnik
Mlada Boleslav
Hradec Králové
Zamberk
Cerv. Voda
Louny
Nymburk
Vamberk
Opava
Zatec
Chlumec nad Cidlinou
Sumperk
(Ostrava)
Slany
Lanskroun
Podborany
Cesky Brod
Labe
Pardubice
Dvorce
Zabreh
Sternberk
(PRAHA)
Kolin
Chrudim
Litomysl
Mohelnice
Frydek


Wegorzewo
Suwalki
Gorowo Haweckie
Bartoszyce
Gizycko
Ketrzyn
Augustow
(Grodno)
Ostyrna
Novogrudok
Schuchin
Dyatlovo
Orneta
Dobre Miastro
Mragowo
Mosty
Baranovic
Biskupiec
Grajewo
Sokolka
(Olsztyn)
Pisz
Szczytno
Volkovysk
Neman
Kolno
Stawiski
Olsztynek
Milovidy
Myszyniec
(Bialystok)
Dabrowno
Nidzica
Wielbark
(Lomza)
Narew
Ruzhany
Ivatsevichi
Chorzele
Svyataya Volya
Ostroleka
Zambrow
Bielsk Podlaski
Hajnowka
Mlawa
Przasnysz
Narew
Pruzhany
Bereza
Logis
Rozan
Ostrow Mazowiecka
Yaselda
Ciechanow
Biezun
Mutsul'niki
Ivanovo
Sierpc
Bug
Siemiatycza
Vidomlya
Kobrin
Drogichin
Pultusk
Drobin
Wyszkow
Dnepro-Bugskiy Kanal
Plonsk
Jadow
Serock
Sokolow Podlaski
(Brest)
Plock
Zakroczym
Radzymin
Kaluszyn
Biala Podlaska
Siedlce
(WARSZAWA)
Minsk Mazowieckie
Ratno
Sochaczew
Miedzyrzec Podlaski
Kamen'-Kashirskiy
Stokhod
Otwock
Lukow
Lowicz
Radzyn Podlaski
Pripyat
Pishtsa
Gora Kalwaria
Mszczonow
Manevichi
Skierniewice
Grojec
Garwolin
Parczew
Wlodawa
Strykow
(Kovel)
Wisla
Rawa Mazowiecka
Deblin
Lubartow
Wieprz
Lyuboml
ŁÓDŹ
Bialobrzegi
Kozienice
Pulawy
Chelm
Tomaszow Maz
Zwolen
Lublin
Vladimir-Volynskiy
Piotrków
(Radom)
Bug
Lutsk
Opoczno
Krasnystaw
Sulejow
Szydlowiec
Hza
Hrubieszow
Novovolynsk
Krasnik
Gorokhov
Suchedniow
Ostrowiec
Zamosc
Janow Lubelski
Berestechko
Przedborz
Sokal
Radomsko
(Kielce)
Tamaszow Lubelski
Radekhov
Sandomierz
Bilgoraj
Chervonograd
Stalowa Wola
Wloszczowa
Checiny
Tarnobrzeg
Nisko
Tanew
Rava-Russkaya
(Częstochowa)
Kamenka-Bugskaya
Szczekociny
Jedrzejow
Busko
Szczucin
Nowa Deba
Lezajsk
Nesterov
Busk
Wodzislaw
Zyrardow
Mielec
Yavorov
Zolochev
Miechow
San
Jaroslaw
(LVOV)
Gorodok
Debica
Rzeszow
Peremyshlyan
Slomniki
Sudovaya
Visnya
Bobrka
(Sosnowiec)
Wisla
(Tarnów)
Mostiska
(Przemyśl)
KRAKÓW
Bochnia
Rudki
Nikolaev
Chrzanow
Tuchow
Jaslo
Khyrov
Dnestr
Rogatin
Oswiecim
Wadowice
Sambor
Zhidachov
Khodorov
Myslenice
Gorlice
Krosno
Sanok
Drogobych
Stary Sambor
Kety
Limanowa
Stryy
Sucha
Grybow
Borislav
Kalush
Nowy Sacz
Barwinek
Zywiec
Turka
Dolina
Piwniczna
Ustrzyki Gorny
Skole
Nowy Targ
Bardejov

Play Manual

Character Generation: Load is (2 x STR) + CON, as stated on the worksheet.

Upkeep: Under effects of starvation, ". . . STR, AGL, CON, and AGL . .." should read, "... STR, AGL, CON, and INT ...".

Referee's Manual

Combat, Part 2, Damage Location: When a vehicle gets a suspension hit, go directly to component damage. After a hit does 100% damage to the suspension, further hits do not go on to any other component. (Exception: see mines.)

Skills, Part 2: The maximum level in any skill is 100.

Under skill improvement, teaching a skill is AVG:INS - (number of students), not 5 x number of students.

Other Rules:

Disease: The example of recovery fails to take into account Monk's CON, which adds 60 (5 x 12), for a total of 261.

Radar: Mortar counterbattery radar may be used to fire artillery at enemy mortars without seeing them. The radar must be set up and manned, the enemy mortar must have fired at least two shots from the same position, and the operator must succeed at ESY:ELC to locate the enemy position. Friendly artillery may then fire using standard indirect fire rules, with no FO needed; corrections are not possible.

Artillery counterbattery radar works the same way, but may be used to locate any artillery, not just mortars.

Ground surveillance radar may be used to spot moving objects. The radar must be set up and manned, the object must be moving, and the operator must succeed at ESY:ELC. Human-sized targets can be spotted at 1500 meters, vehicles at 3000 meters. Radar is unaffected by smoke, fog, etc., but is affected by trees and other solid obstacles. If successful, contact reveals nature (human or vehicle-sized), range, bearing, and speed. Indirect fire is possible.

Chemical Sensors: Both types of sensors can be used to detect chemical clouds (including HC and incendiary smoke), although they cannot identify type. The chemical sniffer reveals the presence of a chemical cloud if it is within 10 times the cloud's radius of the cloud center. The optical sensor must be pointed in a particular direction and detects any cloud in the line of sight, reading out in distance.

Medical Supplies: Whole blood and plasma must be kept frozen. Liquid antibiotics and insulin must be kept refrigerated.

Players' Charts

Skill List: The skill HB (Hunting Bow) should be LB (Long Bow). The following two skills were omitted:

TVD $MBE_{2,3}$ *Tracked Vehicle Driver:* Ability to drive a tracked vehicle.

WVD MBE_{2} *Wheeled Vehicle Driver:* Ability to drive a wheeled vehicle.

Referee's Charts

Vehicle Damage Location List: *FD* means front deck, *TD* means turret deck, and *BD* means back deck. All entries of *RD* should read *BD.*

Combat Tables: The AKM is an assault rifle, not a battle rifle. A vz59 has a magazine capacity of 33, not 17.

Mines were left out. Here are the relevant combat values for mines:

Type	*Dam*	*Arm*	*KDR*	*Burst*
Antipersonnel	x10C	x4	10	20
Anti-tank	x 40C	x 4	15	30
Claymore	x 5C	x 4	5	
FASCAM	x30C	x4	15	30

Vehicle Hit Location Chart: A die roll of 4 on the *oblique* table should read R/L:G.

In the notes, the terms *first letter* and *second letter* should be reversed.

Disease Table: The table is not labeled. It is the table in the left column of the seventh page. Disease is present in encampments on a roll of 11 or greater, not 10. Disease is present in settlements on a roll of 12 or greater, not 11.

Equipment List

Automatic Pistols: The Tokarev is a 7.62mm pistol, not 9mm.

Submachineguns: The Uzi has a *Mag* of 11.

Melee Weapons: A machete costs $20.

Machineguns: The MG3 costs $ 1700 and uses an NLT tripod.

Heavy Machineguns: The M214 accepts 333-shot belts. The KPV accepts 33-shot belts.

Vehicles: Where vehicle movement rates, fuel capacities, and fuel consumptions conflict with the travel movement table, the table is correct.

The following vehicles are radiologically shielded: M-2, BMP-B, BMP-C, LAV-25, LAV-75, M-1E1, M-1E2, T-72, T-80, T-90, M-988, SAU-122, SAU-152, ZSU-30-6.

Animals: The combat move of a horse is 10/20/60. The combat move of an ox is 5/10.

Mines: Antipersonnel mines weigh 4 kg, 20 kg per case of 4. Anti-tank mines weigh 12 kg, 35 kg per case of 2. Claymores weigh 2 kg, 25 kg per case of 6.

Radios: 5/25 km secure manpack/vehicular radios have an availability of (R/R).

Rangefinders: Vehicle coincidence rangefinders cost $7000.

Body Armor: The kevlar flak jacket and the kevlar vest are the same item. The plate insert jacket and the flak jacket are the same item. Both of them cover the chest and abdomen.

Price List

Vehicles: The availability of the 3/4-ton truck is (S/S).

Melee Weapons: A bayonet costs $20.

Food (price per kilogram): MRE: $8 (S/R); domestic food: $4 (V/V); wild food $2 (C/C).

Fuel (price per liter): Gas: $48 (R/R); avgas: $60 (R/R); diesel: $40 (R/R); ethanol: $8 (C/C); methanol: $4 (V/V).

Campaign Map

Two towns were left off, both near Frankfurt-an-Oder. Rzepin is about 10 km east of Frankfurt on the road to Swiebodzin. Swiecko is about 5 km southeast, on the road to Krosno Orczanskie.

CHARACTER GENERATION WORKSHEET

1. Basic Attributes [= 4D6 – 4; roll 0 over; may favor or slight attributes in pairs before rolling]

Attribute	*F/S*	*Roll*	*Adjusted*
Fitness FIT			
Agility AGL			
Constitution CON			
Stature STA			
Intelligence INT			
Education EDU			

2. Total TOT

3. Strength STR [= (FIT + STA)/2]

4. Hit Capacity

Head [= CON]

Chest [= STR + CON + STA]

All others [= CON + STA]

5. Throw range [= 2 × STR]

6. Weight [= (4 × STA) + 40)]

7. Load [= (2 × STR) + CON]

8. Military Experience Base MEB [= (120 – TOT)/7]

9. Time (Months) in Combat TIME [= (MEB)D6]

10. Rads [= (MEB)D6]

11. Coolness under Fire [= 10 – 1D6 – (TIME/10)]

12. Age [= (TIME/12) + EDU + 8 + (N)D6; N depends on TIME indicated in table 1 below]

13. Army and Nationality [player choice]

14. Native Language(s) [consult nationality & languages table]

15. Officer (yes or no) [Yes if INT + EDU ≥ 2D6 + 16]

16. Rank Number [= (TIME/10) + N; to find N roll 1D6 and consult Table 2]

17. Rank [consult Table 2]

18. Specialty [consult specialty table and roll 2D6]

19. Service Branch [depends on specialty]

20. Benefits of Specialty [see specialty table]

21. Skill Points:

Military [= MEB × 40]

Education [= EDU × 20]

Background 300

22. Skills

Skills	*Level*	
CRM	20	
MC	20	
BC	20	
WVD	40	
TW	20	
SWM	20	
LNG(_____)		
LNG(_____)		
LNG(_____)		
LNG(_____)		
LNG(_____)		

23. Body Combat Damage [= (STR + STA) × BC/200]

24. Base Hit Numbers

Skill	Close [= × .6]	Med. [= × .3]	Long [= × .1]
CRM			
PST			
HW			
LCG			
HB			

25. Equipment Purchase Allowance [= 500 × TIME; × 2 if officer]

26. Equipment

List equipment on a separate sheet

TABLE 1

TIME	*N*
70	4
60	3
50	2
49	1

TABLE 2

Roll	*N*
1 or 2	– 1
3 or 4	0
5 or 6	+ 1

CHARACTER RECORD SHEET

Character's Name: _____ Age: _____

Rank: _____ Branch: _____ Specialty _____

Nationality: _____ Weight: _____

Basic Attributes

STR	Strength	_____
AGL	Agility	_____
CON	Constitution	_____
STA	Stature	_____
INT	Intelligence	_____
EDU	Education	_____

Coolness under fire _____

Rads _____

Load _____

Throw Range _____

Hit Capacity

_____ (Head)

_____ (Chest)

_____ (L. Arm) _____ (R. Arm)

_____ (Abdomen)

_____ (L. Leg) _____ (R. Leg)

Equipment

Skills

Level	*Skill*	*Level*	*Skill*
____	CRM (combat rifleman)	____	_____
____	MC (melee combat)	____	_____
____	BC (body combat)	____	_____
____	WVD (wheeled vehicle driver)	____	_____
____	TW (thrown weapon)	____	_____
____	SWM (swimming)	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____

Base Hit Numbers

Skill	*Range* S	M	L
CRM	_____	_____	_____
PST	_____	_____	_____
HW	_____	_____	_____
LCG	_____	_____	_____
LB	_____	_____	_____

Body Combat Damage _____

VEHICLE RECORD SHEET

Vehicle Type _____

Weight _____

Internal Load _____

External Load _____

Passengers _____

Crew D C G L L L

Armament: Main _____ ROF _____

Gunner's MG _____ ROF _____

Missile Lnchr _____ ROF _____

Commander's MG _____ ROF _____

Other _____ ROF _____

Other _____ ROF _____

RF: + _____

Ammo: _____

_____

_____

Combat Speed _____ / _____

VEHICLE DAMAGE LOCATION

R: LH( ),G( ),HB( ) ..... _____

L: LH( ),G( ),HB( ) ..... _____

R: TF( ),TB( ) ..... _____

C: TF( ),TB( ) ..... _____

L: TF( ),TB( ) ..... _____

TS: ( ) ..... _____

F: HS( ) ..... _____

C: HS( ) ..... _____

R: HS( ) ..... _____

FD ( ) ..... _____

TD ( ) ..... _____

BD ( ) ..... _____

Maintenance

Maintenance # _____

Wear Value _____

Breakdowns _____

Travel

Fuel Capacity _____

Fuel Consumption _____

Fuel Types _____

Travel Speed _____ / _____

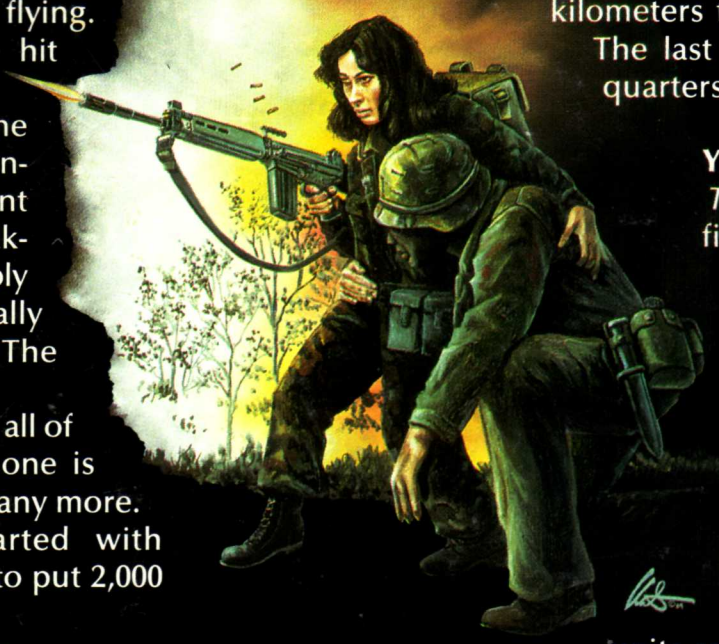
Amphibious? Y N

Component Damage

Component	Percent

Cargo

TWILIGHT: 2000™



For five years, the armies of the world have fought back and forth across Europe. Three years ago the missiles started flying. Most countries were hit hard in the nuclear exchange, but no one had a decisive advantage, and the war went on. Tanks began breaking down and the supply of spare parts gradually dwindled to zero. The sophisticated artillery weapons have shot off all of their ammo, and no one is capable of producing any more. Divisions which started with 20,000 men are lucky to put 2,000 in the field.

But the war goes on.

You are part of the remnants of the leading U.S. division of NATO's last drive into Central Poland. There isn't much in the way of organized military forces left on either side, and the local warlords, militia and murderous bands of marauding deserters rule the countryside. Your division has been overrun and your group is hundreds of kilometers from the nearest friendlies.

The last message from division headquarters read:

GOOD LUCK.
YOU'RE ON YOUR OWN.

Twilight: 2000 is unique in the field of role-playing games. It's set in a post-holocaust environment, but the characters are modern soldiers thrown onto their own resources by the gradual breakdown of the command structure and civilization. Modern equipment is there, but very rare. Gasoline is almost non-existent, so units carry alcohol stills to make their own fuel. People remember what it was like before the war, but civilization is unraveling everywhere. The war goes on, but that's the least of a character's problems.

Twilight: 2000 is a complete role-playing system for survival in a devastated post-holocaust world. Rules cover character generation, living off the land, encounters, combat, skills and skill improvement, medicine, vehicles, ammunition, trade and much more.

The combat rules are a major breakthrough. One general combat resolution procedure covers all types of combat: hand-to-hand, melee weapons, small arms fire and fire against armored vehicles. Once the basic three-step combat sequence is understood (Did you hit? Where did you hit? How hard did you hit?), combat is quick and easy to resolve, but the wide range of weapons values keeps the system rich in detail.

The background to the war is covered in detail, and extensive material on the state of the world is included to assist the referee. The beginning adventure is actually a campaign and is the most complete adventure of its type to appear in a role-playing game. It not only gets you playing quickly, it provides many gaming sessions worth of encounters and adventures and then easily blends into your own campaign.

Game charts are in a separate chart booklet, and are arranged so that each two-page spread of charts contains all the information needed to referee one aspect of the game (travel, encounters, personal combat, vehicle combat, etc.) so there is no flipping back and forth searching for the correct chart during play. From the referee's point of view, it is a very user-friendly game.

ISBN 0-943580-50-1

GDW Game Designers' Workshop
P.O. Box 1646
Bloomington, Illinois 61702-1646

Game Components:
24-page play manual
32-page referee's manual
Full-color adventure map
8-page chart book
8-page beginning adventure
Two adventure handouts
12-page equipment book
Equipment price list
Character worksheets and record sheets
One ten-sided die
Four six-sided dice

Complexity Rating
Introductory
Basic
Intermediate
Advanced
Master

Intermediate: A rich and detailed game system, easily grasped by experienced players. Extensive introductory material included to assist beginning players.

Game Credits
Design: Frank Chadwick
Development and Additional Design:
John Astell, John Harshman, and Loren Wiseman
Art Direction: Paul R. Banner
Box Cover Painting: Steve Venters