

TRAVELLER™

2300

REFEREE'S MANUAL

GAME DESIGNERS' WORKSHOP

**“There can be no thought of finishing,
for ‘aiming at the stars,’
both literally and figuratively,
is a problem to occupy generations,
so that no matter how much progress one makes,
there is always the thrill of just beginning.”**

**—Dr. Robert Goddard
(in a letter to H. G. Wells)**

The Game Designers' Workshop Design Staff

The placement of the apostrophe says volumes about GDW. Its position after the “s” of Designers means that we are an association of many, rather than the handiwork of just one. Our philosophy has served us well— from the very beginning, GDW has produced quality, award-winning, games and simulations. **Traveller: 2300** is one of them. The award-winning design staff which worked on the game includes:

Marc W. Miller. Designer of the best-selling **Traveller** science fiction role-playing game and many historical and science fiction boardgames including **Imperium** and **Triplanetary**. His games have been recognized across the entire spectrum of gaming; they have won the Charles Roberts Award, the H. G. Wells Award, the Strategist's Club Award, and the Game Designers' Guild Award. Marc was elected to the Adventure Gaming Hall of Fame in 1981.

Frank Chadwick. Designer of the best-selling **Twilight: 2000** role-playing game. Frank is one of the great systems designers in modern gaming; he is responsible for the game systems behind more than 50 titles, including the **Third World War** series, the **Assault** series, much of the **Europa** series. He has designed award winners in boardgames, role-playing, and miniatures. He was elected to the Adventure Gaming Hall of Fame in 1985.

Timothy B. Brown. Experienced writer, developer, editor, and designer. He worked his way up through the GDW organization, showing his talents and making himself indispensable. He naturally gravitated to development, where he has made his mark on **Twilight: 2000** and **Traveller** products.

The background history for **Traveller: 2300** was developed over the course of 1985-86 using a grand social-political-economic-military-diplomatic simulation known fondly here as *The Game*. The future course of history depended not on just one person's ideas of what the future would be like, but on the interaction of many people's ideas— the ones that survived were the ones that withstood the conflict and diplomacy of *The Game*. Beginning with the conduct of World War III, players manipulated their nations on five or ten year turns to bring them into the future of 2300. Players in *The Game* were—

John Astell (Mexico, Romania, and India).

Rich Banner (Russia, Zimbabwe, and Canada).

Kevin Brown (Cuba, the Ukraine, and Australia).

Timothy B. Brown (United Kingdom, Algeria, and Manchuria).

Larry Butz (Venezuela, Italy, Iran, and Angola).

John Harshman (France, Argentina, and Israel).

Dr. David MacDonald (Military Government of the United States, Poland, and Canton).

Marc W. Miller (Azania, Japan, Bolivia, and Egypt).

Matt Renner (Civilian Government of the United States, Sweden, and Nigeria).

Wayne Roth (Brazil, Spain, and Turkey).

Loren Wiseman (New America, Germany, and Indonesia).

Frank Chadwick (Referee and kibbitzing player).

Significant Contributions

Additional help in the design, development, and production of **Traveller: 2300** came from many quarters. They included: Loren Wiseman for basic science fiction conceptualizations and background development. Gary Thomas and Joe Fugate of Digest Group for their task system design and development. John Harshman for some basic science fiction conceptualizations. Matt Renner and Kevin Brown for character generation systems. Steve Venters for the **Traveller: 2300** logo, equipment and weapons conceptualizations, and the box cover painting. Bryan Gibson for vehicle designs.

Artists contributing to this game: D. J. Barr, Tim Bradstreet, Steve Venters, Bryan Gibson, Rob Caswell, Dana Reischauer, Dan Panosian, Liz Danforth, Tom Peters. Barbie Pratt provided art direction and graphic design.

The Game Designers' Workshop production staff includes: Darlene File, Vera Nerby, Barbie Pratt, Elena Santos, and Dana Reischauer.

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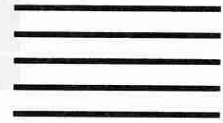
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Life on the Frontier

No simple description of life in the colony worlds will suffice since there are over thirty worlds with human inhabitants and, to some extent, each one is unique. Tirane, the first colony world, has large technologically advanced cities, and is in many respects a less-crowded and better-designed version of Earth. The early colonies on Tirane have been in existence for 133 years, and there are currently fifth and sixth generation Tiraneans. More recent colonies may often have only second or third generation colonists, and these are always in the minority as immigration tends to be the largest component in colonial population growth. Second and third generation colonists on such worlds often view "tenderfoot" immigrants with very mixed emotions. In the two Incan colonies there are no second generation colonists older than their teens, and very few of these. Effectively, all inhabitants are there because they moved there and are carving new homes from the wilderness.

One aspect of frontier psychology which separates first generation colonial immigrants from native-born human inhabitants of the planet is their views toward the mother country. Native-born colonists tend to think of themselves as citizens of their planet rather than of the home country, while immigrants have stronger emotional ties to the motherland. On many worlds with multiple national colonies the native-born inhabitants feel they have more in common with other natives of the world than with the citizens of their country back on Earth, and this often causes friction. Territorial boundaries between national colonies often mean more to politicians back home than to the actual inhabitants of the area. When international tensions run high and neighboring colonies find themselves on opposite sides of the fence it is generally the immigrants who swell the ranks of newly raised local military forces; the "old-timers" are usually more inclined to leave their neighbors on the other side of the imaginary political line in peace.

On the other hand, neighboring colonies sometimes generate friction of their own over some local issue, such as water or mineral rights in an area. If the owning governments enjoy otherwise friendly relations, the dispute is often viewed as an irritation by the central authorities causing further estrangement between Earth and the colonies.

Despite all of the above, however, a sense of national, linguistic, and cultural identity remains a central element to human self-image. Mankind has not yet become sufficiently cosmopolitan to achieve an end to the nation state.

One aspect of frontier life which continues to draw immigrants and holds native colonists to their home is the continuous excitement and challenge of the unknown. Even in the twentieth cen-

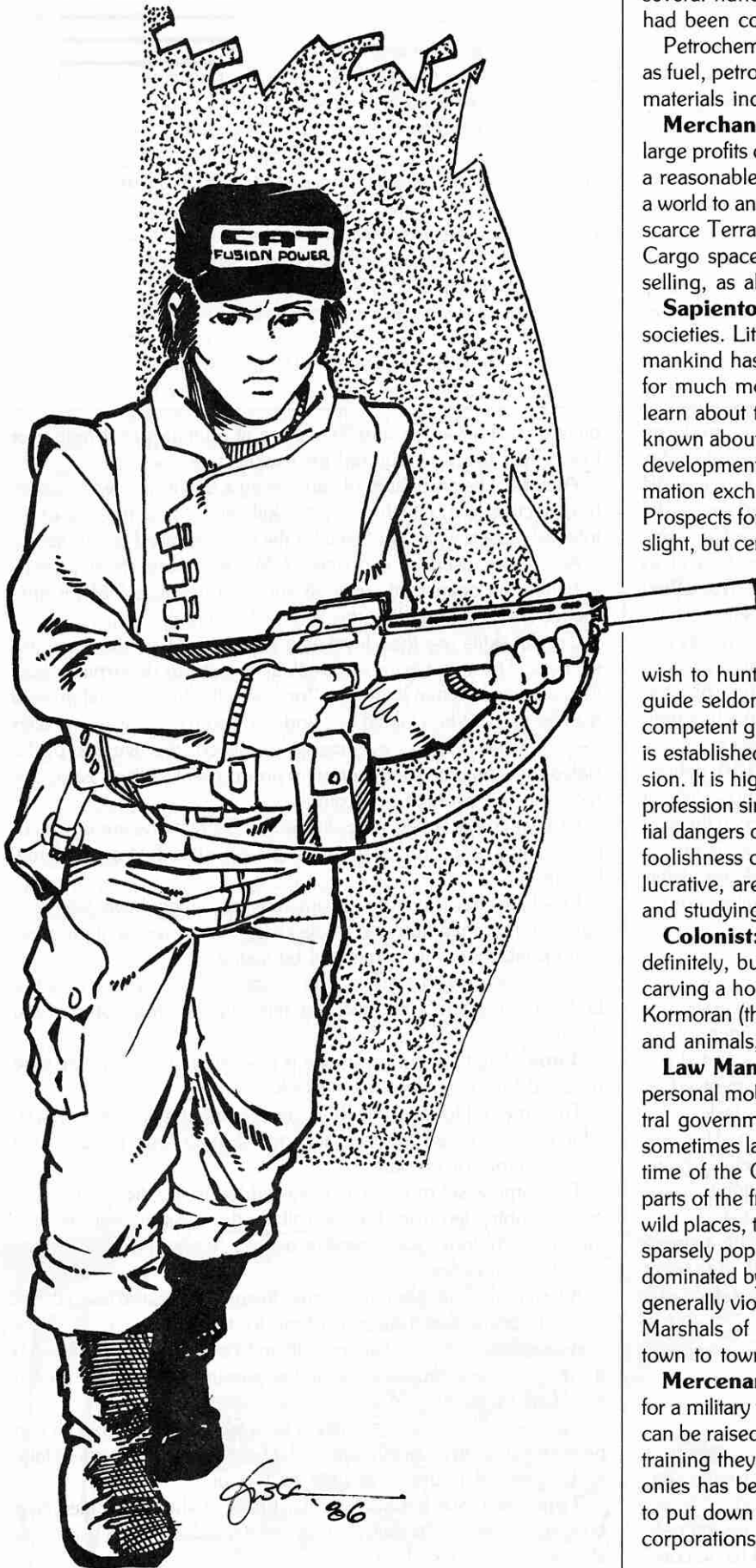
tury there were regions of Terra which had scarcely been mapped, let alone extensively explored, and that was on a world literally teeming with people. The colony worlds all remain almost entirely unexplored except in the most cursory fashion. While all points on the world are theoretically accessible by modern means of transportation, there simply have not been enough people nor time to even begin a complete exploration of any of the worlds. For those who crave isolation and untouched wilderness, there is always another valley over the next mountain range, and many small family ranches or farms can be found scattered around the surface of many worlds.

A variety of occupations are engaged in by frontiersmen, and game players can take any of these as a guide to their adventures. A brief list is presented below and is intended to be a springboard for your imagination rather than a limit to it.

Explorer: The colony worlds remain largely unexplored; in addition, there are virgin worlds not yet even visited by humans which can be explored. Often a scientific organization, foundation, or entertainment company will finance such an exploration. Earth's demand for entertaining and informative documentaries about alien worlds is nearly inexhaustible. Extensively filmed safaris into unexplored territory command good prices, especially if the element of danger and excitement is high. The trick is not only to survive, but to get it all on film!

Governments will often pay for more practical surveys of an area, as a prelude to colonization or out of interest in potentially exploitable minerals. Fully exploring even a 100 kilometer hex can take weeks, depending on what is to be accomplished. One task might be simply to catalog the native life present. Since there is usually more than one animal occupying a single niche in the food chain, a referee may have a party camp and explore an area and conduct animal encounters until they have encountered the top carnivore, two each of the next tier of animals, four each of the next tier of animals, and ten each of the next tier. This should give a reasonably complete catalog of the carnivores, omnivores, and herbivores in a region. Of course, in areas of scarcer life there would not be as many tiers and a much lower diversity of life.

Prospector: Minerals are still valuable. Bulk ores (such as iron) are useful, but not particularly rare. Radioactives are extremely useful in medicine, research, and some power plants, and thus command high prices. Tantalum, the extremely rare metal used in the central coils of the Jerome Effect star drive, is worth fortunes to the lucky prospector who finds it. (However, by the year 2300 there were only 47 major tantalum deposits discovered on



all of Terra, which should give some indication of the scarcity of the mineral. None of these "major" deposits contained more than several hundred metric tons when discovered, and by 2300 all had been completely mined out.)

Petrochemicals are another valuable find. Although seldom used as fuel, petrochemicals remain extremely valuable to the synthetic materials industry.

Merchant: You don't need a starship to be a merchant. While large profits can be made carrying goods from one star to another, a reasonable living can be made trading goods from one part of a world to another. This is particularly true on enclave worlds where scarce Terran technology can be traded for unique alien goods. Cargo space on bulk carriers can be contracted for; the key to selling, as always, lies with the salesman.

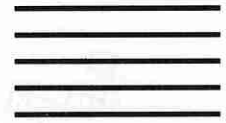
Sapientologist: Sapientologists study alien cultures and societies. Little is known about any of the alien races with which mankind has contact. After all, none of them have been known for much more than fifty years, which is not very much time to learn about the history and culture of an entire species. More is known about the Sung than any other race, as their technological development was so close to ours that rapid and large-scale information exchange could easily take place on a meaningful level. Prospects for learning more about the Kafers are, at the moment, slight, but certainly challenging. The Xiang, Ebers, and Pentapods, however, are both open to contact and are fascinating, unknown races.

Guide: The lure of the wilderness is strong in most humans, and wealthy individuals often wish to hunt or explore in dangerous territory. Those without a guide seldom return, which results in a high demand for those competent guides who are available. Once a reputation as a guide is established, a character can make a good living at the profession. It is high paying and interesting. It is also a fairly dangerous profession since the guide is almost constantly subject to the potential dangers of the wilderness complicated by the inexperience and foolishness of his wealthy safari parties. Less glamorous, but also lucrative, are scientific parties with a genuine reason for visiting and studying an area.

Colonist: Characters may not choose to remain colonists indefinitely, but there is considerable adventure involved in simply carving a home out of the wilderness. This is particularly true on Kormoran (the Eber homeworld), where in addition to the elements and animals, colonists must deal with local natives as well.

Law Man: The combination of low population density, high personal mobility, the lure of riches, and fairly low respect for central government makes much of the frontier a pretty rough and sometimes lawless place. Think of the American West around the time of the Civil War and you have a pretty good feel for many parts of the frontier. While the starport cities themselves are often wild places, the most challenging assignments for lawmen are the sparsely populated ranges where small settlements are sometimes dominated by corrupt politicians, terrorized by local gangs, or just generally violent, anarchic places to live. Much like the Territorial Marshals of the American West, lawmen are often moved from town to town to "clean up" the less savory elements.

Mercenary: When border disputes erupt, there is often a need for a military force to assert or defend a colony's rights. Local militia can be raised, but in the absence of a standing army and universal training they tend to be poor units. The alternative for many colonies has been the hiring of mercenaries. Mercenaries are used to put down insurrections or hunt down frontier bandits. Private corporations sometimes hire them as special security guards.



Tasks

A task is any important activity which characters can perform; any activity can be a task. Characters face tasks as natural consequences of their adventures and ambitions; they may face a single task, or a series of tasks. Proper selection of tasks and successful completion of those tasks is what leads to success in adventures.

Because these game rules define and describe tasks (as well as allowing the referee to also define and describe tasks), **Traveller: 2300** players are given understandable and consistent descriptions of what must be done to accomplish missions. Referees can use tasks to handle recurring situations on a consistent basis, confident that they are being fair in their dealings with their players. Players can, on the basis of task statements, predict which of their number will be most likely to succeed in specific tasks.

Overview: The task concept in **Traveller: 2300** defines specific undertakings by noting what must be done, how difficult it is to do, and what skills and characteristics will influence the success of the task. Specific rules handle tasks which may be uncertain, hasty, hazardous, or unskilled. Attempting the task also determines how long it took. Finally, rules cover the negative consequences of failure in a task attempt.

TASK COMPONENTS

Tasks are written in a specific format to allow all necessary information to be included. Each task consists of a statement of the task, its degree of difficulty, the assets (characteristics and skills) which may modify the outcome, and the time factor involved. A task may be identified by type if it is not a standard task.

Task Statement: A short, but complete, description of the task conveys to the players and the referee the actions being undertaken. The task statement should have enough information to make it distinct, but not be wordy enough to make it unclear.

The basic concept of the task statement is to describe a single action which can reasonably be considered by itself. Repair of damaged items may, for example, be broken down into a diagnosis task and a repair task.

Examples of task statements are:

To sneak past a compound guard.

To repair a broken radio.

To solve a complex mathematical equation.

Difficulty: Difficulty indicates the probability of success in a specific task. There are five levels of difficulty: simple, routine, difficult, formidable, and impossible.

Difficulty indicates the basic 1D10 throw needed for success in completing a task. Routine tasks require 7+ (on 1D10) to com-

plete; the other levels of difficulty are at multiples of 4 higher or lower than the 7+ required for routine tasks.

Assets: The probability of completing a task is affected by assets (a collective term which refers to skills and characteristics or attributes). Assets which are listed for the task are called crucial assets.

Assets are used as a positive DM for success (better DM's enhance the chance of success) and as a negative DM for time (better DM's accomplish the task in less time).

Crucial skills use their level as a positive DM on the throw for success. The manner in which skills are stated determines how they are used. When joined by "or" only the highest skill present may be used. When joined by "and," the sum of all available skills may be used. When "average of" is stated, the average of the stated skills may be used (counting non-present skills as zero, and reducing the average accordingly).

Crucial characteristics are divided by 5 (fractions are dropped, producing a range from 0 to 4) and are a positive DM on the throw for success.

Labelled characteristics (characteristics which have labels or names rather than numeric values) may be referred to; if they are, appropriate numeric values will be stated.

Assets shown with a minus sign are detriments; they are negative DMs on the die roll, and work against success in accomplishing the task.

Time: The time period shown is *one-tenth* of the average time required for completion of the task.

The time roll for a task is 3D6; an average throw of 3D6 is 10, which produces an average accomplishment time equal to the average time for the task.

The same asset modifier that was added to the die roll for success is subtracted from the die roll for time. Assets help reduce the time required to accomplish a task. Assets may not reduce the time roll below 3.

A task may omit mention of time; in such cases, the task is considered *instant* and it takes no time to accomplish.

A task may state *absolute* in addition to a period of time; in such a case, the task requires the stated amount of time and is not modified by assets.

For example, a task may state a time period of one hour. It can be accomplished in an average of 10 hours, although it could take as long as 18 hours or as little as 1 hour.

Type: If a task is not a standard task, it should be identified by type: *uncertain*, *unskilled*, *hasty*, or *hazardous*. Each such type affects how the task functions.

Uncertain or unskilled tasks should always be identified. Hasty and hazardous tasks are often variants of standard tasks, and may be identified only when they are attempted.

PROCEDURES

When confronted with a task, the characters are aware of the situation and indicate to the referee their intentions. With these intentions in mind, the referee selects an already established task, or generates a new one specifically for the situation. The procedure for resolving the task is then used.

Attempting a Task: The player determines assets which apply to the task, and creates a DM for the task.

If related skills are to be used or can be used in place of the crucial skills, the referee should tell the player.

If the task is to be hasty, the player indicates that to the referee. If the task is hazardous, or uncertain, or both, the referee indicates that fact to the player.

The player then throws 1D10 (die roll results 0 to 9) to determine success. The throw required is determined by the difficulty level of the task. A natural roll of 0 (regardless of DMs) is a fumble, and the task is an automatic failure.

The noted DMs are added to the throw and its result is compared to the required throw for the difficulty level.

If the modified throw equals or exceeds the required throw, then the task is successful. The character continues with his or her actions.

If the modified throw is less than the required throw, then the task is a failure. The character must consult the failure type table.

In all cases, the player determines the time elapsed for the task attempt. The time elapsed is the time required to complete the task attempt, regardless of success or failure. The player throws 3D6 and applies the same DMs that were used for success, but now subtracts them from the 3D6 throw. DMs may not reduce the result below 3. The result is multiplied by the time stated for the task and produces the total elapsed time for the task attempt.

If no time is stated for the task, the attempt takes no time. If an absolute time is stated for the task, then the task takes that amount of time and no time throw is made.

Failure: If a task attempt is unsuccessful, then the player must consult the failure type table. For most tasks, the throw is 2D6; if the task is hazardous, the throw is 3D6.

The failure type table produces five types of results: reroll, retry, check determination, mishap (2D6), and serious mishap (3D6).

Reroll requires the player to reroll on the failure table.

Retry allows the player to retry the task again without penalty, if desired.

Check Determination requires that the player stay determined if he is to retry the task without penalty. To stay determined is itself a task.

Mishap (2D6) requires the player to consult the mishap table

using 2D6. After reacting to, absorbing, or correcting the effects of the mishap, the player may check determination and retry the task if successful.

Serious Mishap (3D6) requires the player to consult the mishap table using 3D6. After reacting to, absorbing, or correcting the effects of the mishap, the player may check determination and retry the task if successful.

Mishaps: Negative results from a failure are indicated on the mishap table. Mishaps range from superficial through minor and major to total or destroyed.

The referee must determine the implementation of specific mishaps in relation to a task attempt. Damage produced should relate to equipment, devices, vehicles, or participants in the task.

Superficial mishaps produce superficial damage to equipment and/or a potential light wound. Superficial damage affects appearance but not function or operation. A device may take any number of superficial damages without impairing its operation.

Minor mishaps produce minor damage to equipment and/or a potential light wound.

Major mishaps produce major damage to equipment and/or a potential serious wound.

Total mishaps produce total damage (destruction) to equipment and/or a potential kill.

Unrepaired damage levels above superficial are added together. Two minor damages create major damage; major damage and minor damage on a device creates total damage and destroys it. The referee may, however, rule some larger devices (vehicles, for example) are composed of component devices and record damage levels on component devices separately.

Diagnosis: When a mishap produces damage to a device, it must be repaired before it can again be used. Before it can be repaired, the nature of the damage must be diagnosed.

Diagnosis is an uncertain task whose level of difficulty corresponds to the level of damage to the device. Diagnosing superficial damage is a simple task; diagnosing minor damage is a routine task; diagnosing major damage is a difficult task; diagnosing total damage is a formidable task.

The time interval required for a diagnosis task, and the assets applying to the task, must be established by the referee.

Damage and Repair: Diagnosed damage may be repaired using the damage and repair table. Each level of damage has an associated difficulty level for the task to repair.

The damage and repair table assumes repairs are undertaken in a repair shop (commercial, military, municipal, or private). If repairs are to be made in the field, increase difficulty by one. If repairs are to be performed without spare parts, increase difficulty by one. If repairs are to be performed without tools, increase difficulty by one. All difficulty increases are cumulative.

If a diagnosis has not been made, it is still possible to replace the entire assembly (at an 1D10 times the stated repair cost).





Repairs performed in the field, or without spare parts can be made without cost. The referee may record this fact and impose a greater likelihood of breakdown of such repaired items. Any task using a device/vehicle which has had major damage repaired in the field is automatically hazardous; this lasts until the original major damage is repaired in the shop.

Repeatability: Unless specifically stated, any task is repeatable. Some tasks may be defined as non-repeatable (or only repeatable a specific number of times).

Retrying Tasks: Failed tasks may be retried if allowed by the failure table.

Determination: When a task attempt has been unsuccessful, and the failure table produces a result of "check determination," the character must successfully complete the task of checking determination before a repeat attempt may be made on the unsuccessful task.

To stay determined after failure of a task. Difficult, determination.

Referee: If this task is successful, the unsuccessful task may be repeated without penalty. If unsuccessful, the character may 1) retry immediately at one increase in difficulty, or 2) retry with no penalty after waiting ten times the actual duration of the failed task.

Total Failure: A formidable task increased in difficulty becomes impossible; failure is permanent and no more retries can be made on this specific task.

SPECIAL TYPES OF TASKS

The basic type of task defined is the standard task. There are four special types of tasks, each a variation on the standard task: hasty tasks, hazardous tasks, unskilled tasks, and uncertain tasks.

Hasty Tasks: If desired, a character may specify a hasty attempt at a task. The difficulty level of the task is increased by one, and DM's are doubled before subtracting them from the time throw (a hasty attempt may take less time, but at a cost in difficulty).

Hazardous Tasks: The referee may declare a task is hazardous, and it has a higher chance of mishap if unsuccessful. If an attempt at a hazardous task is unsuccessful, throw 3D6 (instead of 2D6) on the failure table.

Unskilled Tasks: If the crucial skill is not essential (it is helpful, rather than vital) to the completion of the task (either temporarily, or in general), declare the task to be unskilled. Do not increase the difficulty of the task if the crucial skill is not present.

Most tasks are skilled; the unskilled task is the exception.

Uncertain Tasks: When a task is concerned with information

or opinion gathering, immediate feedback about how successful the effort has been may not be possible, and it is considered uncertain. Those performing the task have some idea of their success, but they are not certain of it.

When an uncertain task is attempted, both the player and the referee roll for success (the referee rolls secretly). If both are unsuccessful, the referee provides *no truth*. If one is successful and the other is unsuccessful, the referee provides *some truth*. If both are successful, the referee provides *total truth*. In all cases, the referee does not indicate whether the answer or information provided is no truth, some truth, or total truth. The characters remain uncertain of the outcome of the task (they may have some clue to the outcome by observing their own die roll).

A result of *no truth* means the character is totally misled as to the success of the attempt. Completely false information is given.

A result of *some truth* means the character is given some idea of the success of the attempt. Some valid information is given.

A result of *total truth* means the character is not misled in any way as to the success of the attempt. Totally correct information is given.

Because of the hidden nature of the referee's throw, the character cannot know for certain the nature of the information being obtained. A referee may find character doubting total truth, accepting some of no truth, or accepting all of some truth.

CRUCIAL ASSETS

Assets specified for a task are considered crucial. They are important to the accomplishment of the task.

Characteristics or attributes contribute to the accomplishment of a task, and because all characters have characteristics, the individual will have some value (even zero) which applies to the task.

Skills, however, may not be present in the character attempting a task. If a character does not have the crucial skill, then attempting the task is more difficult; increase the difficulty of the task by two levels (perhaps even to impossible).

If the character has a related skill (in the referee's judgement), then the task may be attempted at one higher level of difficulty.

Occasionally, a character may be allowed to use a combination of Intelligence and Education as a substitute for the lacking skill. This represents all of the character's intellect, knowledge, and experience being brought to bear.

Unskilled tasks indicate assets which are helpful rather than vital; for unskilled tasks, these assets are not essential and the lack of

them does not hurt a task attempt.

SPECIAL CASES

Tasks cannot be so flexible as to cover all situations. Consequently, special cases may be necessary to deal with unusual problems. If a special case is called for, then a paragraph (one or more sentences) should follow the task headed by the word "Referee." The referee paragraph lists any special conditions which apply to the task attempt. For example:

Referee: Non-repeatable; only one attempt is allowed.

Referee: Any mishap causes a security alarm to sound.

Referee: If any character with Education 8- attempts this task, it becomes Difficult.

GENERATING TASK DESCRIPTIONS

Tasks are described in various **Traveller: 2300** situations, but the referee is still called on to generate task descriptions as adventures progress. Generating task descriptions can be relatively easy if the referee understands the task to be described.

Checklist

1. Referee defines task in general terms.
2. Determines crucial assets.
 - A. Characteristics.
 - B. Skills.
3. Determines type of task.
 - A. Standard.
 - B. Uncertain.
 - C. Unskilled.
 - D. Hazardous.
4. Determine average time to complete task, then determine time period. Decide if absolute or instant time is applicable.
5. Determine difficulty level of task.
6. Record task description.

SOME IDEAS FOR USE OF TASKS

Tasks can be as simple or as complex as the referee wants them to be. However, they need to be more than an exercise in die-rolling, and they need to be more than random roadblocks to the progress of an adventure. Instead, tasks force players to use logic and creativity in their role-playing activities.

The Effects of Randomness: The random aspect of task accomplishment is there for a reason; it adds an element of uncertainty to any task and prevents absolute prediction of the outcome, but does allow reasonable prediction of time and success. Players can analyze any task situation, decide ahead of time how much chance they have of success (just as they would in the real world), and perhaps seek out simpler alternatives if the problem they face is too great.

For example, faced with a vehicle which has sustained major damage, a character with mechanical skills might still attempt to repair it, while an outdoorsman would consider the time required and the chances of success and decide to continue his journey on foot.

Research: The process of finding information is easily and accurately handled by the task system. Research in the laboratory or out in the wilds of another planet can be conducted through a series of dependent tasks.

Once a topic for research has been established, the referee can establish a sequence of related and dependent tasks which will lead to the desired result. At the same time, a related series of tasks can be established which are dead ends, false starts, unnecessarily long sequences, and expensive delays. With this small library

of tasks, the research project can begin.

Research begins with a literature search. The task allows the character to consult available data in a reference library, in the computer, or even in discussion with colleagues. Such a task is uncertain, and its ideal result is a research plan which involves a series of tasks leading to the desired goal, result, or outcome. Total success in the literature search produces a totally true research plan; less than total success produces a less usable plan.

The tasks of any research plan are themselves uncertain. Progress toward the desired result may be slow and full of delays, but ultimately, every course of action will show itself as valid or invalid.

But achieving the goal of the research once is not enough. The uncertainty of the truth of any task outcome means that results can be depended on only when they are repeatable with accuracy. A researcher must repeat his experiments until he is certain he is getting accurate, repeatable results.

Some tasks in research may be hazardous; the researcher risks injury or equipment damage during his endeavors.

Diagnosis: The uncertain task type can be used to diagnose the extent of damage to mechanisms. It can also be used in the diagnosis of disease or trauma effects, equipment malfunctions, or computer programming bugs.

Logical Prediction and Thought Processes: Even thinking can be a task within this system. Instead of forcing a player to solve a puzzle himself, the task system makes it possible for a player to approach a scientific, mathematical, social, or technical problem as a task. Faced with a fragment of text in a foreign language, a character could perform the task "to translate using a foreign language dictionary," modified by intelligence and foreign language skill (related foreign languages could serve as lower level modifiers). Confronted with a group of related clues, a player could perform the uncertain task "to analyze available data." Role-playing by the player will always help the referee create and administer tasks, but the task system itself allows a player of above average intelligence to play a character at the genius level.

Cooperation and Teamwork: When more than one character is attempting to accomplish a task, their cooperation can be taken into account when determining success.

Teamwork indicates that the participants are working together as a team, in close proximity to each other, and with each depending on the others as they work. The crew of a sailing vessel is a team; several medics working on a patient are a team; the pit crew



servicing a racing car is a team. When a team attempts a task, the referee must specify the number of individuals required, and determine the difficulty of the task based on the number participating. The lowest level of crucial skill held by the group is noted and doubled before creating a DM.

Cooperation indicates that the participants each have their own tasks to complete, but that the overall cooperative task depends on these subordinate tasks being completed. Each individual cooperating is assigned a personal task; these personal tasks are classified as supportive or vital. Successfully completed supportive tasks contribute DMs to the completion of vital tasks; vital tasks must be completed or the overall task will fail.

Whenever a cooperation or a teamwork task fails, the members of the group must each successfully accomplish the task "to cooperate;" those who are not successful may not participate in the next attempt.

EFFECTIVE USE OF TASKS

Tasks provide an excellent way of encouraging consistency within a role-playing situation. They can be used effectively if a few simple rules are followed.

Make Tasks Visible: To prevent a task from becoming buried in text or difficult to locate, all tasks in published materials are indented and each is on a line by itself. A referee should maintain separate lists of tasks as they are defined. Players should be allowed access to lists of tasks so that they can make their own choices about actions they wish to take.

Keep Tasks Understandable: Large complex tasks should be broken down into smaller, more easily understood ones. Repairing a mechanism can be broken down into a diagnosis task and a repair task. Failing one smaller task still allows tackling the overall mission by redoing the single failed task.

Skills and characteristics called for should be related to the accomplishment of a task. When they make sense, they are easier to understand.

Use Common Sense: Be creative in application of the task system when it creates seemingly inappropriate results. When task resolution becomes a random event, a challenging adventure can become a frustrating one. Use the task system as a tool for better role-playing, and it will serve you well.

CREATING TASK LIBRARIES

Since tasks can play such an important part in resolving adventures, it is helpful to have a library of tasks which may be used time and time again. A task library can be kept in any number of ways; the following are just a few suggestions.

Notebook: Keep a notebook with your game rules. Each time you generate a task, record it in the notebook for future reference.

File Cards: Record each task you use on a notecard, and keep them together in a small holder or with a rubber band.

Computer Files: Keep written notes, but transcribe them to a computer data base. Before you run an adventure, print out your current list so it will be available. You might even make print-outs sorted by crucial assets, task statements, or times required.

Whenever a task is used, record the date, or just make a small note that it has been used. Ultimately, you can tell what tasks are being used most.

When a task description seems inappropriate or unusable, modify it. Tasks should always be modified to make them better or more efficient as player feedback tells you how good or how bad a specific approach is.

Remember, a task library is something that will help a referee run adventures more efficiently or more effectively. The work you

put into it will pay you and your players back handsomely.

EXAMPLES AND FORMATS

The following are examples of how to express tasks.

Standard: A standard task uses the basic task format without exception.

To force open a door: Routine. Strength. 6 seconds.

Unskilled: An unskilled task is affected by assets which are helpful but not vital.

To find information from a computer data bank: Difficult. Computer. 10 minutes.

Hasty: A hasty task increases difficulty level by one, but doubles the DMs for time.

To find information from a computer data bank (Hasty): Formidable. Computer. 10 minutes.

Hazardous: A hazardous task, if failed, requires use of 3D6 on the failure table.

To disarm an unexploded warhead (Hazardous): Routine. Demolitions. 20 minutes.

Uncertain: An uncertain task provides information which the participants cannot tell for certain is accurate. Internal cues during the procedure, however, help participants to evaluate the quality of the information.

To debug a computer program (Uncertain): Routine. Computer. 15 minutes.

Teamwork: A teamwork task uses more than one character working together to complete the same task, with each depending on the others for a contribution to completion.

To push a vehicle out of a ditch (Teamwork): Formidable. Strength. 1 minute. Referee: Minimum 2 individuals plus a driver. Difficulty decreases by 1 for each additional individual.

ROLE-PLAYING TASK RESOLUTION

The use of tasks to determine success or failure should not be used to replace role-playing by the players involved. Instead, role-playing is an excellent way for the referee to determine the difficulty of tasks the player characters undertake.

Whenever a non-standard task is called for, the referee should ask the player how he intends to go about performing the task. The player must consider the task at hand, and then describe in role-playing terms the strategy he would use to accomplish the task. The referee listens to this strategy and evaluates it in terms of difficult and probable success; he uses that evaluation to determine a difficulty level for the task. Only then is the task resolved.

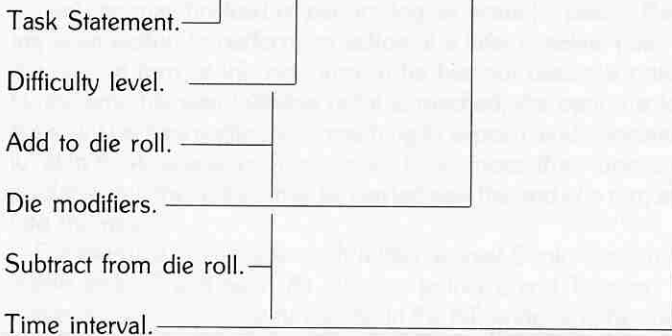
For example, a player character might want to convince a clerk to sell him an important piece of equipment at a time when such sales are prohibited. The argument or plea which the player character makes determines the difficulty of the task; the referee can judge the plea on originality, quality, reasonableness, and other factors. A plea which claims the character has to catch a shuttle flight might make the task routine; an argument that threatens violence might make the task formidable, or it might make the task simple, depending on how it is presented.

Tasks are an aid to resolution of the details in **Traveller: 2300**. They can be used with role-playing to make adventures both exciting and realistic.

Task Resolution

TASK FORMAT

To accomplish a task. Routine. Skills and characteristics. Time.



CHECKLIST

1. Referee defines task in general terms.
2. Referee determines crucial assets.
 - A. Characteristics.
 - B. Skills.
3. Referee determines type of task.
 - A. Standard.
 - B. Uncertain.
 - C. Unskilled.
 - D. Hazardous.
4. Referee determines average time to complete task, and establishes time period (it may be absolute or instant).
5. Referee determines difficulty level of task.
6. Referee records task description.

TASK DIFFICULTY (1D10)

Difficulty	Roll Needed
Simple	3+
Routine	7+
Difficult	11+
Formidable	15+
Impossible	19+

DETERMINATION

Characters must check determination in order to retry some tasks.

To stay determined after failure of a task. Difficult. Determination. Instant.

Referee: If this task is successful, the character may retry immediately without penalty. If unsuccessful, the character may retry immediately at one increase in difficulty, or retry with no penalty after waiting ten times the actual duration of the failed task.

TIME

Time shown is one-tenth the average time required to complete the task.

Standard: The throw for time is 3D6, with asset modifiers subtracted; minimum result is 3.

Instant: If a task shows no time, it is instant and takes no time. Split second decisions and many reactions are instant.

Absolute: If a task is labelled absolute, it takes the time specified. Many combat actions are absolute and use one action within the combat structure.

FAILURE (2D6 OR 3D6)

Throw	Failure Type
2	Reroll
3+	Retry
7+	Check Determination
11+	Mishap (2D6)
15+	Serious Mishap (3D6)

MISHAPS

Throw	Consequences
2	Reroll
3+	Superficial Damage
7+	Minor Mishap
11+	Major Mishap
15+	Total Mishap

SPECIAL CASES

A task may have special instructions which further detail how the task is to be performed. A note to the referee below the task may state repeatability, consequences, substitute skills or attributes, or other information.

DAMAGE AND REPAIR

Damage Level	Operable?	Repair Task (Shop)	Repair Cost
Superficial	Yes	Simple	1D10 × 1%
Minor	No	Routine	1D10 × 5%
Major	No	Difficult	1D10 × 10%
Destroyed	No	Formidable	1D10 × 20%

TASK TYPES

Standard: Any task which states the standard task components: statement, difficulty, assets, and time.

Unskilled: Any task which does not *require* a specific skill for accomplishment. If a skill is stated and the character has it, it may be used, but there is no penalty for lack of the skill.

Hazardous: Any task declared hazardous by the referee or the rules; hazardous tasks use 3D6 on the failure table.

Hasty: Any task declared hasty by the player or referee; difficulty is increased by one level, and time required is reduced by double the asset modifiers.

Uncertain: A task whose results are uncertain to the characters; results may be totally true, partially true, or totally false.

UNCERTAIN TASKS

When an uncertain task is attempted, both the referee and the player roll for success (the referee rolls secretly).

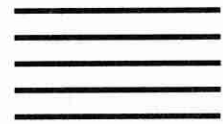
If both fail, the result is no truth.

If one succeeds and one fails, the result is some truth.

If both succeed, the result is total truth.

In all cases, the referee does not reveal his die roll. Even when total truth is provided, it is possible for the player to not believe it is total truth.

Uncertain tasks are used for diagnosis, information gathering, and research.



Combat

The universe of **Traveller: 2300** can sometimes be a dangerous place. Often, players will find themselves unable to talk their way out of a difficult situation; a resort to violence may be the only resolution to a problem or the only means of survival.

Combat Overview: The general heading of personal combat includes attacks against living beings and vehicles using weapons such as guns, knives, bare fists, explosives, even rocks. But regardless of the type of attack or the type of target, the results can always be determined by answering two questions:

1. Did you hit the target?
2. If so, how much damage did you do?

To resolve a combat attack, players and referee roll dice to determine the answers to these two questions. The specific rules vary, and there are many complications which handle circumstances, special weapons, and other details, but the two main questions are always there.

ATTACKS

There are two general types of attacks—*fire attacks* and *melee attacks*.

Fire attacks involve attempts to hit a target with a projectile. The projectile may be a thrown rock, an arrow from a bow, a bullet fired from a gun, a beam from a laser, a missile or a rocket, or any other form of projected attack. Fire attacks may be aimed fire or area fire. Aimed fire involves aiming a single fire attack against a single target (much as a hunter or a sniper would). Area fire involves projecting a large volume of fire into an area with one or more targets (machine guns and bombs produce area fire).

Melee attacks involve attempts to hit an enemy within touching range. Melee (which means a hand-to-hand fight) attacks may be armed blows (with a melee weapon such as a club or a knife), or unarmed blows (fist strikes, slaps, punches, kicks, or tackles).

INITIATIVE

Coolness under fire is a splendid asset for any individual to have; it allows rational evaluation of a situation and then capable action toward victory or survival. Characters with coolness under fire have *initiative*; initiative determines when, during a combat turn, the individual can conduct an action.

Characters have an initiative level equal to their coolness under fire; encumbered characters subtract 2 from initiative; body armor may also reduce initiative (as indicated in the body armor lists). However, initiative is never reduced below 1.

Non-player characters acquire an initiative rating assigned by

the referee based on their NPC experience category (green: 4, experienced: 6, veteran: 8, elite: 10).

TURN SEQUENCE

Combat is fought in turns which represent thirty seconds of real time. In each turn, a character can perform any two of the following actions:

- Remain stationary.
- Conduct aimed fire at one target.
- Conduct area fire at one area.
- Move.
- Conduct walking area fire.
- Conduct trotting area fire.
- Reload a weapon.
- Change weapons.
- Duck.
- Special action.

All actions are carried out during a turn at *initiative points*. Each initiative point corresponds to an initiative level of a character. During the turn, the referee calls out initiative points in descending order (beginning with the highest level—10—and counting down). A character may conduct one action when an initiative point corresponds to his initiative level, and may conduct a second action when the initiative point equals half (round fractions down) his initiative level. Characters with initiative level 1 may only perform one action per turn. For example, the referee begins specifying initiative points at 10, and counts down through 9, 8, 7, 6, etc. A character with initiative level 5 could perform one action when the count reached 5, and another when the count reached 2.

All characters performing an action at the same initiative point do so simultaneously, and actions take place during movement. That is, any character who fires can fire at any one, including a character who is moving. Fire at a moving character may take place at any point during that movement. If several characters attack at the same initiative point, they attack in order of the bulk of their weapons (weapon bulk is listed in the weapon descriptions; unarmed blows are treated as bulk 0). Characters with bulk 0 weapons attack first, followed by characters with bulk 1 weapons, followed by characters with bulk 2 weapons, and so on. If characters have the same bulk weapons, they attack simultaneously.

Characters knocked down or killed by an attack at any time in a turn stop conducting actions (except for a simultaneous action

at the current initiative point) and lose eligibility for actions in the rest of the turn.

If all ten initiative levels were represented by characters on one or both sides in a battle, there would be a maximum of ten initiative points. In practice, there will be fewer initiative points in a turn since not all initiative levels will be present.

Opportunity Actions: Whenever a character's initiative point occurs, he may (instead of performing an action) "pass." Passing is an option to perform an action at a later initiative point in the current turn or the next turn. If he has not used the option by the time his next initiative point is reached, the option is lost (he spent his time waiting for something to happen, and it apparently didn't). A character may never have more than one pass available, but the option may be carried past the end of a turn and into the next.

For example, a character with initiative level 6 might reach initiative point 3 and pass. As initiative points 2 and 1 occur, he makes no action, and the turn ends. In the following turn, he could elect to use the option to perform an action at initiative point 10, 9, 8, or 7. If the option is not used by the time initiative point 6 is reached, it is lost, although he could then perform the normally possible action for initiative point 6.

MOVEMENT

When characters elect to move as an action, they may select a mode of movement and then move up to the distance allowed for that mode.

Four movement modes are possible: *crawling*, *walking*, *trotting*, and *running*.

The movement mode not only affects speed; it also affects the chance of being hit by enemy fire. Crawling makes use of all available cover; walking makes use of local partial cover; trotting and running do not use cover.

DAMAGE

Damage comes in three types: *normal damage*, *blunt trauma*, and *stun*. Normal damage is significant surface and internal tissue damage (as in burns or gunshot wounds). Blunt trauma is impact damage or crushing (as in blows from a club, concussion, or perhaps crushing from a tire rollover). Stun is damage to the central nervous system (as in electric shock, or incapacitating gas). All three types of damage are resolved similarly, but they have slightly differing effects.

The Extent of Damage: After a character has been hit (by a fire attack or a melee attack), find the extent of damage. First find the potential effect and then resolve the actual effect. Throw 1D10 on the target hits diagram and find the type of wound (kill, serious, or light wound) and the hit location. The potential wound effect column of the wound table shows how serious the wound could be. Subtract any armor effects from the weapon's damage point value (DPV or DP value): if the remaining damage point value is zero or less, there is no effect; if the remaining damage point value is greater than zero, find the actual result.

Blunt Trauma: Characters suffer blunt trauma when hit by a non-penetrating kinetic energy round (any fire weapon except a laser), when hit by an unarmed melee attack or by a blunt weapon, or when they are within the concussion radius of an explosion.

Stun: Characters suffer stuns from sonic stunners, electric shocks, or stun gas.

Potential Kill: If weapon DPV is greater than or equal to 1, the target is killed.

If weapon DPV is less than 1, roll 1D10. If that result is less than or equal to the DPV times 10, the target is killed. Otherwise,



the target suffers one shock point and is knocked down.

Blunt trauma is identical.

Stun inflicts four stun points (or the DP value of the stun weapon, whichever is larger), and the target is knocked down.

Potential Serious Wound: If weapon DPV is greater than or equal to 1, the target suffers one shock point per damage point of the weapon and is knocked down.

If weapon DPV is less than 1, roll 1D10. If that result is less than or equal to the DPV times 10, the target suffers shock point and is knocked down. Otherwise, the target suffers a light wound and is knocked down.

Blunt trauma makes every odd-numbered shock point (1, 3, 5, etc.) a stun point instead, and the target is knocked down.

Stun makes every shock point a stun point instead, and the target is knocked down.

Potential Light Wound: If weapon DPV is greater than or equal to 1, the target is knocked down and suffers a light wound.

If weapon DPV is less than 1, roll 1D10. If that result is less than or equal to the DPV times 10, the target is knocked down and suffers a light wound. Otherwise, there is no effect.

Blunt trauma knocks the target down (with no other effects).

Stun inflicts one stun point. The target is not knocked down.

WOUND EFFECTS

Wounding results have the following effects:

Knocked Down: The character is knocked or blown down by the force of the attack or blow and is dazed.

Dazed: The character cannot move or act. He is assumed prone, motionless, and is under any available cover. Dazed remains in effect for a number of turns equal to the total of shock and stun points the character has received (and this effect is cumulative). If the character has no shock or stun points, dazed applies only until the end of the combat turn.

All eligibility for further actions in the combat turn is lost, regardless of initiative level. Any passed or option actions are lost. Knocked down applies even to individuals who are already down.

Light Wounds: The character is immobilized for the rest of the combat turn. Initiative level is reduced by 1 per light wound.

NPCs may be incapacitated by light wounds. Green NPCs are incapacitated by 1 light wound; Experienced NPCs are incapacitated by 2; Veterans by 3; Elites by 4.

Stun Point: The character is dazed. Initiative is reduced by -3, but never below 1 until the character is unconscious. NPCs are made unconscious after receiving three stun points. The character is unconscious when his total of shock and stun points equals his consciousness level.

Shock Point: The character is dazed. Initiative is reduced by -3, but never below 1 until the character is unconscious. NPCs are made unconscious after receiving one shock point. The character is unconscious when his total of shock and stun points equals his consciousness level.

Kill: The character is dead. Head hit kills are absolute; torso hit kills may be eligible for resuscitation.

ARMOR EFFECTS

Characters may wear personal armor. Armor effects are subtracted from the Damage Point Value of the weapon, and the remainder is used to determine the effects of the wound.

For some characters, body armor will only cover part of the body, or armor ratings will be different for different parts of the body. The potential hit table die roll shows the body part hit; armor on that body part is used.

FIRE COMBAT

Fire combat uses weapons which shoot a projectile, a bullet, or some object at a target. Basically, fire combat is used against targets which are some distance from the shooter.

Weapons are identified in the weapons chart as fire weapons if they can conduct aimed or area fire.

The weapons' descriptions give the available information about specific weapons. When characters select their weapons, this data is transcribed to the weapons chart for use by the referee and the players. The weapons chart makes pertinent information available in one place for ease of play and to limit the time required to look up data.

Information presented in the charts includes the following:

- weapon bulk
- magazine capacity
- aimed fire range
- area fire range
- area fire value
- damage point value
- rate of fire
- rounds per burst
- explosive point value

Human Limits: One character can only fire one weapon at a time. Even a vehicle gunner who has several weapons available can only fire one weapon at a time.

A character without the required skill for a weapon cannot fire it.

Rate of Fire: Weapon rate of fire is the number of aimed shots or area fire bursts that a weapon can fire in a combat round.

Range: Weapon range is the effective range of the weapon. There may be a different effective range for aimed fire and area fire.

Close range is half the effective range; long range is twice the effective range; extreme range is four times the effective range.

HIT PROCEDURE

The hit procedure is used to determine if a shot has hit the target. The procedure is different for aimed and area fire.

Aimed Fire: Hitting a target with aimed fire is a task.

To hit a target with aimed fire at close range. Routine. Weapon skill. Absolute (1 action).

Referee: Difficulty increases one level with each increase in range.

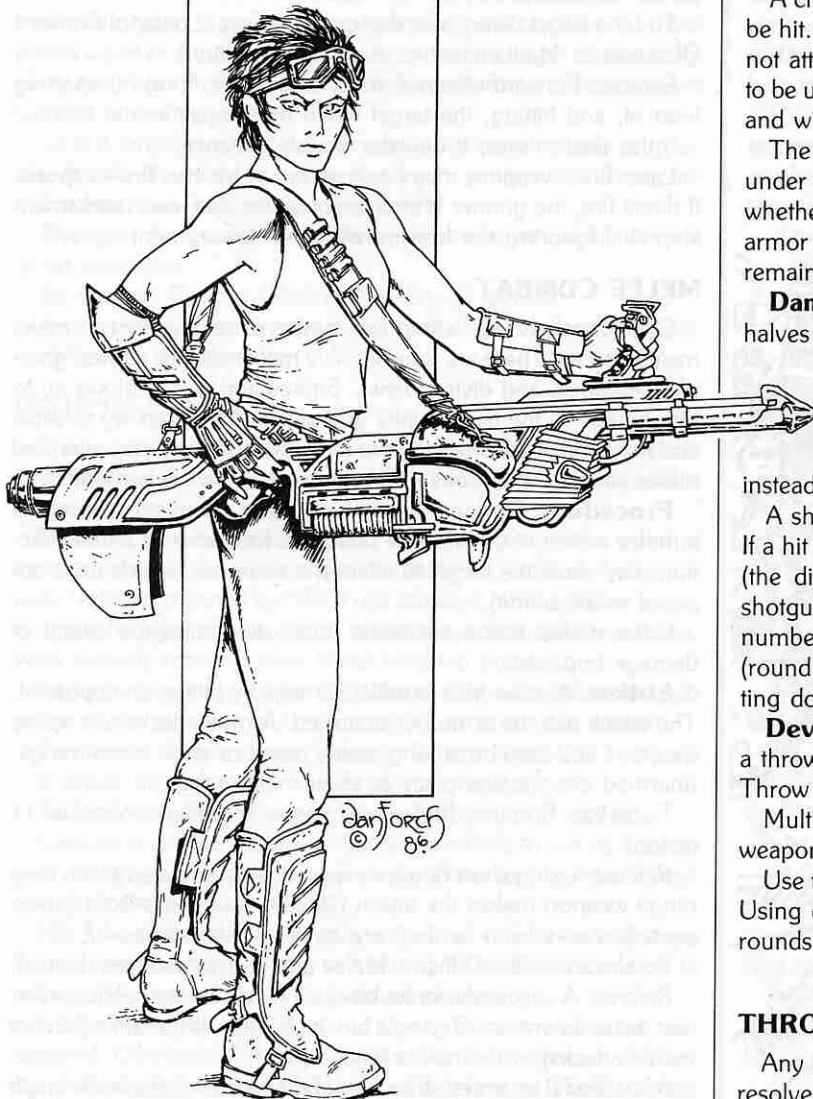
If a range finder is listed for the weapon, its bonus may be used if the target is a vehicle, building, or other large object.

The task is difficult at effective range, formidable at long range, and impossible at extreme range. Flechette grenades may not fire aimed fire. Direct fire weapons' DPV is halved at extreme range; shotguns cannot fire at extreme range.

Area Fire: Area fire depends on weapon characteristics rather than skill. The weapon chart shows rounds per burst and area fire value of the burst at effective range. Area fire value is doubled at close range and halved at long and extreme range. Shotguns and flechette grenades do not halve their area fire value at long range; and they may not fire at extreme range. Flechette grenades do not double their area fire value at close range.

The chance of hitting is determined from the area fire value and the rate of fire. Multiply the area fire value times the number of bursts fired to produce the number to be thrown on 1D10. If the die roll is equal to or less than the hit number, the burst achieves hits. Round all fractions down; some weapons may become totally ineffective at extreme range even at maximum rate of fire.

Area fire is directed at a single area ten meters in diameter. Area fire attacks separately each target in the target area and each target



on a line between the weapon and the target area. Targets in the line of fire beyond the target area are attacked by half the weapon's area fire value if in the same range band as the target area. Targets beyond the range band are not affected.

Characters subjected to area fire may elect to duck for cover. Ducking is an action and counts as the next available action the person may take, even though it happens immediately. If both actions for the current turn have been taken, it counts as the first action of the next turn.

Player characters always have the option of ducking. NPCs may be forced to duck. Throw 1D10 and add the area fire value; if the result is greater than the NPC's coolness, the NPC ducks. The ducking column of the NPC table also shows NPC ducking reactions.

Moving Area Fire: A player may move and conduct moving area fire. The actual action is either walking area fire or trotting area fire. Weapons with ROF 1 may not be used. Movement must be walking or trotting (not crawling or running). Moving area fire cannot be performed at extreme range.

Walking area fire is resolved normally.

Trotting area fire treats each range band as one farther than it is. For example, trotting area fire at an area which is at close range treats it as if at effective range.

Cover: Characters who duck or who are protected by cover benefit from cover effects.

A character who is under full cover cannot be seen and cannot be hit. However, someone under full cover from an attacker may not attack that attacker as a target. It is possible for a character to be under full cover from one attacker, partial cover from another, and without cover from a third.

The target diagram shows what portions of a human target are under partial cover. The wound potential die roll determines whether the shot hit cover rather than target. Determine the cover armor value and subtract it from the weapon DPV. If any DPV remains, it then hits the character.

Damage: Fire attacks produce normal damage. Extreme range halves the DPV of a weapon. If the DPV of a weapon is greater than 1, round fractional results up to the nearest whole number. If the DPV of a weapon is 1 or less, round fractional results to the nearest tenth.

If a shot fails to penetrate body armor after hitting, it instead inflicts blunt trauma damage.

A shotgun halves its DPV at long range (round fractions up). If a hit occurs, throw to determine the number of slugs which hit (the die rolled is shown in parentheses after the DPV of the shotgun). At close and effective range, the number rolled is the number of slugs hitting; at long range, half the number rolled (round fractions up) is the number of slugs hitting. Each slug hitting does damage equal to the DPV of the shotgun.

Deviation: If a weapon which fires an exploding round (from a thrown hand grenade to artillery) misses its target, it deviates. Throw 1D10 for the distance of the deviation.

Multiply the deviation distance by the distance for the type of weapon used to determine the actual deviation distance.

Use the scatter diagram to determine the direction of deviation. Using direction and distance, determine the location where the rounds impact.

THROWN WEAPONS

Any hard object may be thrown at a target. Hitting a target is resolved as aimed fire using the character's thrown weapon ability. Effective range for thrown weapons 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 the character's throw range divided by the object's weight in kilograms.

If a thrown object hits the target, it will cause blunt trauma damage; use a damage point value equal to the character's strength divided by 20, rounding fractions down to the nearest tenth.

A throwing knife inflicts normal damage with a DPV of 0.3, regardless of the range and strength of the thrower.

Hand Grenades: Hand grenades are thrown weapons thrown at specific targets. If the throw misses, it deviates (in accordance with the deviation rule). Total deviation, however, may never exceed the range of the throw (a grenade thrown at a target 20 meters away cannot deviate more than 20 meters).

All grenades explode when they hit (if at least 5 meters from the thrower—because of safety devices). Depending on the grenade type, they do contact, concussion, and/or fragmentation damage, as noted in the grenade descriptions.

The actual chance to hit with a grenade is affected by the size of the target and other circumstances. The referee may analyze the situation and reduce the difficulty of a throw (perhaps against a bunker or tank), or increase it (perhaps against a small window or firing slit).

INDIRECT FIRE

Indirect fire is fire at a target that the firing weapon crew cannot see; they follow directions given by a forward observer who can see the target. Only weapons with indirect fire range (shown on the weapons chart) can use indirect fire. Indirect fire weapons are rifle grenades, grenade launchers, howitzers, mortars, rockets, and missiles.

Calling Fire: To perform indirect fire, the weapon crew must be in contact (by radio or telephone) with a character (called the forward observer) who can see the target. The target is a stationary

position; it can be a building or a geographic feature or even an open patch of ground. It can't be a moving vehicle (although it can be a place where the forward observer thinks the vehicle will be when the fire hits). Indirect fire attacks are conducted one turn after the forward observer requests them.

Resolving Fire: Indirect fire is a task which is resolved when the weapon is fired.

To hit a target with indirect fire. Difficult. Lower of Forward Observer or Marksmanship. Absolute (1 action).

If the shot misses, it deviates.

Effects: If a shot hits its intended target, it attacks that target with its normal damage point value. If it is an exploding round, it will also conduct an area fire attack on all targets within its burst area.

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 has no direct fire capability. For self-observed fire, only the firing player's indirect fire skill is used.

LASER DESIGNATION

Some weapons can use laser designation. The forward observer directs a spotting laser at the target, and the firing weapon's projectile homes in on the laser's reflection from the target. Electronic coding keeps the projectile from becoming confused by other lasers on the battlefield.

To hit a target using laser designation. Easy. Lower of Forward Observer or Marksmanship. Absolute (1 action).

Referee: Forward observer must actually be firing his spotting laser at, and hitting, the target when the projectile hits.

If the shot misses, it deviates double distance.

Laser fired weapons may be direct fire or indirect fire weapons. If direct fire, the gunner is also the observer and uses marksmanship skill ignoring the forward observer requirement.

MELEE COMBAT

Characters who are within two meters of each other can make melee attacks. There are four possible melee attacks: strikes, grapples, escapes, and diving blows. Strikes and diving blows try to do damage to the target while grapples and escapes try to seize and hold the target or try to counter such a hold. All are unarmed melee attacks except for strikes which may be armed or unarmed.

Procedure: During the combat turn, a character may select a melee action at an initiative point. Performance of a melee action may allow the target to attempt a response (which does not count as an action).

If the melee action succeeds (hits), determine the extent of damage imposed.

Strikes: A strike tries to inflict damage by hitting an opponent. The attack may be armed or unarmed. Armed attacks use melee weapons and may be at long melee range or short melee range; unarmed attacks take place at short melee range.

To strike. Routine. Melee and melee modifiers. Absolute (1 action).

Referee: Using short range weapon against opponent with long range weapon makes the attack difficult. Surprise attacks (unexpected attacks from behind) are automatically successful.

To block a strike. Difficult. Melee and melee modifiers. Instant.

Referee: A successful strike blocks a would be successful strike, and the strike misses. Trying a block prohibits fire attacks (but not melee attacks) at the next initiative point.

A successful unarmed strike has a DPV equal to attacker strength plus attacker melee divided by 30 (round fractions down



to tenths). A successful armed strike uses the DP value of the weapon. Armor is subtracted from the DP value of an attack; however, armor is never breached by a strike attack.

Unarmed strikes inflict stun damage; characters with melee 4 or higher may choose to inflict blunt trauma instead. Armed strikes using weapons labelled "blunt" cause blunt trauma.

Diving Blows: Diving blows attempt to knock down an opponent and inflict stun damage. A diving blow is automatic unless the target avoids it (avoiding is possible; blocking is not). If the target is not surprised, he may attempt to avoid it.

To avoid a diving blow. Routine. Agility. Instant.

If a diving blow is avoided, the attacker is knocked down.

If the diving blow is not avoided, compare the attacker's size times 2 + 1D6 to the defender's strength plus size. The lower value receives the damage (if equal, both receive the damage).

The recipient of the damage receives 1 stun hit (DP value = 0.5).

Armor has no effect on diving blows.

Grapples: A grapple is an attempt to place an opponent under control.

To grapple. Routine. Melee. Absolute (1 action).

Blocking a grapple is not possible; armor and range have no effect.

The target of a grapple receives one hit of stun damage; DPV equals attacker's (strength + melee)/30. Treat any stun points received as control points instead. Control points are a temporary indicator of who is winning in a grappling melee. When control points equal or exceed the target's strength, the target ceases struggling and may not move; the controlling character may not move without releasing control.

Until a target is controlled, he may attempt to escape or grapple. If both characters grapple, the first to achieve sufficient control points then controls the opponent.

Escape: An escape is an attempt to move out of the control of an opponent.

To escape. Routine. Melee. Absolute (1 action).

A successful escape removes all control points that the opponent has on the character.

VEHICLE COMBAT

The involvement of vehicles in combat is an important consideration. Vehicles are under the control of their drivers and are capable of movement and taking hits.

Vehicle Movement: Vehicles move at the initiative point of their drivers and fire weapons at the initiative point of their gunners. Vehicles manned by NPCs use standard NPC initiative levels. Animals being ridden move at the initiative point of their riders. Wild animals move at their listed initiative point.

Vehicles may move their listed combat movement rates each action. If the driver wishes, he may move at double speed.

To drive at double speed. Routine. Driver. Absolute (1 action).

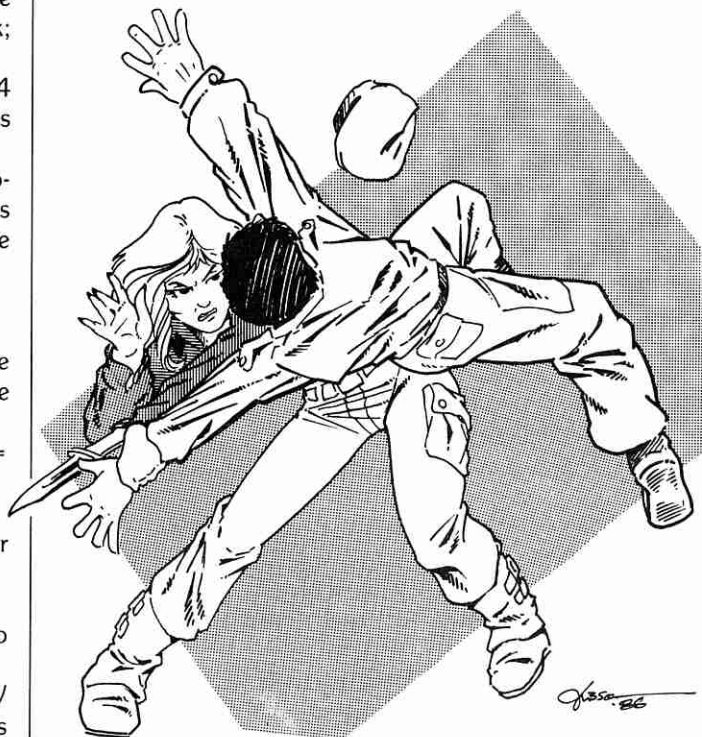
A driver may also use evasive driving tactics.

To drive evasively. Routine. Driver. Absolute (1 action).

Success in driving evasively allows the vehicle to use its full evasion rating against an incoming missile. Nonevading vehicles use one-tenth their evasion rating.

Hit Location: A vehicle may be hit on one of several faces (front, overhead, flank, rear, or bottom), or in the suspension (a hovercraft's suspension is its plenum chamber).

A face hit is determined by the direction from which fire was received. Overhead missiles always strike the overhead. If front, rear, bottom, or flank was hit, a result of 3 or less (on 1D10) creates a suspension hit; a result of 4 or more creates a hull hit.



Damage: If the vehicle hull was hit, compare the DPV of the weapon to the armor value of the face of the vehicle hit. If the DPV is equal to or less than the armor value, the hit does not penetrate and does no damage. If the DPV is greater than the armor value, throw 1D10 and add 1 for each 5 DPV in excess of the vehicle armor and consult the vehicle damage chart.

If the fire attack hits the suspension instead of the hull, compare the DPV of the fire attack to the armor value of the suspension. If the DPV is equal to or less than the suspension armor value, the hit does not penetrate and does no damage. If the DPV is greater than the armor value of the suspension, it damages the suspension. Divide the DPV of the weapon by the armor value and round all fractions down. The result is the number of damage points inflicted on the suspension.

All vehicles are reduced to half speed after five damage points to the suspension, and are immobilized after ten damage points.

For example, a hovertank with a plenum chamber armor of 5 receives a hit in the suspension from an 18 DP laser. Dividing 18 by 5 equals 3.6 which rounds to 3. The plenum takes 3 damage points. Taking another two will reduce the hovertank to half speed.

Vehicle Damage Effects: Damage on the vehicle damage table ranges from no effect to catastrophe.

No Effect: The vehicle is unaffected.

Crew Hit: One crewmember is hit. If a player character, roll for the wound potential normally using the DPV which penetrated the vehicle. The crewmember receives normal damage.

2 Crew Hits: Two crewmembers are hit. If player characters, roll for the wound potential normally using the DPV which penetrated the vehicle for each. The crewmembers receive normal damage.

Armament: One weapon, determined by the referee (at random if necessary) is destroyed. The crew (one crewmember) for the weapon (if not a remote mount) receives one crew hit.

Mobility: The vehicle is stopped and suffers one crew hit. If airborne, the vehicle crashes. If moving at double speed, the driver

must succeed in avoiding a crash.

To avoid a crash. Difficult. Driver. Instant.

Catastrophe: The vehicle is destroyed and the crew is killed.

MISSILES

Missiles are used to attack vehicle-sized targets. All missiles available are homing missiles; once fired, the missile will seek its target until it hits, crashes, or is shot down.

Missiles are provided by the equipment list. They have the following characteristics:

Launcher Weight: The mass (in kilograms) of the launcher.

Missile Weight: The mass (in kilograms) of the missile.

Range: The maximum distance (in meters) the missile can travel to a target. If the missile misses, or it does not hit, it crashes.

Guidance: The type of guidance system used for the missile.

Fully automatic guidance allows a missile to be fired into the general vicinity of enemy vehicles and it will seek out and attack a target.

Automatic after Lock On guidance requires that a gunner observe and indicate a specific target vehicle. Observe includes visual acquisition in the missile launcher sights, or acquisition by vehicle sensors. The missile then seeks out that specific target vehicle.

Homing Value: The chance that the missile will hit its intended target. Subtract target vehicle evasion rating (if any) from missile homing value and throw (on 1D10) that number or less to hit; otherwise, the missile missed and crashed.

Regardless of the homing value of the missile, it always misses on a throw of 10.

Attack Angle: The angle or approach that a missile makes against its target. Overhead missiles always attack by flying overhead and diving on the target. Direct missiles attack directly along their line of flight. Selectable missiles may be set to overhead or direct by the gunner before launch.

Damage: The explosive points the missile warhead produces. All missiles cause damage as tamped explosions.

EXPLOSIONS

Some weapons fire rounds which explode when they hit, and at other times characters may be subjected to the effects of explosions due to accidents or sabotage. Explosions may produce damage due to concussion, fragmentation, or explosive contact.

Concussion: All explosions have a concussion value which affects every character within five meters and may affect characters further away as well. For each additional five meters from the explosion, halve the concussion value (round fractions down). For example, an explosion with a concussion value of 8 at five meters produces a concussion value of 4 at ten meters, 2 at 15 meters, and 1 at twenty meters.

The chance of being hit by concussion equals the concussion value of the explosive at range. Throw that number or less on 1D10. If hit, the explosion produces blunt trauma damage with a DP value equal to the concussion value at range.

Fragmentation: Most explosions produce fragmentation. All explosions which do so have a burst radius. All characters within the burst radius have a 60 percent chance of being hit by fragments with a DP value of 0.4. All characters within twice the burst radius have a 20 percent chance of being hit by fragments with a DP value of 0.2. Throw 1D6 to determine the number of fragments which hit the character, each one producing a separate wound.

Contact: Direct hits by an exploding round, or touching a mine or explosive when it detonates. Contact damage is resolved as normal damage using the DP value for the explosive.

EXPLOSIVES

Explosives have many uses other than combat (indeed, most of their uses are not combat related), but they are dealt with here because their effects are not covered by other rules.

Types of Explosives: Many types of explosives are available. All are listed in terms of their Explosive Points (EP). Fixed charges have a specific EP value while bulk explosives are rated by EP per kilogram.

Setting Charges: An explosive charge is one or more blocks of explosive (or a container of bulk explosive) connected together and with a total mass of ten kilograms or less.

To emplace an explosive charge (uncertain). Easy. Demolitions. one minute.

Referee: Treat total falsehood as detonation of the charge. Treat partial truth as failure of the charge when triggered.

Explosive Effects: Explosives can produce concussion, fragmentation, and contact damage.

Concussion value for an explosive equals twice its EP value. Tamped explosive concussion value equals its EP value.

Fragmentation is produced when the explosive is in contact with a hard material that will produce fragments (rock, brick, steel). An explosion with an EP value of 1 has a fragmentation radius of 5 meters. Doubling EP value adds 5 meters to the fragmentation radius. Thus, EP 4 has a fragmentation radius of 15 meters; EP 8 has a fragmentation radius of 20 meters.

Lower energy fragments are thrown to twice the fragmentation radius.

Contact Damage: An explosion does normal contact damage with a DP value equal to its EP value.

Tamping: Once a charge is set, it may be tamped. Tamping a charge with additional heavy material contains the force of the explosion and directs it toward the intended surface. A tamped charge has half the normal concussion value (1 per EP instead of 2), always produces fragmentation at the explosion's normal fragmentation radius, and does four times normal contact damage (DP value = 4 times EP value).

Breaching Barriers: Barriers are breached by blowing holes in them. Demolition charges can be used to breach walls, armor plates, starship hulls, embankments, or other barriers.

To determine the size of breach a charge will make, find its maximum penetration, in centimeters, in the material. Divide the contact damage DP value of the charge by the armor multiplier of the barrier material. The result is the maximum penetration, in centimeters, of the charge in the material.

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

For example, faced with a 50 cm reinforced concrete wall, a character decides to breach it with ten 1 kg blocks of Plastique-9 (a total of 100 EP). The charge is not tamped. It has a total contact damage DP value of 100. Reinforced concrete has an armor value of 0.5; 100 divided by 0.5 equals a penetration of 200 cm (2 meters). Since the wall is only 50 cm thick, the charge will blow a 150 cm (1.5 meters) diameter hole in the wall.

Characters would be well advised to take cover before the explosion. A 100 EP blast has a concussion value of 200, which can injure characters up to 40 meters away, and fragments of concrete will be thrown up to 80 meters.

WIDE AREA SATURATION PROJECTILES

Wasp rounds scatter a large number of grenades or bomblets over a wide area. While the listed burst radius is very large, there is a high concentration of fragments in this area and very little

fragmentation beyond it. Only characters within the burst radius of a wasp round are subject to fragmentation hits. All characters within the burst radius receive a contact hit on a throw of 1 (1D10); vehicles receive a contact hit on a throw of 3 or less (1D10).

WOUNDS AND RECOVERY

A wounded character may be treated and the severity or consequences of a wound reduced.

Resuscitation: Head wound kills cannot be reversed. Torso wound kills or death through shock points may be resuscitated.

Resuscitation must take place within 60 minutes of death or irreversible brain damage makes it impossible.

To resuscitate a dead person. Difficult. Medical and Automated. 30 seconds.

Referee: Requires surgical hospital and surgeon, or Automated and operator.

Stabilizing Serious Wounds: Shock points (which represent serious wounds) require immediate medical care, or a deterioration in condition adds more shock points and eventually brings on death.

To stabilize a serious wound. Routine. Medical and Automated. 90 seconds.

Referee: Requires surgical hospital and surgeon, or Automated and operator.

There are five critical times for wound stabilization; at each point, if the wound is not yet stabilized, there is a chance the condition will deteriorate.

The critical points are as follows:

30 minutes after wounding.

1 hour after wounding.

3 hours after wounding.

6 hours after wounding.

12 hours after wounding.

At each point, throw 1D10. If the result is less than or equal to the number of shock points suffered so far, the character receives one additional shock point.

If a character is moved by hand or vehicle, apply a DM -1 on the throw at the next crisis point.

It is not impossible for a wounded individual to stabilize himself (by effort or naturally). If he has not died from shock points within 12 hours of the wound, he has stabilized naturally. Of course, deterioration of a serious wound at the crisis points can also produce enough shock points to bring on death.

Regaining Consciousness: If a character became unconscious, throw 1D10 every hour. If the result is less than the number of hours unconscious, the character regains consciousness.

Healing: A character naturally recovers from one light wound and one shock point per week. Additional healing is possible as a result of medical care, expressed by the following task:

To heal one light wound and/or one shock point. Routine. Medical and Automated. One Day.

Referee: Requires at least one hour of attention per light wound or shock point per day. Patient requires bedrest and proper meals.

SENSOR DETECTION

All vehicles have a sensor range. In addition, a number of ground-mounted sensors are available. These represent an integrated array of passive and active electromagnetic sensing devices. The listed range for sensors is the maximum range at which they can detect targets. Doing so at maximum range is a difficult task. At half range it is a routine task.

The die roll for success of the task is modified by the "signature"

of the target. All man-sized targets have a signature of 0, although certain types of personal armor and equipment may modify this. All vehicles have a listed signature. Positive numbers are added to the die roll (increasing the chance of detection) while negative numbers are subtracted from it (decreasing the chance of detection).

Some sensors are particularly effective and have their own positive modifier for success. For example, a 20-kilometer +2 sensor would roll for a 7 or better at normal range and a 5 or better at half range when trying to detect a target with a signature of 0.

Cover: Targets completely blocked from view or line of sight by intervening terrain may not be detected by sensors. Targets partially obscured from view or line of site (in heavy foliage, in a built-up or urban area, etc.) subtract 3 from their signature.

Targets which move or fire lose the benefit of cover.



Combat Resolution

ARMOR VALUES

Cover	Armor Value
Wood	.025
Loose Dirt	.03
Packed Dirt, Stone	.15
Brick, Cement	.25
Reinforced Concrete	.5
Construction Steel	.8
Hardened Steel	1.0
Aligned Crystal Steel	1.5
Construction Composites	2.0
Composite Matrix Armor	3.0

NON-PLAYER CHARACTERS

Experience	Initiative Level	Incapacitation	Duck
Green	4	1	4
Experienced	6	2	6
Veteran	8	3	8
Elite	10	4	10

Incapacitation: shows the number of light wounds required to incapacitate an NPC.

Duck: Throw 1D10 plus AFV for the number shown to force an NPC to duck.

BASIC QUESTIONS

1. Did you hit the target?
2. If so, how much damage did you do?

ATTACKS

Fire attacks involve attempts to hit a target with a projectile.

Aimed fire involves aiming a single fire attack against a single target (much as a hunter or a sniper would).

Area fire involves projecting a large volume of fire into an area with one or more targets (machine guns and bombs produce area fire).

Melee attacks involve attempts to hit an enemy within touching range with armed or unarmed blows

WOUNDING

Potential

Wound Damage Type DPV=1+ 1D10≤DPV×10 1D10>DPV×10

Kill	Normal	Kill	Kill	Shock, KD
	Blunt	Kill	Kill	Shock, KD
	Stun	4 Stun (or DPV×times Stun, if more), KD		
Serious	Normal	DPV×Shock, KD	Shock, KD	Light Wound, KD
	Blunt	DPV×Shock, KD	Shock, KD	Light Wound, KD
		(Every odd numbered (1,3,5...) Shock is a Stun instead)		
	Stun	DPV×Stun, KD	Stun, KD	Stun
Light Wound	Normal	Light Wound, KD	Light Wound, KD	No Effect
	Blunt	KD	KD	No Effect
	Stun	Stun	Stun	No Effect

Normal damage is significant surface and internal tissue damage (as in burns or gunshot wounds). **Blunt trauma** is impact damage or crushing (as in blows from a club, concussion, or perhaps crushing from a tire rollover). **Stun** is damage to the central nervous system (as in electric shock, or incapacitating gas).

Wound Effects:

KD (Knocked Down): The character is knocked down by the attack and is dazed.

Dazed: The character cannot move or act, and is assumed prone, motionless, and under any available cover. Dazed remains in effect for a number of turns equal to the total of shock and stun points the character has received (and this effect is cumulative). If no shock or stun points, dazed applies only until the end of the combat turn. All eligibility for further actions in the combat turn is lost, regardless of initiative level. Any passed or option actions are lost.

Light Wound: The character is immobilized for the rest of the combat turn. Initiative level is reduced by 1.

Stun Point: The character is dazed. Initiative is reduced by -3, but never below 1 until the character is unconscious. NPCs become unconscious after receiving three stun points. A character is unconscious when his total of shock and stun points equals his consciousness level.

Shock Point: The character is dazed. Initiative is reduced by -3, but never below 1 until the character is unconscious. NPCs are made unconscious after receiving one shock point. A character is unconscious when his total of shock and stun points equals his consciousness level.

Kill: The character is dead. Head hit kills are absolute; torso hit kills may be eligible for resuscitation.

ALLOWED ACTIONS

- Remain stationary.
- Conduct aimed fire at one target.
- Conduct area fire at one area.
- Move.
- Conduct walking area fire.
- Conduct trotting area fire.
- Reload a weapon.
- Change weapons.
- Duck.
- Special action.

Responses do not count as actions:

- Block a strike.
- Avoid a diving blow.

MOVEMENT

Type	Meters per turn
Crawling (uses all available cover)	5
Walking (uses available partial cover)	20
Trotting (no cover)	40
Running (no cover)	80

ARMOR EFFECTS

Armor effects are subtracted from the Damage Point Value (DPV) of the weapon, and the remainder is used to determine the effects of the wound.

RANGES

Effective range is stated for each weapon.

Close range is half effective range.

Long range is 2× effective range.

Extreme range is 4× effective range.

Combat Resolution

COMBAT TASKS

To hit a target with aimed fire at close range. Routine. Weapon skill. Absolute (1 action).

Referee: Difficulty increases one level with each increase in range (difficult at effective range, formidable at long range, and impossible at extreme range). Shotguns may not fire at extreme range. Flechette grenades may not fire aimed fire.

To hit a target with indirect fire. Difficult. Lower of Forward Observer or Marksmanship. Absolute (1 action).

To hit a target using laser designation. Easy. Lower of Forward Observer or Marksmanship. Absolute (1 action).

Referee: Forward observer must actually be firing his spotting laser at, and hitting, the target when the projectile hits.

To strike. Routine. Melee and melee modifiers. Absolute (1 action).

Referee: Using short range weapon against opponent with long range weapon makes the attack difficult. Surprise attacks (unexpected attacks from behind) are automatically successful.

To block a strike. Difficult. Melee and melee modifiers. Instant.

Referee: A successful strike blocks a would be successful strike, and the strike misses. Trying a block prohibits fire attacks (but not melee attacks) at the next initiative point.

To avoid a diving blow. Routine. Agility. Instant.

Referee: A diving blow is automatic unless the target avoids it.

To grapple. Routine. Melee. Absolute (1 action).

To escape. Routine. Melee. Absolute (1 action).

To drive at double speed. Routine. Driver. Absolute (1 action).

To drive evasively. Routine. Driver. Absolute (1 action).

To emplace an explosive charge (uncertain). Easy. Demolitions. one minute.

Referee: Treat total falsehood as detonation of the charge. Treat partial truth as failure of the charge when triggered.

VEHICLE DAMAGE

1D10	Result
1	No Effect
2	No Effect
3	Crew
4	2 Crew
5	Armament
6	Mobility
7	Armament
8	Mobility
9	Catastrophic
10	Mobility
11	Catastrophic
12	Armament
13	Catastrophic
14	Mobility
15+	Catastrophic

Effects: Crew Hit = one crewmember receives 1 hit by DPV of weapon. 2 Crew = two crewmembers hit. Armament = one weapon destroyed. Mobility = vehicle stopped and one crew hit. Catastrophe = vehicle destroyed and crew killed.

DEVIATION

If a weapon which fires an exploding round (from a thrown hand grenade to artillery) misses its target, it deviates. Throw 1D10 for the distance of the deviation.

Multiply the deviation distance by the distance for the type of weapon used to determine the actual deviation distance.

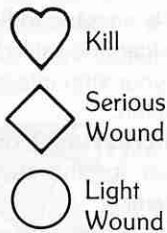
Use the scatter diagram to determine the direction of deviation. Using direction and distance, determine the location where the rounds impact after deviation.

Scatter Diagram

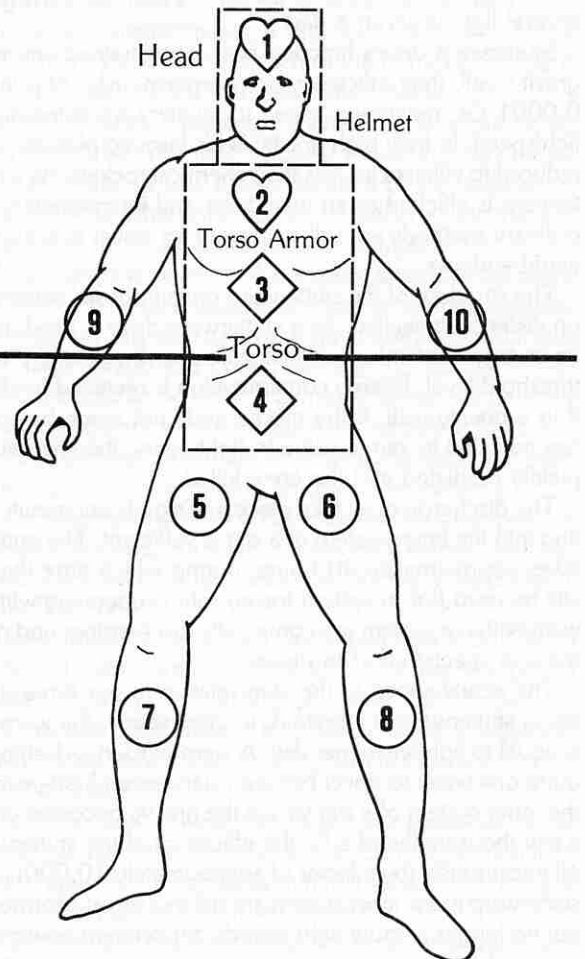
7	8,9	4
6	★	3
5	0,1	2

Weapon Type	Deviation Multiplier
Direct Fire	1 meter
Indirect Fire Grenades	5 meters
Indirect Fire Mortars	10 meters
Indirect Fire Howitzers	10 meters
Indirect Fire Missiles	10 meters
Indirect Fire Rockets	20 meters

If an indirect fire weapon is shooting at more than half its indirect fire range, double the multiplier.



Partial Cover



Throw 1D10 for potential wound and hit location.

TARGET HITS