

Palladium Books® Presents:

Mutants in Orbit™

An adventure & sourcebook for After the Bomb® & Rifts®

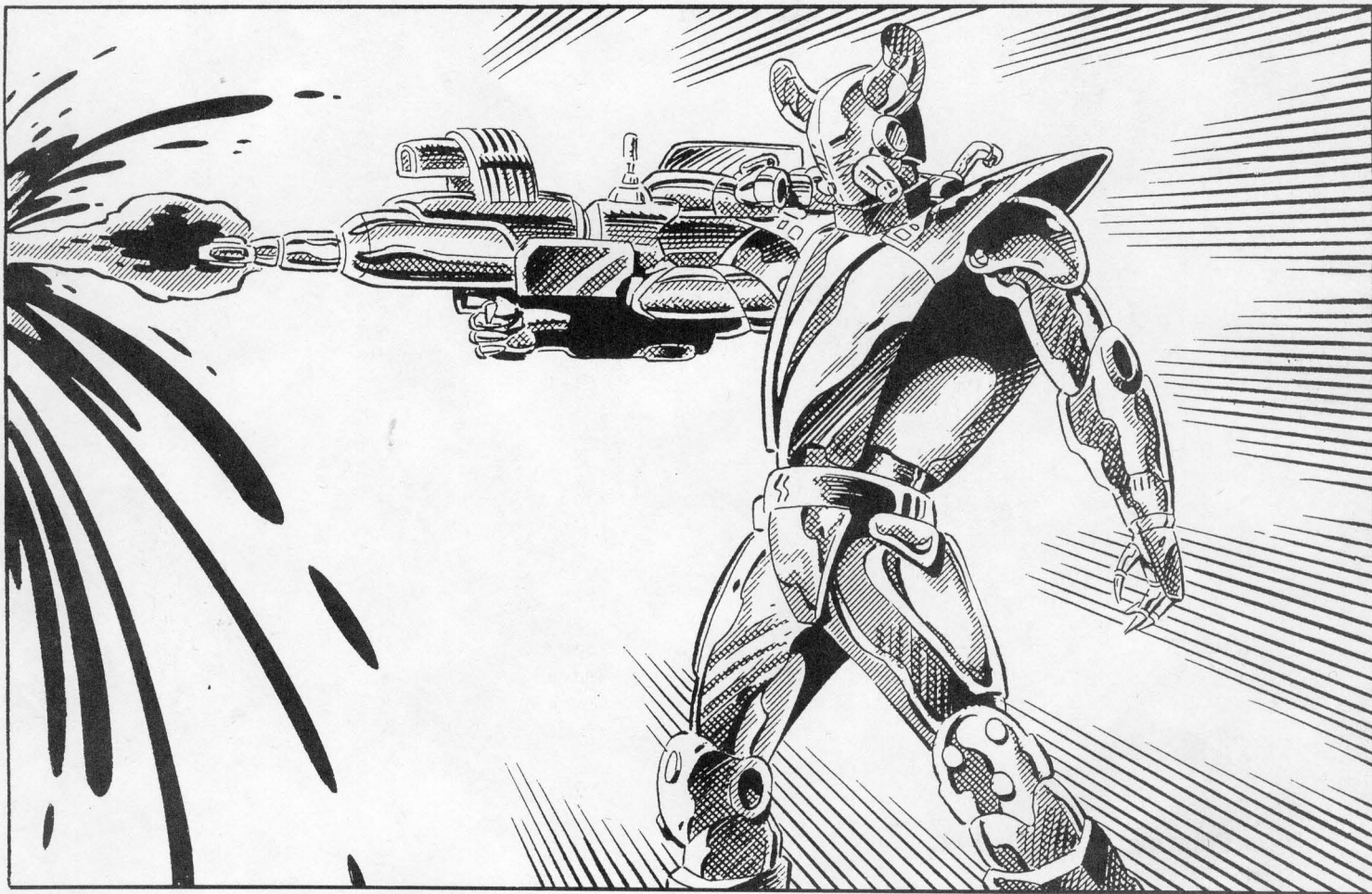
By James Wallis & Kevin Siembieda



PALLADIUM BOOKS® PRESENTS:

MUTANTS IN ORBIT™

AN ADVENTURE & SOURCEBOOK FOR AFTER THE BOMB® & RIFTS®



RIFTS®

After
the Bomb® Heroes Unlimited™

Rifts space, Mars and Moon base, the Empire of Humanity, mutant insects and more. An adventure and sourcebook for both the After the Bomb series and Rifts.

This book is dedicated to everyone who has given me accommodation or floor-space during my own orbits around the world. — James Wallis

Gound Support:

**Martin Hand
Mike Jarvis
Andy and Helen Lane
Tim Pilcher
Andrew Rilstone
Ross**

Technical Support:

**Malc Arnold
Lee Brimmicombe-Wood
Kay Dekker
Arthur D Hlavaty
Alex Scott**

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PALLADIUM BOOKS® PRESENTS:

MUTANTS IN ORBIT™

Written By: James Wallis
Kevin Siembieda

Editors: Alex Marciniszyn
Thomas Bartold
James A. Osten

Cover Art: Keith Parkinson
Interior Art: Michael Gustovich
Newton Ewell

Additional Art: Kevin Long
Kevin Siembieda

Art Direction: Kevin Siembieda
Typography: Maryann Siembieda

Special thanks to Keith Parkinson who transcended space and time to pitch in and do this great cover.
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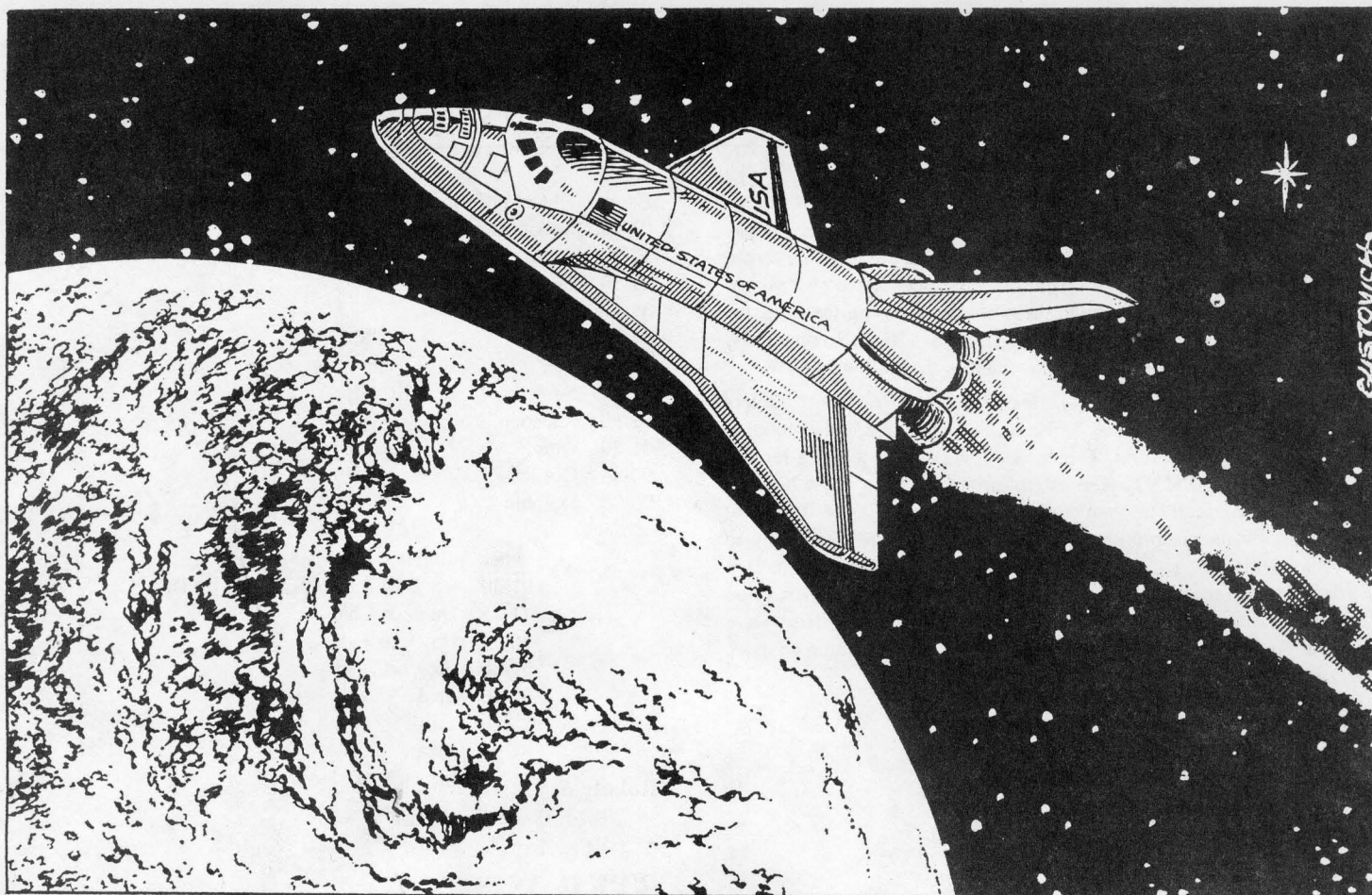
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What Awaits You in Orbit

Mutants In Orbit is the first of the **After The Bomb** books to be designed specifically for use with three major Palladium RPGs, **Rifts**, **Heroes Unlimited** and/or **TMNT & Other Strangeness**, specifically using the **After the Bomb** future setting. The world of **Mutants In Orbit** has a strong science fiction background that can be adjusted to fit any of these role-playing games.

The **After the Bomb** setting is the most straightforward and fits neatly into the existing series. **Bomb** players can create new characters and leave the blue sky of Earth for adventures exclusive to space. In this regard, **Mutants in Orbit** can be considered a sourcebook that can be combined with the existing **After the Bomb** story line or played as a completely separate and distinct sf setting of space survival and exploration. There are even adventure outlines for both Earth and space.

The **Rifts** setting is definitely tied to the Time of Rifts and events happening on Earth, although adventures can be completely removed from the Earth environment. It's almost 300 years since the ley lines erupted and altered the Earth. During this time the surviving space colonies have grown and prospered. Technology and organizations, like the KSL Corp (creators of the Glitter Boys) and the Cyberworks Network, still exist and hold the secrets of technology lost on Rifts Earth. Again, players can make *Rifts Space* part of their current campaign or create new characters exclusive to the space setting. There's enough source material and ideas for scores of adventures.

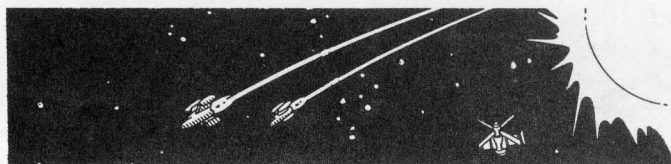
To use this material with **Heroes Unlimited**, the players are really only able to use the robots, mutant insects, spaceships and equipment as source material; characters and items to include in their Earth-bound adventures. There are no space stations orbiting Earth nor is there a moon or Mars colony in a contemporary Earth setting. However, on

the alternate Earth of superhumans, space colonization may be more advanced and one or more space stations and a moon base may be under construction and partially inhabited.

Of course, anything is possible in a future Earth setting. Again though, only the basic information is applicable because there would be comparatively few mutant animals and the entire space setting would be different if Earth was not obliterated. Hey, maybe Doctor Walter is a crazy villain who has created giant insects to take over the Mars or Moon colony or even Earth. Explore the possibilities.

Of course, a super-hero(s) could be transported through space and time to the **After the Bomb** or **Rifts** setting. Any of the super-hero types can be used, not just those with psionic powers or super abilities. These characters are likely to be seen as mutants, aliens or strange Earthlings. All of which can be bad news for our heroes in the world of **Rifts**.

Note: A player character doesn't have to be a super-being in any of the scenario settings. If a player wants to play an ordinary human or mutant animal without psionics or superpowers, he can create one just by skipping the random mutations, psionics and super ability sections. If so desired, the Game Master can rule that no character in **Mutants In Orbit** has any additional mutations or changes, and play it as a straight, hard, science fiction background with ordinary human characters.



Creating a Character: Orbit Style

Generally, there are two types of player characters in **Mutants In Orbit**. The first kind are characters newly created for this sourcebook. They are the inhabitants of the space stations, moon, Mars and asteroid bases scattered across the solar system. None of them have ever visited the Earth's surface. You generate these characters using the rules for the RPG system that you are using (**TMNT & Other Strangeness**, **Rifts** or **Heroes Unlimited**), plus the changes that follow shortly.

The second type of character is far less common. These are characters who were born and brought up on Earth, but who have, either by plan or chance, ended up in orbit. This means it is possible to bring regular **After The Bomb**, **TMNT**, **Heroes Unlimited**, **Rifts** or any other Paladium RPG characters into the world of **Mutants In Orbit**. There are a some disadvantages in doing this. Terrestrial characters are likely to be seen as a threat and may be attacked or imprisoned. There is a certain paranoia regarding Earth beings. Earth born characters may be at a disadvantage without certain skills that orbital inhabitants have learned. And they may experience sensations of disorientation or space sickness.

Intelligent Mutant Animals

STEP 1: The Eight Attributes

Generate these as normal.

STEP 2: Animal Type

The range of species available for orbital characters is somewhat restricted. Most animals were only taken into orbit if they could serve some useful purpose, such as laboratory animals, and were the subjects of experiments. Then again there were some pets and stowaways, but these too were common animals. However, many have developed unusual abilities beyond their mutation into intelligent mutant animals.

Most characters in orbit are mutant animals (80%) and dominate space society, but humans also exist. Like the animals, they exhibit strange psychic or super powers.

Mutant Animal Characters

First, roll to determine the type of mutant.

- 01-49 Common Mammals
- 50-70 Exotic Mammals
- 71-00 Other animals

Common Mammals

- | | |
|----------------------|---------------|
| 01-09 Guinea Pig | 61-75 Mouse |
| 10-20 Chimpanzee | 76-85 Rabbit |
| 21-32 Dog (domestic) | 86-90 Hamster |
| 33-45 Rat | 91-95 Sheep |
| 46-55 Monkey | 96-98 Pig |
| 56-60 Cat (domestic) | 99-00 Cow |

Exotic/Wild Mammals

- 01-10 Baboon
- 11-20 Orangutan
- 21-30 Cougar/Mountain Lion
- 31-40 Wolf
- 41-50 Tiger
- 51-60 Fox
- 61-70 Squirrel
- 71-80 Raccoon
- 81-89 Otter
- 90-95 Gorilla
- 96-00 Dolphin

Other Animals (Non-Mammals)

- 01-40 Pet Bird (generally small birds)
- 41-45 Duck or Chicken
- 46-50 Hawk or Falcon
- 51-60 Frog or Toad
- 61-70 Snake
- 71-80 Turtle
- 81-90 Lizard
- 91-00 Insect

STEP 3: Mutation Background

Mutation background comes in two stages. The first stage is to work out where a character was born. The different origins affect the basic skills and possessions that a character will have at the start of the game.

A character in **Mutants In Orbit** can have one of six different origins. They can be from the Freedom orbital station, Laika Station, Yuro Station, Outcast Station, Moon Base or an independent Freebooter. If a group of characters are being generated at the same time, it is a good idea for them to all have the same origin or to work out some valid reason for them all being together, since the inhabitants of the different stations usually regard each other with a certain amount of distrust or even hatred.

Players can either *choose* their characters' origins, or can *roll randomly* on the **Character Origin Table** that follows. If players are allowed to choose, it is a good idea for them to read the space station descriptions first. Animal characters cannot originate from bases on Mars', Mars moons, or the Asteroid Belt, for reasons that will become clear. **Note:** Any character with a P.B. score of 4 or less is automatically from the Outcast station and can roll on the random mutation table and for unusual characteristics.

Once you have determined your character's origin, you will need to know his profession. These are listed on the **Orbital Profession Table**. *Here it is advisable that players choose their profession, but they can also roll randomly.* **Freebooters** do not have to roll on the Profession table; instead they choose whether their character becomes a Pilot, a Salvage Expert, or a Trader. Each profession describes which skills are available to the character; these are cumulative with the skills from their origin.

Character Origin Table

Roll percentile dice or select one (contingent upon GM's approval).

01-20 Laika Station. Characters born here have IOU 500 to IOU 1000 (1D6 + 4 times IOU 100). Automatic Skills: Zero gravity and oxygen conservation, and a 10% bonus on any mechanical, piloting, pilot related and espionage/military skills that they choose. There is also a 50% chance that the character can *borrow* a small spaceship worth up to IOU 80,000, probably a personnel carrier, shuttle or small transport. The GM should design this ship since the player character doesn't own the vessel. Remember, the Russians tend to be xenophobic towards all other races.

21-40 Freedom Station. Characters born here automatically have IOU 1200 to IOU 2200 (2D6 + 10 times IOU 100). Automatic Skills: Movement: zero gravity and oxygen conservation, and a 10% bonus on any computer and electrical skills.

41-60 Yuro Station. Characters originating here have IOU 400 to IOU 1400 (2D6 + 2 times IOU 100). Automatic Skills: Movement: zero gravity and oxygen conservation, and a 15% bonus on any communications, science, and technical skills that they select.

61-75 Outcast Station. Characters based here have IOU 400 to IOU 1000 (2D4 + 2 times IOU 100). Automatic Skills: Movement: zero gravity, basic combat (zero gravity), vacuum survival, and one weapon proficiency of their choice, and +10% on any rogues/thief skills.

76-90 Moon Base. Characters born on the Moon have IOU 900 to IOU 1400 (1D6 + 8 times IOU 100). Automatic Skills: Movement: gravity, mining, and a 10% bonus on any physical skill they choose. There is also a 40% chance that the character owns a suit of Mikado or Samurai power armor. Remember, moon people tend to be xenophobic towards all other races.

91-00 Freebooter. Characters born Freebooters have IOU 1000 to IOU 2000 (2D6 + 8 times IOU 100). Automatic Skills: Movement: zero gravity and basic mechanics, and a 10% bonus for any pilot, pilot-related and spatial skills that they desire. There is also a 50% chance that they own a small spaceship worth up to IOU 50,000, probably a personnel carrier, shuttle or small transport. The GM should design this ship since the player character has inherited it or bought it used. If the character has a ship, they automatically get the pilot spacecraft skill as well. It is a good idea for a group of characters to own, or to have access to a spacecraft, but if a group is being generated at the same time, they should only have one or two spacecraft between them.

Orbital Profession Table

Rather than working out a character's education, **Mutants In Orbit** works by discovering a character's origin and then his profession. The different origins affect the type of education and skills, and sometimes possessions, that a character will have at the start of the game. Players may select one of the following professions or roll percentile dice to determine the character's profession.

01-07 Astrologer O.C.C.: Astrologers in **Mutants In Orbit** are far more respectable than they are on Earth. Not everyone believes in their powers of prediction and many are obvious charlatans, but some do seem to be able to predict the future with reasonable accuracy. To be an astrologer a character has to have some natural ability for the subject. The really good astrologers are usually kept as advisors by the rich and powerful. Others have to use their other skills and abilities to entertain and help others; for a price, of course (typically 2D6 × 10 IOU per basic session/reading). If playing **Rifts**, the character is considered a vagabond psychic with minor psionics and a bonus of 10 I.S.P. and the powers of clairvoyance, sense evil, and sixth sense. P.P.E. is 4D6.

Skills: Astrology and astronomy (both +10%); inter-planetary navigation (+2%), one (1) science skill, basic math (+10%), two (2) other skills of their choice, and five (5) secondary skills.

08-15 Cyberjack O.C.C.: Cyberjacks know computers inside out.

They can use them, program them, hack them, repair them, make them do things that they're not supposed to do and, if necessary, build them out of parts scavenged from other computers, dead satellites, wrecked ships and odds and ends. They usually have one area in which they specialize. If playing **Rifts**, the character is considered a city rat with a focus on computers.

Skills: All computer skills (including repair and cyberjacking), one of which has a bonus of +20% (all others +10%), basic math (+5%), three (3) other skills, to be chosen from electrical, mechanical, technical and/or science; one (1) other skill of choice, and four (4) secondary skills. Always literate.

16-22 Defense Officer. A defense officer is involved in the protection of their home base from outside threats, including raids by pirates and the forces of nature. Their role may involve any of the following: electronic or radar surveillance, espionage, anti-terrorism, checking the station's defenses, preparing new defenses, manning the station's weapon systems, police action, crowd control, patrolling the station or around the station in one of its armed spacecraft, and combat.

Skills: Defense systems (+10%), advanced zero gravity combat, basic gravity combat, four (4) espionage and/or military skills (+5%), two (2) communications skills (+5%), basic math (+10%) one (1) physical skill, two (2) weapon proficiencies, three (3) secondary skills, plus hand to hand: basic. If playing **Rifts**, the character is considered a less skilled version of the CS Military specialist, only not as well trained. Always literate.

23-30 Energy Specialist O.C.C.: As their name suggests, these characters are involved in all forms of energy gathering for the orbital stations and ships. Most concentrate on one particular area, such as solar cells or nuclear reactors, but have a working knowledge of the others. They can repair malfunctioning systems or rig up emergency ones in a crisis. They are highly regarded.

Skills: Electricity generation (+15%), two (2) other electrical skills (+10%), all math skills (+15%), one (1) mechanical skill, four (4) other skills of the player's choice in the areas of electrical, mechanical, and technical; and five (5) secondary skills. If playing **Rifts**, the character is considered a less skilled version of the operator. Always literate.

31-38 Guard O.C.C.: A guard is not as high ranking as a Defense Officer, nor are they tied to a particular home base. They might work as bodyguards or hired muscle for a rich freebooter, or may even be freelance. Most people don't like guards; they are seen as tuggish and stupid, but are a necessary part of life.

Skills: Any five (5) physical skills, one (1) espionage/military skill, three (3) weapon proficiencies, two (2) piloting skills (+5%), two (2) secondary skills, plus radio: basic and W.P. blunt. If playing **Rifts**, the character is considered a version of a vagabond thug, with the following additional skills: Streetwise (+10%), plus two other rogue skills (+2%) and two additional piloting skills.

39-48 Jack Of All Trades (JOATs): These people are the original freebooters. They have no specializations at all, but can make a reasonable job of almost any situation. Most people living in orbit don't like JOATs, as they are known, because they have a reputation for being shifty, have no ties to anyone or anything, and may well be thieves or spies. Despite this, they are important members of the space community, doing work too dangerous or low paying for others, or when there are too many problems for the employed specialists to cover all of them. And JOATs often work cheaper and do better than many professionals.

Skills: Jury-rig (+15%), basic mechanics (+5%), basic electronics (+3%), basic and advanced math (+10%), computer operation (+10%), three (3) physical skills, any six (6) other skills of the player's choice in any areas except espionage, plus six (6) secondary skills. If playing **Rifts**, the character is considered a version of a vagabond operator or scientist.

49-56 Medic O.C.C.: Medics are exactly what you would expect, although their training goes far beyond that of any terrestrial doctor. Life in zero gravity has brought with it all kinds of new problems and ailments, as well as the difficulty of trying to understand mutant, mammalian, reptilian and insect biology. Few medics can cope with all of it, and the handful that can are highly prized.

Skills: Any three (3) medical skills (+15%), three (3) science skills (+10%), basic math (+10%), speaks three (3) different languages (+15%), two (2) technical skills (+5%), three (3) other skills of the player's choice, and four (4) secondary skills. If playing **Rifts**, the character is considered a body doc with all of his skills.

57-61 Miner O.C.C.: Asteroid mining, the search for oxygen, water and rare metals, involves a great deal of knowledge and expertise. The miner must find their claim, stake it, mine it and defend it, and then get their cargo safely home. Miners have to be resilient and tend to be gruff, hardened by their job. Many people dislike them. Nevertheless, they and their work are vital to the survival of the spatial community.

Skills: Mining (+15%), basic zero gravity movement/combat, vacuum survival (+5 seconds), pilot spacecraft (+10%), two (2) pilot related, two (2) piloting skills of choice, basic math (+6%), two (2) communications skills, one (1) mechanical skill, two (2) physical skills, two (2) weapon proficiencies, two spatial skills (2), two (2) skills of the player's choice, and three (3) secondary skills. If playing **Rifts**, the character is considered a vagabond miner and also knows all chemistry (+5%), astronomy (+10%), and computer operation (+5%).

62-69 Space Pilot O.C.C.: Pilots fill a wide range of roles. They may be employed by a particular station, by a mining company, or may be freelance. Many pilots do not own a spaceship of their own, but are familiar with a wide range of designs and their capabilities. Small children in orbit all want to grow up to be space pilots.

Skills: Pilot spacecraft (+15%), astronomy (+15%), space navigation (+10%), EVA (+5%), ship-to-ship combat, basic zero gravity movement/combat, two (2) pilot-related skills (+10%), basic math (+10%), computer operation (+10%), one (1) spatial skill, three (3) other skills of the player's choice, three (3) secondary skills. If playing **Rifts**, the character is considered a vagabond pilot and knows piloting robots and power armor (+6%), robot combat basic, and can also select two rogue skills (+2%), three technical skills and three (3) weapon proficiencies.

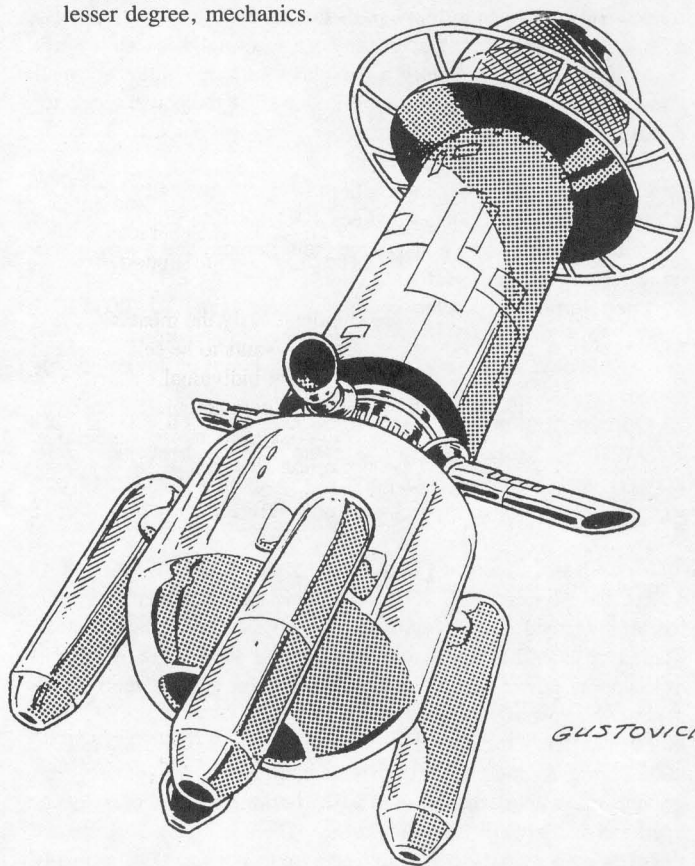
70-76 Research Scientist O.C.C.: Research and science are given a high priority in the orbital community. Scientists tend to work on areas of immediate concern, such as improving hydroponics systems or recycling systems, building new equipment from pre-Flash debris, robotics, and developing better defense systems for the orbital stations.

Skills: Select four (4) science skills (+20%), basic math (+20%), computer operation (+15%), two (2) technical and/or computer skills, seven (7) other skills from the categories of communications, computer, medicine, electrical, mechanical, spatial, or physical, and four (4) secondary skills. If playing **Rifts**, the character is considered a rogue scientist with all of his skills.

77-81 Salvage Expert O.C.C.: Salvage is one of the things that keeps the orbital stations supplied with new equipment and resources. Salvage experts find and evaluate space junk. They knew the most likely orbital planes to find old satellites and can identify whether a piece of equipment is usable, useful, junk, still working or even dangerous. They tend to work with pilots, traders or freebooters. All Salvage Experts automatically own a modern vacuum suit (see Equipment section) and some have their own ship (35%).

Skills: Salvage (+15%), recycle (+5%), EVA (+10%), advanced zero gravity movement/combat, pilot spacecraft, computer operation (+5%), contacts (+2%), all chemistry skills (+5%),

basic and advanced math (+12%), selects seven (7) other skills from the areas of science, spatial, technical, electrical, mechanical, and physical, and five (5) secondary skills. If playing **Rifts**, the character is considered a rogue scientist with an emphasis on anthropology, archaeology and chemistry (all are +15%), and to a lesser degree, mechanics.



82-87 Freebooter O.C.C.: This is an independent operative who enjoys self-employment and adventure. A freebooter may take just about any job and may develop a reputation as a hero or a scoundrel. Note that many of the O.C.C.s listed in this table can be freebooters, especially JOATs, traders, pilots, engineers and technicians. Also see the freebooter description and list of work and pay in the section describing the space community in the zone. If playing **Rifts**, the character will usually be a city rat, wilderness space scout, headhunter, operator, or vagabond, but can be just about any O.C.C., operating as a free agent. There is a 1-25% chance of having his own small shuttle. All have a laser pistol and vacuum suit.

Skills common to all Freebooters (in addition to O.C.C. skills): Advanced movement/combat in zero gravity, oxygen conservation, vacuum survival and contacts (+2%).

88-90 Ship Engineer O.C.C.: A ship engineer is not a pilot and may not even know how to fly a spaceship. Instead they know everything about how a ship works and how to repair it. This covers everything from hull damage to the ship's drive engines, the weapons systems, and the flight computer. A good engineer knows a ship from the blueprints up. Almost everyone who owns a spaceship has an engineer in their employment, or knows how to get hold of a good one quickly. All Ship Engineers automatically own a modern vacuum suit (see Equipment section) and a good tool kit.

Skills: Mechanical engineer (+20%), two (2) other mechanical skills (+15%), two (2) electrical skills (+10%), computer operation and programming (both +10%), basic and advanced math (+20%), five (5) skills from any skill category excluding espionage, rogue and science. Also selects three (3) secondary skills. If playing **Rifts**, the character is considered an operator with an emphasis on mechanics, computers and electronics.

91-93 Survival Systems Technician O.C.C.: Survival systems technicians are almost as important as ship engineers. Their knowledge covers everything concerned with keeping the inhabitants of space alive. This includes the recycling systems, the hydroponics systems, space suits, electronics and much more. All Survival Systems Technicians automatically own a modern vacuum suit (see Equipment section, below).

Skills: Hydroponics (+20%), recycle (+10%), oxygen systems (+10%), EVA, vacuum survival (+10 seconds), basic mechanics (+10%), basic electronics (+5%), basic math (+15%), computer operation (+10%), one (1) science skill (+5%), two pilot related skills, five (5) skills from any groups except espionage and military and five (5) secondary skills. If playing **Rifts**, the character is considered a modified operator with an emphasis on life support systems. All own a vacuum suit.

94-00 Trader O.C.C.: Traders are simultaneously the most loved and most hated people in orbit. Every station wants to be self-sufficient but few can manage it, so they all rely on individual traders, each with their own spaceship, to bring them new resources and carry goods between the stations. It can be a risky job; raiders and pirates have few scruples about attacking trading ships and there is always the chance that a defense officer may get an itchy trigger finger as a trader approaches. Traders regularly work with miners, freebooters, and salvage experts.

Skills: Pilot spacecraft (+10%), two (2) spatial skills (+10%), all pilot related skills (+10%), two (2) communications skills (+5%), contacts (+6%), one (1) weapon proficiency, three (3) other skills from any group, and six (6) secondary skills. If playing **Rifts**, the character is considered a modified operator with an emphasis on life support systems. There is a 1-58% chance of having his own medium shuttle. All have an energy weapon and vacuum suit.

Note: When selecting skills be certain to consider the new space skills described in this book.

STEP 4:

Bio-E Growth Levels Human Features Special Abilities Animal Powers Psionics

Characters in **Mutants In Orbit** should start this stage in the normal way. BIO-E points can be spent in the usual fashion to increase or decrease size, purchase human features, animal powers, and animal psionics.

The Size of characters in **Mutants In Orbit** is something that should be considered carefully. Remember that oxygen is precious and space bases and the space stations are often cramped, crowded and overpopulated. Players should also bear in mind that the orbital platforms, ships and equipment were originally built for the average human being, around size level eight or nine. Therefore, all of the original computers, weapons, space suits, pilot compartments, controls, and so on, are built for people that size. There are few characters over size 10 in orbit.

The average mutant animal cannot acquire human psionics as found in **Heroes Unlimited** or **Rifts**. Animal psionics (see **TMNT RPG** or **Heroes Unlimited**) are available to any animal and are purchased with BIO-E as usual. However, mutants with extraordinary abilities may receive super abilities or human psionics (something new and limited to the space setting).

At the end of this stage of character generation, if a player has ten or more BIO-E points left over, he may spend those points for the opportunity to roll on the "**Random Mutation Table**" in Step Five.

Step Five: Exceptional Mutation

One might think that a mutant dog, rabbit, or other animal that has the intelligence and body of a human is a pretty dramatic mutation already, and it is. But characters in orbit are exposed to far more radiation and other strange anomalies than those on Earth. Many of the mutants have already had their genetic structure tampered with by pre-Flash scientists, and when exposed to cosmic rays, solar radiation, leakage from nuclear power plants, and other strange space radiation (not mention ley line energy), there is no telling how their DNA may change.

What all this is leading to is: mutant animals with super powers and human psionics; something not normally allowed. Random mutations are not necessarily to a character's benefit. Some are downright nasty, but that's what mutation is all about. And an extraordinary power will mean unusual and possibly deforming physical characteristics. **Note:** Players looking for more serious science fiction may want to skip this section entirely.

Animal Mutation Tables

First, roll to determine whether the mutant animal has any unusual powers. GMs may, at their discretion, allow any or all characters to have exceptional mutant powers. If so, move on to the next table.

Mutation Determination Table (Animals)

When a *random* mutation is rolled the player moves down to the next table and rolls again to see what strange power his character possesses. There is little control over the random mutation unless the player opts to purchase a power with BIO-E points instead.

To purchase a specific power, BIO-E points must be spent at the cost of 10 BIO-E points and the reduction of one point from the P.B. attribute to purchase one *minor* super ability or 20 BIO-E points and two P.B. points for one *major* super ability. As many as two minor abilities (20 BIO-E), or one minor and one major super ability (30 BIO-E), can be purchased. The player also rolls once on the *Unusual Characteristic Table* for every super ability purchased! Remember that the high cost in BIO-E may limit the animal's other abilities, size and human features. **Note:** Powers gained by rolling on the Random Mutation Table have no BIO-E cost. Mutant insects cannot have human psionics or super abilities.

- 01-15 Normal; no mutations or powers. Cybernetics optional.
- 16-30 One Random Mutation (on the Random Mutation Table below).
- 31-42 Two Random Mutations.
- 43-52 Two Random Mutations, plus select one minor super ability.
- 53-62 Three Random Mutations.
- 63-70 Human psionics: Select one major/super psionic power and three minor psi-powers.
- 71-78 Two minor super abilities of choice.
- 79-84 One major super ability of choice.
- 85-95 Full superbeing: Two major super abilities of choice and one random mutation.
- 96-00 Human psionics: Select two major/super psionic powers and select 1D6 + 1 minor psi-powers.

Note #1: All dreggies from the Outcast Station have an extraordinary mutant power. One of those powers can be a mutant genius. Genius characters can be created from rules found in either **Heroes Unlimited** (hardware character), or **Beyond the Supernatural** (genius or psi-mechanic), or **Ninjas & Superspies** (Spy: Any of the gizmo-teer and

gizoids). Geniuses do not have any other super abilities, but most (1-90%) have the psionic abilities of total recall, speed reading and mind block (considered a minor psionic). The mutant animal character is also physically deformed; roll three (3) times on the unusual characteristic table.

Note #2: A complete list of super abilities and human psionic powers can be found in **Heroes Unlimited** and in the **Rifts Conversion Book** (although much less comprehensive). Or can be selected from the Random Mutation Table that follows. **Rifts** mutants with psionic powers should select from those listed in the **Rifts RPG**.



Random Mutation Table (Animal)

Roll percentile dice or select as desired.

- 01-02 **Increased I.Q.** Roll 1D6 and add it to I.Q.
- 03-04 **Increased M.E.** Roll 1D6 and add it to M.E.
- 05-06 **Increased M.A.** Roll 1D6 and add it to M.A.
- 07-08 **Increased P.S.** Roll 1D6 and add it to P.S.
- 09-10 **Increased P.P.** Roll 1D6 and add it to P.P.
- 11-12 **Increased P.E.** Roll 1D6 and add it to P.E.
- 13-14 **Increased P.B.** Roll 1D6 and add it to P.B.
- 15-16 **Increased Spd.** Roll 1D6 and add it to Spd.
- 17-18 **Adhesion.** Characters with this power have an adhesive ability that enables them to attach themselves to walls, ceilings, and structures, climb walls or hang from ceilings. In a heavier Earth-like gravity they can only support their own body weight plus about an additional 50 pounds (22 kg). But in zero gravity they can hold, carry, and pull along a weight of up to 1000 pounds (half a ton; 450 kg) with ease. They are also very good at catching and holding objects. **Bonuses:** Add +20% to pick pocket, palming and concealment. Note that this is very similar but not identical to the Adhesion ability described in **Heroes Unlimited**, which can be substituted.
- 19-20 **Bio-Manipulation.** Identical to the psionic power described in the Psionics sections of **Heroes Unlimited**, **Rifts**, and a few other Palladium RPGs.

21-23 Hibernation. A character with this ability can go into a deep, trance-like sleep, needing no food and only 10% of their normal oxygen intake. This is very useful for long space voyages. It takes 4D6 minutes to go into hibernation and 5D6 minutes to return to full alertness.

24-25 Chameleon. This power enables a character to change the color of their skin at will; either to blend in with a background, to disguise their identity or to display a warning of danger. The character is also incredibly stealthy: +30% to prowling and +10% to the disguise skill.

26-27 Detect Psionics. Identical to the psionic power of the same name, plus the character has the additional powers identical to the **Rifts** dog pack mutant, or the **Beyond the Supernatural** psychic sensitive, to sense the supernatural and supernatural evil.

28-29 Double-jointed. All the character's joints are unnaturally flexible, and they can move in ways that look very strange. For example, the mutant can rotate their head 180 degrees, dislocate and relocate arms, hands, legs and so on, at will, bend over backwards, etc. This also automatically gives them the escape artist ability, at a proficiency of 70% plus +2% per level of experience, to wriggle out of any kind of bonds. The double jointed mutant can also squeeze into tiny areas/containments half his size and squeeze through openings one-third his size.

30-31 Extra pair of Hands & Arms. The character has two fully functional extra arms and partial human hands (thumb and 1D4 fingers) immediately below their normal arms. The extra arms add two (2) additional actions/attacks per melee and a bonus of +2 to parry. Bear in mind that the character will not be able to fit into normal clothes or space suits and will have to get such things made special, which may be expensive.

32-33 Healing Factor. The character heals phenomenally fast, regenerating ten S.D.C. points and two hit points every hour, does not fatigue, is +4 to save vs poison/drugs and is +20% to save vs coma/death. Or may be substituted with the **Heroes Unlimited** power.

34-35 Heat Resistance. The character does not take damage from normal levels of heat or fire. Even extreme heat and fire inflicts only half damage. This power does not protect against the impact and shrapnel from explosions, lasers or other energy weapons.

36-38 Heightened Sense of Hearing. A character with this ability can hear sounds and speech up to 70 meters away with perfect clarity (75%). They can hear through thin objects (40%) and screen out background noise (40%). They can also work out the precise location of a sound's source. (50%)

39-40 Heightened, and telescopic, Sense of Sight. Vision is unusually clear in space; there is nothing to distract the eye and no atmospheric tricks to distort vision. Nevertheless, a character with this ability has perfect 20/20 vision, can read a computer screen or book from 30 feet (9 m) away, and can spot an object of human size (Size 10) up to 12 miles (20 km) away and see an average scout ship 60 miles (96 km) away (70%). They can also focus closely on nearby objects to make out very fine detail (60%)

41-42 Heightened Sense of Smell. A character can detect and recognize odors up to fifteen meters away (80%). They can recognize smells (60%) and may even be able to recognize specific people by their body odor (40%). Can be substituted with the **Heroes Unlimited** power or **Rifts** dog pack power.

43-44 Heightened Sense of Taste. The character can analyze the components of anything tasted. They can list the ingredients of food (70%), identify chemicals (50%) and detect impurities in substances (40%).

45-46 Heightened Sense of Touch. This power allows a character to tell minute differences in texture. They receive a 10% bonus to any skills requiring a light, delicate touch, such as Pick Pocket, Pick Locks, etc. If a character rolls this skill twice, their touch is

so sensitive that they can tell the difference between colors, fabrics and weaves just by touching them.

47-49 Body Freeze (super suspended animation). A mixture of strange chemicals in the character's body provides a strange ability. If the body is frozen, there is a chance equal to P.E. x 5% that the character is not hurt nor dies, even in a vacuum. Instead the mutant enters a cryogenic state of suspended animation, which lasts until their body is warmed to above freezing (32 degrees Fahrenheit or zero Celsius). They cannot move or even think while in this cryogenic state. This ability may seem to be of limited use, but means that the character can survive being exposed to the freezing temperatures of hard space without automatically dying. It takes about $2D6 \times 10$ minutes to revive from the Body Freeze state. **GM Option:** This power can be given to ALL mutant insects if so desired; kinda nasty (I like it).

50-51 Light Expulsion. The mutant can generate a beam of light from his eyes and/or hands. The light beam can function as a high intensity, flashlight or be increased to laser intensity inflicting $4D6$ S.D.C. (or $3D6$ M.D. for **Rifts**). Range: 600 ft (183 m; twice as long in space). Attacks per Melee: Equal to the character's hand to hand actions. This power can be substituted for the power in **Heroes Unlimited**.

52-53 Increase Size at Will. The mutant can double his physical size at will, also doubling the amount of his physical S.D.C. while giant. This power can be substituted for the growth power in **Heroes Unlimited**.

54-55 Infravision. This character's eyes do not see light in the visible spectrum; instead they see patterns of heat. This doubles their range of visibility since heat stands out much more than color, especially against the cold, dark background of space. They receive a +20% on the Detect Concealment skill, but cannot tell the difference between colors and may have difficulty with small, delicate tasks.

56-57 Low Body Mass. The character has an unusually low body density, due to hollow bones and light muscle tissue. Their basic mass is halved and they receive a bonus of $1D4$ to P.P., $1D6$ to Spd, but physical S.D.C. is reduced by 8 points. Also reduce the normal weight for that size level by 15%.

58-59 Low Oxygen Use. This character has a metabolism that naturally uses very little oxygen. Consumes one third as much oxygen as normal.

60-61 Machine Empathy. This character seems to have a natural understanding of machines, computers and electrical systems, and can find faults where others cannot. If the character has any skills in the categories of Computer, Electrical and Mechanical, then each one receives a bonus of +15%. If not, the character receives basic electronics, basic mechanics, computer operation and computer repair at +20%, in addition to normal O.C.C. skills, and all computer skills can be selected regardless of O.C.C. limitations. Characters will also have a 1-55% chance of having the psionic power of telemechanics as found in **Heroes Unlimited** and **Rifts**.

62-63 Magnetism. A character with this ability has a very high iron concentration in their body, and can manipulate this to create and control magnetic fields. They can make themselves stick to structures made of steel or iron (must have at least a 25% iron content), and can attract metallic objects weighing up to 20 pounds (9 kg) from up to 20 feet (6 m) away. The magnetism has two disadvantages: 1) It attracts any small, metallic objects within a 10 foot (3 m) radius to the mutant whenever used. And 2) It causes electrical circuits to go wild, with a 50% chance of erasing data from any computer or magnetic tape within 10 feet (3 m). The magnetism is not strong enough to work in any gravity field above 0.3 g. This power can be substituted for the more powerful gravity super ability in **Heroes Unlimited**.



- 64-65 Mind Block.** Same as the human psionic power described in most Palladium RPGs, plus +2 to save vs psionic mind control, empathy, and magic illusions, and is +6 to save vs horror factor.
- 66-67 Invulnerability.** This power makes the character impervious to fire, heat, cold, energy weapons and most forms of physical damage, including mega-damage. Impervious to decompression sickness and the effects of zero gravity. However, poison, chemicals, and gases inflict half damage. **MUST** have air to breathe and can be killed without it or by being "spaced." Is also vulnerable to magic and psionic attacks. This ability can be substituted for the power in **Heroes Unlimited**.
- 68-69 Oxygen Retention.** The character can build up a natural reserve of stored oxygen within his body, lasting the same number of minutes as the character has hit points! It can be used only in environments that have some sort of an atmosphere and underwater, but if the character attempts to tap into this oxygen while in a vacuum his lungs will explode.
- 70-71 Peripheral vision.** The character has exceptionally large, bug-like eyes, giving him an all-round field of vision; 360 degrees. It is almost impossible to sneak up on them unless their attention is distracted. The character gets the Detect Concealment skill at +20%, is +2 on initiative, and +2 to parry and dodge.
- 72-73 Plastic bones.** This means that while a character's bones are not literally plastic, they are very flexible. A character can change their own structure, shape, appearance and even their apparent size by as much as 20%. They can crawl through tiny spaces one-quarter their normal size and can bend in the most extraordinary ways. They receive +20% on the disguise, escape artist and impersonation skills, and get +25 physical S.D.C. points.
- 74-76 Prehensile tail.** Whether or not the character normally has a tail, they have one now and can use it as an extra limb. It is strong and flexible enough to support their body weight in Earth gravity (1G) and can hold large objects. Adds one additional attack per melee.
- 77-78 See the Unseen.** The mutant possesses a number of related powers. He has perfect 20/20 vision, can see a greater range of colors (30% more than the average human), has ultraviolet, infrared, and polarized vision, and the psi-powers of see aura and see the invisible.
- 79-80 Sixth Sense.** As the psionic power described in the Psionics section of the rulebook.
- 81-82 Fur Armor.** The character's hair is thick and coarse adding some physical protection in the way of 20 S.D.C. (A.R. 12) and is water repellent and helps to shield against radiation and cold (half damage).
- 83-84 Sucker Feet.** The character can anchor himself to a fixed position, including hanging on walls and ceilings, by suction pads on the feet. As with the Adhesion ability, they can just support their own weight plus about 50 pounds (22 kg) under Earth gravity. The ability does not work if the character is wearing shoes or any foot covering.
- 85-86 Telekinesis.** The character can mentally move inanimate objects up to 80 feet (24.4 m) away. He does not have to be able to see the object to move it as long as he knows exactly where it is. One pound (0.5 kg) per point of I.Q. can be moved. Bear in mind that while computers and guns may be big and heavy, flicking switches, depressing push buttons, turning knobs, and pressing triggers requires a light touch, generally less than 4 pounds (1.8 kg) of pressure. This power can be substituted for the TK power in **Heroes Unlimited** or **Rifts**.
- 87-88 Telepathy.** Identical to the psionic power described in the most Palladium RPGs.
- 89-90 X-Ray Vision.** The character can see through small amounts of substances with low mass, such as wood, plastic and flesh, but not steel, rock or lead. The range of x-ray vision is 20 feet (6 m).

If the character has any Medical skills, they receive a +5% bonus. This ability can be substituted for the power in **Heroes Unlimited**.

- 91-93 Increased Mass and Natural Body Armor.** This mutant is twice as heavy as is normal for his size level, but looks only slightly overweight. The body has dense muscles, a thick layer of protective fat and a tough, rubbery skin. Add +50 to physical S.D.C., +8 to P.S., and has a natural A.R. of 15. Impervious to decompression sickness and the effects of zero gravity. Reduce speed by 2 points.
- 94-96 Wingless Flight.** The character can hover and fly without wings or mechanical devices. Maximum flying speed is 100 mph (160 km — twice as fast in space) and can be done in an atmosphere or vacuum.
- 97-98 Hydrokinesis.** Same as the psionic power found in **Heroes Unlimited** and **Rifts**.
- 99-00 Roll again, twice.**

Unusual Characteristic Table

This table seldom provides any sort of additional power, but focuses on physical distortions of the body.

- 01-05** Large, bulging eyes.
- 06-10** Tiny, black or red (50/50), beady eyes.
- 11-15** Large bridge over eyes — Neanderthal look.
- 16-20** Unusually large teeth; +1 point of damage from a bite.
- 21-25** Blotchy skin; body is covered with patches of grey, white or brown patches, large and small.
- 26-30** Odd skin color: Stark white.
- 31-35** Fangs and Pointed Teeth. The character has a grossly enlarged jaw with fangs. In hand to hand combat they can Bite for 1D6 damage, or if they already have a natural Bite attack they add an extra 3 points of damage to it.
- 36-40** Elephant Ears. The ears are 2D6 times bigger than normal.
- 41-45** Spinal curvature, resulting in a hunched back appearance.
- 46-50** Gorilla arms: two times longer than normal.
- 51-55** Two-fingered hand. The four fingers are merged into two thick fingers and a thumb; still has good control and dexterity.
- 56-60** No nose. Two tiny slots are where the nose used to be.
- 61-65** Six fingers; no real advantage or disadvantage.
- 66-70** Large lumps and spines protruding at body joints.
- 71-75** Odd skin color: Green (any variety of shades).
- 76-80** No body hair.
- 81-85** Tail, 1D6 feet long; no special ability.
- 86-90** A third, withered arm; useless.
- 91-93** Odd skin color: Mottled and scaly grey or light blue.
- 94-96** Walrus face, flat nose, twice as wide as normal, large and protruding upper lip, no eyebrows or hair on face and head, 2D6 whiskers protrude from upper lip, and the two upper canine teeth are five times larger than usual.
- 97-00** Giant feet: 1D6 times larger than normal.

STEP 6: Equipment, Supplies, and Money

All mutants in orbit have: A standard vacuum suit, an extra oxygen pack, one common weapon, 2D4 sets of clothing, and basic personal items. Characters can choose their basic essentials from the lists provided in any of Palladium Books' role-playing games, plus purchase items from the supplemental lists which appear in this book. Characters without super or psionic powers can select 1D4+1 pieces of bioware/cybernetic implants. A character can also purchase items but does not have to spend all their money at this stage; they can save some for later.

STEP 7: Rounding Out One's Character

Select an alignment as usual. Decide on any special background history and family at this point. Some of the RPGs offer optional background charts that can be used with some modification.



Creating Rifts[®] Characters

Characters in the Rifts version of *Mutants In Orbit* have been born in orbit, trapped in space and able only to stare down at the planet below them, with its crisscrossing blue lines, and wonder at it. They range between normal human beings, mutants and psionics. They do not have the same range of choices of O.C.C.s and cannot have R.C.C. like normal Rifts characters.

It is possible to bring normal characters from Rifts into *Mutants In Orbit* and there is a section covering this later in the book, but it may not be advisable. Normal Rifts characters tend to be very powerful and have abilities and equipment which would put them at odds with the rest of the orbital community. It is suggested that you generate a new set of characters using the rules below.

Rifts: Steps One through Seven

Build a "new" orbital Rifts character just as you would normally. However, skip step five as it appears in the Rifts RPG and use the Step Three as it appears in this book to determine the character's Occupational Character Class. Players may choose an O.C.C. or roll for random selection. **Mutant Animals:** Players in Rifts Space can play any of the available mutant animals. Intelligent, mutant animals are created as previously described, but players will need a copy of *Teenage Mutant Ninja Turtles & Other Strangeness* or *Heroes Unlimited*; otherwise you'll have to wing it. However, humans are the dominant life form in the orbital community of Rift Space.

Step 8: Rounding Out One's Character

Rifts: Human Mutation Tables

Alignments and experience works as usual. However, like the mutant animals, the humans have become mutants, exhibiting strange super abilities or increased psionic powers.

The process of determining mutant powers is similar to the rules for animals under Step Five of this book. Roll on the following tables.

Characters with their origin on Earth are created as described in Rifts and do not mutate in space.

Mutation Determination Table (Humans)

Roll once on this first table and then once on the corresponding tables.

01-33 No mutation; a normal human (cybernetics optional). If a mutant on the Outcast Station, this character is a mutant genius. Genius characters can be created from rules found in either *Heroes Unlimited* (hardware character), or *Beyond the Supernatural* (genius or psi-mechanic), or *Ninjas & Superspies* (Spy: Any of the giz-moteer and gizoids). Geniuses do not have any other super abilities, but most (1-90%) have the psionic abilities of total recall, speed reading and mind block (considered a minor psionic). The character is also physically deformed and does not look human; roll four times on the unusual characteristic table.

34-66 Mutant with psionic powers.

67-00 Mutant with super abilities.

Note: All dreggies from the Outcast Station have a mutant power.

Psionic Powers Table (Humans)

01-20 Minor psionics: Select 1D4 + 2 powers from any one category, except super-psionics. Add 4D6 I.S.P. to the usual number. No new powers are gained with experience, but powers and I.S.P. increase with experience growth.

21-40 Major psionics: Select a total of 1D4 + 3 powers from any of the psionic categories, except super. Add 1D4 × 10 + 10 I.S.P. to the usual number. No new powers are gained with experience, but powers and I.S.P. increase with experience growth.

41-60 Major psionics: Select a total of 1D4 + 6 powers from any of the psionic categories, except super, or two super psionic powers. Add 1D6 × 10 I.S.P. to the usual number. No new powers are gained with experience, but powers and I.S.P. increase with experience growth.

61-80 Master psionics: Select a total of 1D6 + 8 powers from any of the lesser psionic categories, plus two super psionic powers. Or may select the burster O.C.C. Add 2D4 × 10 I.S.P. to the usual number. No new powers are gained with experience, but powers and I.S.P. increase with experience growth.

81-00 Master psionics (not necessarily a true mind melter): Select a total of 1D6 + 3 powers from any of the lesser psionic categories, plus six super psionic powers. Or may select the burster O.C.C. Add 1D6 × 10 I.S.P. to the usual number. No new powers are gained with experience, but powers and I.S.P. increase with experience growth.

Note: If playing *After the Bomb/Heroes Unlimited* characters, see *Heroes Unlimited RPG* for a list and descriptions of psionic powers and I.S.P.

If playing *Rifts* characters, see *Rifts RPG* for a list and descriptions of psionic powers and I.S.P.

Psionic Dreggies will either have three additional lesser psionic powers or one additional minor super ability and +1 to M.E. attribute.

Super Ability Table (Humans)

Roll on the following table and make selections as indicated, or roll twice on the Random Mutation Table found in the **After the Bomb** section previously described.

01-20 Super abilities: Select 1D4 + 1 minor super abilities.

21-40 Super abilities: Select one minor and one major super ability.

41-60 Super abilities: Select two minor and one major super ability.

61-80 Super abilities: Select one minor and two major super abilities.

81-00 Super abilities: Select two minor and two major super abilities.

Note: See *Heroes Unlimited* or *Rifts Conversion Book* for a list and descriptions of super abilities or selections can be made from the mutant animal Random Mutation Table previously listed.

Unusual Mutant Characteristic Table (Humans)

Mutants with psi-powers roll once, those with super abilities should roll two times on this table. Dreggies should roll four times. Use the same table as found under Step Five of the mutant animal creation section.

Skill Descriptions

Below is a list of the skills typically available to characters in **Mutants In Orbit** (characters in *Rifts* will typically have a **Rifts** O.C.C. and more skills). Because both the mutant professions and the skill lists have been revised, players using the original skill system described in the early editions of *Heroes Unlimited* and *TMNT & Other Strangeness* should ignore the existence of Collegiate, High School and Military skills, and should simply choose their skills as directed by their O.C.C. description.

Under **REVISED Heroes Unlimited** the highly skilled O.C.C.s, like scientists and engineers, would generally be considered *On the Job Training/Trade school*, while the vagabond type O.C.C.s are considered as equal to *high school* training, but ignore educational bonuses, other than those listed in this book under each occupation.

Each listed O.C.C. in this book will note a **Rifts** equivalent occupation and modifications of note.

Skills marked with an asterisk ("*") are new, and are described below.

Skills marked with a plus sign ("+") can be taken as secondary skills.

Only new skills are described in this book.

Communications	* Computer	Domestic
Cryptography	*Artificial Intelligence	+ Cook
Laser	+ Computer Operation	* + Recycle
+ Optic Systems	Computer Programming	+ Sew
+ Radio: Basic	*Cyberjacking	+ Sing
Radio: Scrambler		
TV/Video		
Electrical	Espionage/Military	
+ Basic Electronics	+ Concealment	Interrogation
Electrical Engineer	Detect Concealment	Palming
*Electricity Generation	Disguise	+ Pick Locks
Robot Electronics	+ Escape Artist	+ Pick Pockets
	+ Forgery	Sniper
	Impersonation	

Mechanical

+ Automotive (moon rovers, etc.)

+ Basic Mechanics

*Bioware Mechanics

*Computer Repair

*Drive Repair: Chemical Drive

*Drive Repair: Ion Drive

*Drive Repair: Plasma Drive

*Drive Repair: Traction Drive

Robot Mechanics

*Satellite Systems

Medical

*Entomological Medicine

+ First Aid

Forensics

Medical Doctor

Paramedic

Pathology

Military

*Defense Systems

*Ship-to-Ship Combat

Demolitions

Demolitions Disposal

Physical

* + Combat (Zero Gravity): Basic

*Combat (Zero Gravity): Advanced

* + Combat (Gravity): Basic

*Combat (Gravity): Advanced

Athletics

+ Body Building

Boxing

Fencing

* + Movement: Zero Gravity

* + Oxygen Conservation

+ Prowl

* + Vacuum Survival

Wrestling

Pilot

* + Pilot Spacecraft

*Pilot Spacecraft: Advanced

*Pilot Yacht

+ Pilot Ground Vehicle

Pilot Related

*Interplanetary Navigation

* + Orbital Navigation

Read Sensory Equipment

Science

*Astrology

Astrophysics

+ Astronomy

Biology

Botany

+ Chemistry

+ Chemistry: Analytical

*Oxygen Systems

+ Mathematics: Basic

+ Mathematics: Advanced

Spatial

* + EVA

* + Jury-rig

*Mining

* + Salvage

Technical

+ Art

* Contacts

+ Language

+ Writing

Weapon Proficiencies

*WP Automatic Pistol

WP Dart Pistol

+ WP Blunt

+ WP Chain

WP Energy Pistol

WP Energy Rifle

+ WP Knife

WP Paired Weapons

WP Rapier (as WP Sword)

*WP Shotgun

Artificial Intelligence. There are a variety of artificial intelligences scattered among the settlements of the orbital community. They range from simple computers and devices using fuzzy logic and heuristics to control simple devices, such as ship temperature and power output, to rogue devices modelled on the neural network of the human mind, installed in pre-Flash satellites, some of which are still orbiting and able to defend themselves.

A character with this skill is able to understand how artificial intelligence systems work, how they “think” and “understand” the world around them, how to communicate with them and how to reprogram them, either directly or by argument. Experts are able to build and repair computers (50% base proficiency). Characters must have the Computer Operator skill to take this ability. **Base Skill:** 30% + 5% per level of experience. Adds bonus of +5% to all other computer skills.

Astrology. Astrology has developed a lot since the days before the Flash, and many characters can make informed guesses about the near future from the positions of the stars and planets. It is still far from an exact science, depending more on hypothesis, emotions/sensations and the study of human nature, than on factual learning, but anyone can understand the basic principles behind it.

Astrologers do not pretend to know the exact future. They may be able to detect general trends from the patterns and arrangements of the heavens, and if asked a specific question can sometimes make more accurate predictions. They are more likely to sense or see “danger,” or “turmoil,” or “a big decision,” this week than specific knowledge. The future that they predict is not what will happen, but what might happen, depending on circumstances. And that’s their pitch, be more prepared so one can make the best decisions and act accordingly.

Making an astrological prediction takes about an hour of game time, during which the character is assumed to be plotting a star chart. A quick glimpse into the person’s psyche or the general future takes 1D6 minutes and is very vague. A player may ask a specific question, in which case their skill roll is increased by 10%. The GM should roll the dice in secret, since the character should not know if the roll has been a success or a failure.

If the skill roll is a success then the astrologer gains a rough, undetailed insight into what may happen in the future (based on the GM’s knowledge of that character, the party as a whole and the adventure they are playing). The accuracy and detail of the prediction is left to the GM, as this is a very inaccurate science, but the GM should never give an exact view of the future. At best it should reveal a few hints and possible directions for the future; at worst a successful roll should be clouded with mystery and only make itself clear once the events have actually begun to unfold.

If the roll is a failure, then the astrologer has misread the stars and the GM must make up a false future to tell them. The worse the failure of the roll, the more misleading, or just plain wrong, the prediction should be. Since it is rare for an Astrologer to get a high percentage in this skill, astrology is clearly not to be relied on. **Base Skill:** 8% + M.E. attribute number, and +3% per level of experience.

Bioware Mechanics. A character with this skill can identify, service and repair all items of bioware and cybernetic enhancement, from the simplest dataplug to the most sophisticated of the artificial eyes. If assisted by a medical doctor or cyber-doc, he or she can add, remove or transplant bioware fittings and cybernetic implants. They cannot build new bioware items nor change the function of an existing piece. **Base Skill:** 30% + 5% per level of experience. -20% when working with bionic systems.

Combat: Zero Gravity, Basic and Combat: Zero Gravity, Advanced. These skills are similar to the normal Hand to Hand: Basic and Hand to Hand: Expert skills, and advance with level in the same way.

Two characters, both with “Combat: Zero Gravity” skills, fighting in zero gravity, would resolve their combat as normal. However, a character with this skill fighting in any kind of gravity has a -3 modifier on all combat dice rolls, including damage rolls. In addition, if fighting in zero gravity against someone with no zero gravity movement/combat skills (see below), the character gets a +1 on all combat rolls, excluding damage, and also gets one additional attack per melee.

In order to obtain these skills, the character must have spent at least six months in a weightless environment. Most freebooters and mutants in orbit are trained in zero gravity combat.

Combat: Gravity, Basic and Combat: Gravity, Advanced. Like the zero gravity combat skills above, these two skills are almost exactly the same as the Hand to Hand skills found in **Heroes Unlimited** and most Palladium role-playing games. However, a character with either of these skills but fighting in zero gravity will have a -3 modifier on all combat dice rolls, including damage rolls (this includes all Earth people and characters used to living under a gravity field). In addition, if fighting in any kind of gravity against somebody with no gravity movement/combat skills (see below), the character gets a +2 modifier on all combat rolls, including damage rolls.

To obtain these skills, a character must have spent at least six months living with at least 10% of Earth gravity.

It is possible for one character to take both “Combat: Gravity” and “Combat: Zero Gravity” skills, but bonuses are NOT cumulative.

Contacts. Because the number of people living in orbit and the rest of the solar system is so small, there is a good chance that a character will know or have heard of a particular person. This skill measures how good that knowledge of the people around him is. It can also be used to make connections between objects and people who are particularly associated with them.

The base percentage of this skill is a character’s chance of having heard of a character before. If the person in question is from the same home base or in the same occupation as the character making the roll, this base percentage is doubled. One-tenth of the base percentage is the character’s chance of personally knowing the person mentioned.

To give an example, Parks, a pilot from the Yuro base, notices a distinctively designed transport vessel moving near his ship. His contacts skill is 12%, but because particular ships are associated with their pilots and he is a pilot, he doubles it to 24% before he rolls the dice. He gets an 02, less than one-tenth of his 24%, and recognizes the ship as belonging to an old business associate, Tobermory. They dock and Tobermory introduces his new engineer Clint, originally from the Freedom base. Parks rolls against his base 12% because he is not an engineer nor from Freedom Station, and the result of 45% shows that he has never heard of Clint before (too bad, because Clint is a dangerous psychotic). **Base Skill:** 6% + 2% per level of experience.

Cyberjacking. Some computers allow their users to go beyond the normal “interface” of a keyboard, joystick or mouse, and to communicate directly with the computer via a socket (“dataplug” or “headjack”) implanted in the back of their necks. This means that the computer operator’s mind effectively enters the computer, seeing its memory and processors as a kind of virtual reality. Once accessed, the cyberjack can alter data, add data, change files, and redesign the computer’s programs, all with his mind. If the computer is linked to others in a network, such as the Link that connects all the computers in and around the Freedom station, the user can communicate with other cyberjacks within the network. If cyberjacking is used in conjunction with a ship’s weapons using a targeting computer, it will add +2 to strike.

Cyberjacking is much more direct and up to ten times faster than normal computer programming, but not without its perils: software bombs, viruses and trojan horses may lurk within the computer's memory; other cyberjacks can ambush you or design programs to trap your mind within the computer; and if the computer itself is artificially intelligent then anything might happen.

Characters must have the computer operator skill to take Cyberjacking. Any player character starting with this skill automatically has a dataplug implant. Others must pay for the dataplug and its implantation later. **Base Skill:** 50% + 3% per level of experience.

Defense Systems. Since the climate of space is somewhat hostile, every large base (including all orbital stations, the moon bases, asteroid outposts and even some large ships) is equipped with systems designed to detect and, if necessary, destroy incoming ships or attacks.

A character with the defense systems skill will have a full understanding of the defenses of their home station. They will know how it works, how to arm, aim and fire the weapons, and how to repair the system in case of damage. They will also have a rough knowledge of the systems used by the other stations, which may help them evade detection or destruction, or even to work out how to destroy the enemy's defenses in a raid; +1 to strike bonus when using cannons and their likes. **Base Skill:** 30% + 5% per level of experience.

Drive repair: chemical drive

Drive repair: ion drive

Drive repair: plasma drive

Drive repair: traction drive. The four kinds of space drives used in **Mutants In Orbit** are all different and work on totally different scientific principles. A character with Drive Repair: chemical drive will have a complete knowledge of how these drives work, to the extent that they can build one if given time and enough spare parts, but their knowledge of ion drives, plasma drives or traction drives will be minimal. A character can attempt to repair other types of drives, but at a penalty of -40%. **Base Skill:** 30% + 5% per level of experience.

Electricity Generation. Electricity is generated in two ways: from sunlight, using solar panels, and from small nuclear generators. This skill allows a character to understand and repair such generation systems, but not to build them. **Base Skill:** 50% + 5% per level of experience.

Entomological Medicine. Insect biology and medicine are completely different from the normal medical skills of doctors, and require a separate specialization. A character with First Aid skill can help a wounded insect mutant, but anything more complex than that will require assistance from a medic with this skill, who will be able to cure most insect complaints, from diseases to broken chitin. **Base Skill:** 40% + 5% per level of experience.

EVA. EVA, short for Extra-Vehicular Activity, involves working outside a spacecraft or station while wearing a vacuum suit. The skill covers suit operation and repair, damage control, maneuvering and knowing what to do when things go wrong. A character should have Movement: Zero Gravity to take this skill. **Note:** The EVA skill is not necessary for walking on the moon in a vacuum suit. **Base Skill:** 40% + 5% per level of experience.

Interplanetary navigation. This allows a character to plot and lay in a course for the large distances between planets. For the purposes of this game, anything outside the orbital plane of the Earth and Moon (the Zone) is regarded as being interplanetary. A character must have basic math and computer operation to take this skill. A **failed skill roll** means that the spacecraft is off course. To find out how far it is from its destination, subtract the character's skill from the failed roll and multiply the result by one million. That is the

resulting miss in kilometers. **Base Skill:** 45% + 5% per level of experience.

Jury-rig. Jury-rigging is an essential part of life in post-Flash space. When something breaks down it must be repaired quickly and with anything that comes to hand. A character with this skill can repair almost anything, or even build something out of scrap components. There is no guarantee that the jury-rig will hold for very long (4D6 hours or 2D4 days, whichever is most appropriate), or will even work in the way intended (roll again, a failed roll means the system is only 50% functional), but it may well save a character's life until they can get to a base and buy something more permanent. **Base Skill:** 25% + 5% per level of experience.

Mining. Mining is an important part of orbital life because it is the main source for new supplies of the oxygen, water, ores and rare metals that the space stations need to survive. The skill covers prospecting, identifying minerals and frozen gases, as well as operating mining equipment, explosives and refining gear. A character with the skill can also tell the quality of a refined product, and will know about many of the current mining operations in the solar system. **Base Skill:** 35% + 5% per level of experience (includes both demolition skills).

Movement: Zero Gravity. This skill is given automatically to any character born in zero gravity or a gravity field of less than 0.1 g (10% of Earth); all others must purchase it as normal. It simply allows a character to move with complete freedom in conditions of zero gravity. GMs may, at their discretion, make players roll against this skill rather than making a P.P. check for difficult moves. Characters who do not have this skill while in zero gravity will have difficulty in performing normal tasks; -10% skill penalty, reduce speed and combat bonuses by half. **Base Skill:** P.P. multiplied by 5, +4% per level of experience.

Orbital Navigation. Characters with Orbital Navigation will be able to plot courses for travelling in the orbital planes of the Earth and its moon, and will know the positions of any major objects within this area, such as space stations, rogue asteroids and "no-go" zones. **Base Skill:** 50% + 5% per level of experience. Must know basic math.

Oxygen Conservation. Oxygen conservation is a physical skill, and allows a character to reduce the amount of oxygen that they need to survive. By concentrating on nothing else, a character with this skill can lower their heartbeat, metabolic rate and breathing to half their normal rate, and therefore, will consume half as much oxygen (lasts twice as long). It is often taught as a survival precaution. It also adds +1 to P.E. attribute. **Base Skill:** 30% + 5% per level of experience. Must know basic math.

Oxygen Systems. This skill allows a character to understand all the different ways of obtaining and recycling oxygen, and to build and repair the machinery and equipment necessary for both. All stations and ships have some kind of oxygen recycling system. Stations and large ships will have a hydroponics plant, which they depend on for both food and recycled oxygen, while smaller ships will have a basic recycling unit. Both will have some kind of equipment for converting water into oxygen and hydrogen. This is not a very exciting skill, but a necessary one. **Base Skill:** 58% + 4% per level of experience.

Pilot Spacecraft. A character with this skill can pilot most of the types of spacecraft found in orbit with a fair degree of proficiency. **Base Skill:** 50% + 4% per level of experience.

Pilot Spacecraft: Advanced. This skill allows a player to pilot almost any ship in almost any situation, including interplanetary journeys, combat and chases. They can also pull fancy stunts, make landings on the Moon, Mars and in other gravity wells and if necessary, can

cut the amount of fuel used on a journey by up to 50%. **Base Skill:** 40% +4% per level of experience.

Pilot Yacht. This skill allows a character to pilot a solar yacht and giant ore ships in orbit and on interplanetary journeys. Anyone trying this without the skill is liable to destroy the yacht's delicate sail, making it useless. **Base Skill:** 44% +4% per level of experience

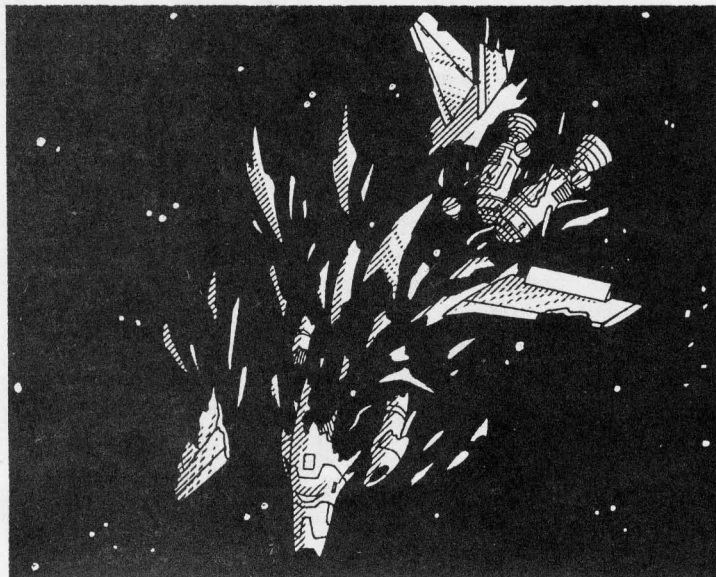
Recycle. Recycling covers everything, not just oxygen, but also waste matter, scrap metal and plastic. It is not like the Jury-Rig skill; a character with Recycle cannot make something out of odd components but, given some time and equipment, can reduce the components to their basic elements and may be able to build something new out of that. **Base Skill:** 30% +5% per level of experience.

Salvage. This skill allows characters to find, identify, pick up, strip down, evaluate and possibly sell, any debris, asteroids, wrecks and space junk that they can locate. They can also strip a piece of wrecked machinery for spare parts and may even be able to make something work again, given time and enough parts. Many characters make a living out of salvage work. **Base Skill:** 35% +5% per level of experience.

Satellite Systems. There are many satellites in orbit. They range from new models put out by one of the orbital stations to spy on the others, to navigation beacons, burnt-out husks from pre-Flash times and even operational killer satellites with dangerous weapons and deranged programming. This skill allows a character to identify, strip down and repair any of these. **Base Skill:** 30% +5% per level of experience.

Ship-to-Ship Combat. This is the specific skill of flying a spacecraft in combat. While the Pilot Spacecraft: Advanced skill lets a character fly in these situations, this skill allows the pilot to use a ship's weapons and defense systems at the same time. The character also understands the theory and tactics of spatial dog-fighting, rather than relying on good instinct. If, during combat, a character with this skill is only operating a ship's weapons systems, then they receive a +5% modifier to all ship combat moves and +1 to strike and dodge. **Base Skill:** 25% +5% per level of experience

Vacuum Survival. Being exposed to hard vacuum without any protection is inevitably fatal. This skill simply changes the amount of time that a character can survive in vacuum by teaching them the right things to do; for example, not trying to hold their breath. For every point that a character has in this skill they can survive one second in hard vacuum. Characters without the skill can last as many seconds as they have P.E. points. Note: This skill applies only to exposure to vacuum. Running out of air in a ship or spacesuit is covered by the Oxygen Conservation skill. **Base Skill:** Automatic skill. Time of survival: Seconds equal to P.E. +20 seconds, and +5 seconds per level of experience.



After the Bomb[®]

Background Setting

Space is cold. Living things were never meant to exist out here, where hard vacuum death waits implacably outside the thin metal walls of orbital bases and fragile shuttle craft. Yet, once upon a time, men had reached out for the stars, taking an impressive first step. Humankind had been doing really well, right up until "The Flash."

The biggest step towards the stars had been taken: the establishment of several large orbital colonies in geostationary orbit around the Earth. They were roughly divided by nationality, but any rivalry was friendly and all were working towards the common goal of developing a space-drive system that would carry man out of orbit and to the stars. The target of exploration, the edge of the solar system and out towards Alpha and Proxima Centauri. For a long while it looked like this exalted vision would become a reality. Early tests of at least one experimental drive system had been positive, and uncrewed probes had been sent to distant stars. Teams of scientists and engineers from the space stations continued working on the drive while others worked together to build a colony ship, a spatial ark capable of carrying over a thousand people towards a new destiny. The future was in space. Everyone knew it.

Genetically engineered animals, physically and mentally enhanced, were created to help their human masters in their work. This was another great advancement, for the animals seemed to adapt to the space environment better than their human masters.

The Flash

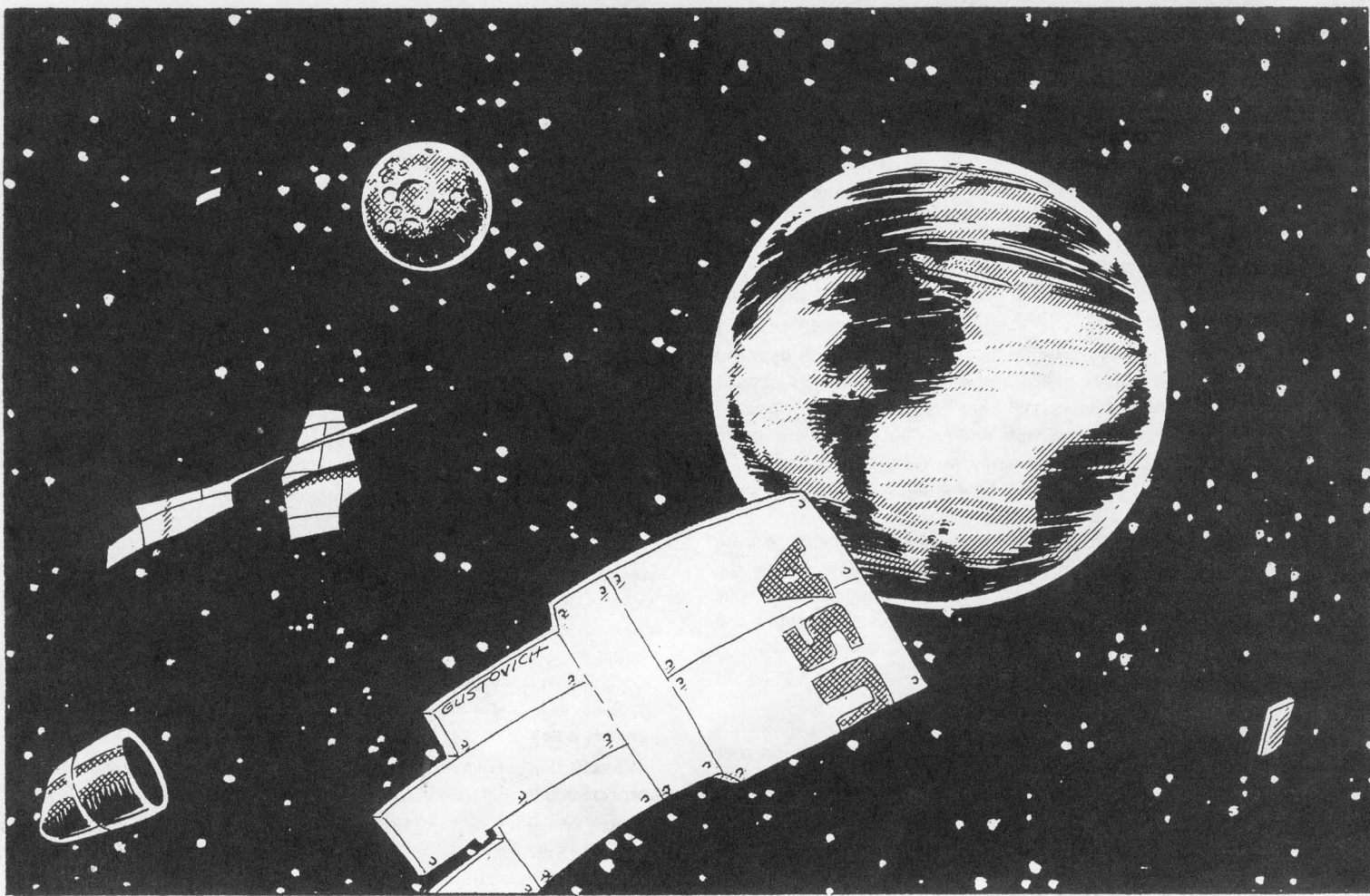
Man's great flirtation with space travel and the creation of the orbital network took a hundred years to create, and just under five minutes to destroy. Growing political turmoil escalated on mother Earth, but no one in orbit dreamt that they teetered on the brink of war. They watched with horror as intercontinental missiles soared into space. Most had Earth-bound targets and rained down on the planet. In the cold silence of space they stood helpless, witnesses to the death of their world. Like spectators watching a macabre fireworks display that killed millions with every flash.

When the big "Flash" came, the orbital network was among the targets marked for destruction. The Sino-Japanese station was dissected into quarters by an x-ray laser from a killer satellite. Other orbital platforms and satellites were blasted into atoms by missiles they could not escape. Wrecked satellites and orbital craft spiralled down into the planet's gravity well, burning up in the atmosphere. Only one of the ten supply shuttles launched that morning reached orbit, its engines nearly destroyed by a space mine release by a secret military satellite. Only a handful of the stations would survive and all suffered damage.

Below, the Earth was quiet. There were no radio signals, no signs of life. The occupants of the battered but surviving space stations looked down at the silent planet and knew that they were on their own. Their homeworld below, reduced to a barren dustbowl, while the ancient light of the stars still shined, out of reach.

Life After the Flash

The space stations could do nothing for the possible survivors of mother Earth. Thus, they turned their efforts toward their own survival. Spaceships from the four surviving space stations were sent to the asteroid belt to hunt out new sources of oxygen and water so necessary for their survival. Small craft scavenged amongst the vast debris now in orbit, searching for items of value and scrap metal to recycle.



On the stations, hydroponics and recycling technology became top priority, while repairs and development of the stations took second seat to immediate survival needs. Luckily, the mars and moon colonies had been spared the onslaught of war, becoming the new life lines of the space stations that orbited the dead planet. New communication and supply lines with the bases on the moon and mars were critical. Mars base slowed its terraforming activities and began to mine the planet's northern ice cap for yet more oxygen and water, and frantically developed plans for complete self-dependence. For the survivors of the devastation, life settled down into an uneasy pattern of survival.

A New Breed — Mutant Animals

After "The Flash," the humans did not last long, the majority dying out within a generation. Their bodies had never been designed to stand up to zero gravity and the strange radiations that space produces. The animals thrived on it. Many had already been genetically altered; their intelligence, endurance and abilities augmented and designed for the rigors of space. While others, like the insects, were just highly adaptable. Whichever it was, they all began to change. It was only after the second generation that the really strange mutations began to appear; freaks with extraordinary abilities and bodies that were altered beyond recognition. Shunned or feared by their own families and the rest of the orbital community, these *freaks* left the orbital community. At first, it was thought that these mutants had fled into space, effectively committing suicide, but later it was discovered that they had established their own space station, away from the others. A separate and independent base which would become known as **the Outcasts**.

Life in Orbit

Orbit is crowded, filled with the debris of a hundred years of exploration and dumping, and two hundred years of chaos. The space stations hang in their stationary orbits while between them rush the white and silver darts of the *freebooters'* spaceships. In between lie dead satellites, abandoned tools, lost equipment, rocks, water crystals, corpses, the wreckage of a million disasters. Ice asteroids fall into orbit around the Earth, still powerful with the energy they pick up from their slingshot trajectory around Jupiter. The freebooters anxiously strip the ice down to its component elements and then speed back home to their space stations and families.

On the stations, every inch of space is used to its maximum potential. Every machine is repaired, re-repaired, reconfigured and finally, cannibalized for spare parts. The thrumming of the air processing plants vibrates constantly through the ship, drawing in the dust and fragments that hang in the micro-gravity. Outside the thick glass of the observation windows, the huge sails of a solar yacht catch the sun in a burst of splendor as it heads out towards Mars. A freebooter's transport craft approaches, maneuvering to dock with the station, its chemical thrusters burning brightly to counter the power of the plasma drive. The bristling spikes of the station's lasers follow its path.

The inhabitants all know their places and roles. Each one has his own particular job on the station. They float beside their work-stations, anchored only by a hand, a cord, or even by the thread-like cable joining a silent cyberjack to their computer. Outside, the ceaseless repair work continues as hulls are patched up, solar panels repaired, energy systems overhauled, drives and defenses maintained.

Life in orbit is hard, crowded, brutal and often short. There is no time for wasters up here; everyone must earn their daily rations of food, water and oxygen. Parasites get "spaced" or sent off to the Outcast station, or exiled on Mars. Occasional wars, skirmishes and accidents deplete the population and resources. It is not an easy existence, but it is the only one possible. There is nowhere else to go.

Space: A Hostile Environment

Space is not just an environment, it can be the enemy. Living in the hard vacuum of space is filled with problems. Even Earth orbital space is far too large to be properly scanned, mapped and catalogued. The space environment is constantly in motion and changing, with meteors, asteroids, debris, particles, frozen gas, waves of radiation, solar wind, and other things and influences moving into or away from the area. Once equipment is lost, it is probably lost forever, drifting to a fiery end in Earth's atmosphere or out into deep space.

Solar winds do not enter into the area of low earth orbit between Earth and the Van Allen Belt. However, the space stations and most spacecraft are located miles beyond the safety of the Van Allen Belt (located about 1250 to 12,500 miles/2000 to 20,000 km above the Earth). Those traveling beyond the Van Allen Belt, such as into the orbital Zone, will see solar wind activity. Moon base is also subject to the ravages of solar winds. Mars is protected from solar winds by a magnetic field similar to the Van Allen Belt.

Space is, above all, unpredictable. There are any number of things that can disrupt the normal life of a space station or a ship. A sudden solar flare may overload solar panels. Bombardment by an ion storm or radiation belts may damage hydroponic crops (if not properly shielded) or cause the plants to mutate. A tiny meteoroid may puncture the metallic skin of a space station and cause a leak that wastes large quantities of air before the puncture is found and sealed. Meteoroid showers can destroy ships and severely damage the structure of the stations. Cosmic rays will penetrate any ship or station that is not effectively shielded, and may affect electronic equipment or the inhabitants, causing sickness and even genetic mutation. There are many more things that can go wrong, and although shielding and defenses are in place, there is no way to guard against all possible disasters all the time.

Adapting to life in space

Humans and mammals from the Earth are accustomed to planetary conditions as afforded by a protective atmosphere and gravity (1 g). Living in zero gravity has a profound affect on not only the human body, but on every creature and object. The hulls of spaceships and stations became thinner and more brittle over time. Muscles, including the heart, work less hard and atrophy. The effects are both obvious and invisible, working on the molecular level. Without Earth's protective atmosphere and magnetic and gravitational fields, there is no or little protection from greatly increased levels and varieties of radiation and other influences.

A retro-grade society that does not supply its people with vitamins, minerals and other vital nutrients or that suffers from too much vitamin D (sunlight) will see people with bone spurs, deformity, and widespread sickness.

Zero Gravity

Radiation and other things aside, a zero gravity environment as found in space and on the moon, causes a number of physiological problems. For one, the muscles don't need to work as hard and atrophy, become weak, and actually shrink; even with a regimen of daily exercise. Likewise, the heart has to work less hard and it too shrinks in size. The bones lose calcium and mass, also becoming weaker. In essence, a range of factors come into play that results in the effective breakdown of the body.

The lack of gravity confuses and tricks the body. Normally, the gravitational pull of Earth draws the blood and other body fluids to the feet. Without gravity, a process called fluid pooling occurs in which the bodily fluids shift toward the head and upper body. Without the oxygen carrying blood flowing throughout the entire body, the muscle fibers of the lower body are deprived of sufficient levels of oxygen, particularly during strenuous activity. This causes the lower body to shrink and can cause damage to cells, tissues and nerves from lack of oxygen.

The brain and heart are also fooled into thinking that they are receiving and producing respectively more oxygen than the body needs and, again, this reduces the amount of oxygen in the bloodstream. In worst case situations, blood clotting, paralysis and death can be the result. The lack of gravity and the proper flow of blood and oxygen will also inhibit the muscle tissue from self-regeneration/healing. This will ultimately lead to longer periods of recovery (2-3 times longer to heal) and the amputation of appendages, particularly in the lower body.

Rifts Note: This has led to experimentation with the chemical juicer and neurological crazies systems of physical augmentation in an attempt to counteract the effects of zero gravity and other debilitating conditions. These systems have met with some success and are more efficient in space than under Earth gravity (see Rifts Space Sections describing Yuro Station). Artificial skin and organs, cybernetic and bionics are all other ways to replace or compensate for lost or damaged limbs and organs. The development and exploitation of intelligent mutant animals, particularly dogs and chimpanzees, is another way of reducing human risk by creating a legion of non-human workers/slaves to do the most dangerous tasks. All have failed to resolve many of the problems and are used only in a limited capacity. **End of Rifts Note.**

If the period of time spent in zero gravity is limited to months or even 1D4 years, the effects of zero gravity can be reversed, with no perceptible permanent damage. However, there may be permanent damage on the molecular level that cannot be seen and is likely to mean greater susceptibility to disease and cancer and a reduced life span (1D6 years). Individuals from Earth, returning from a stay in space of six months or more, will need 3D4 months of physical therapy and medical attention before they can recover completely. **RPG Note:** Until a full recovery is made, reduce P.S., P.P., P.E., speed, attacks per melee, bonuses, and S.D.C. by half! There is also a 1-9% chance of the person dying — roll once every day for one week after his return from space.

Humans can (and have) adapted to life in zero gravity. However, adaptation to zero gravity will cause permanent and irreversible muscular and molecular alteration of the human (and all mammals) body. The dramatic change means these people cannot return to earth without experiencing immense fatigue, muscle weakness and cramps, decalcification of bones, cardiovascular strain, and, very likely, death. Consequently, the inhabitants of the moon colony can never return to Earth nor inhabit any other world with a similar gravity. This is one of the reasons they are embittered and jealous of the colonists on space stations that have an artificial gravity.

RPG Note: There is a 50% chance of a character who has completely adapted to zero gravity dying from system shock and strain under the stress of a 0.6 gravity or greater. Roll once upon immediate arrival and again every 30 minutes for the first 24 hours, then once a day thereafter. **Penalties while in Earth gravity (1 g):** All bonuses, number of melee attacks/actions, P.S., P.P., P.E., speed, and S.D.C. are reduced by half for the duration on Earth or similar level of gravity (0.6 or higher). This is applicable to most characters, including **Rifts**. The notable exceptions are juicers, crazies, mutants with invulnerability or the super ability to alter one's physical structure, mutant insects, dragons and most supernatural beings. Even cyborgs will feel the strain on the flesh and blood portions of their bodies, but their penalty is only a reduction of one-quarter (25%) rather than half (same risk of death). Note that Earth gravity is one (1) g.

A full hard suit of environmental power armor or robot vehicle will compensate somewhat for the heavier, Earth gravity, especially if equipped with medical and biological regulator systems that would help maintain a higher level of performance. Physical exertion would be reduced because the power armor or robot vehicle would compensate for the weakness of the pilot; it is the bot or suit performing the bulk of the physical activity. Like the cyborg, the gravitational penalties are one-quarter (25%), but the risk of death is unchanged. Once outside of the power armor or bot vehicle, the normal problems and penalties apply.

Decompression sickness

Decompression sickness is also an ever present problem, but one easily avoided if careful. Exposure to pressure differences can cause symptoms similar to the "bends," as experienced by Earth deep-sea divers. Various mixtures of gases can completely prevent the sickness, as can slowly equalizing pressure from one environment to another. The humans and mutants living in zero gravity have adapted to decades of life in space and seldom need artificial means of decompression and seldom suffer decompression sickness. The worst they get is minor nausea and dizziness for 1D4 hours (-2 to strike, parry, dodge, and on initiative).

The typical penalties for decompression sickness are much more extreme. The person will be sick for 1D4 days, suffering from terrible headaches, dizziness and nausea. Penalties: -4 to strike, parry, and dodge, -8 on initiative, -15% on skills, speed is reduced by half and lose two melee attacks/actions. All effects are temporary.

Severe decompression sickness causes system shock and hemorrhaging, sending the individual into a coma for 4D6 hours and possibly dying; roll to save vs coma/death. If the character survives he or she will be too weak to move (one action per melee, speed and all bonuses reduced by 85%) for 1D4 days. Afterwards, the character suffers from the typical penalties for 1D6+1 days.

Biological & Psychological Considerations

- The affects of zero gravity can be avoided. Space stations can create an artificial gravity by rotating.
- Radiation death is always a concern because the people are exposed to it every time they step foot outside of a well shielded space station or spacecraft. Nobody knows the long-term effects of radiation from living in space. Some mutation, deformity and sickness, particularly cancers, is likely. Sterility and other serious problems are also possibilities.
- Shielding can break down and admit deadly or deforming radiation. Metal structures do change over time with prolonged exposure to radiation and cosmic rays.
- Inbreeding and radiation causes deformity and mutation.
- Psychologically, isolation can cause problems like depression and loneliness. Likewise, overcrowding can cause stress, anxiety and hostility.

Economy & Efficiency

Conservation and efficiency are two priority concerns. The preservation of the community is vital. This means getting the most out of all available living space, manufacturing, and farming, production, and of the oxygen, water and other resources. The more efficient and economically organized, the better the chance for survival and growth.

The production, circulation, and purification of breathable air and useable water are two areas where extreme efficiency is a must. Next in line are the hydroponic gardens, sanitation, and general maintenance. Other problem areas include housing and expansion, conservation of oxygen, gathering raw materials and manufacturing, stress and maintaining morale and order among the population.

Recycling

In orbit, everything is recycled. Nothing can be wasted. Most of the stations function as closed eco-systems, but inevitably, there is always some leakage or waste somewhere and new resources, especially water and oxygen, must be brought in from outside.

Water can be recycled and cleaned repeatedly with minimal loss and can be used to create more oxygen when necessary. Air/oxygen is much more difficult to retain, because it is continually lost. How? Every time an airlock opens, at least a little bit of air escapes. Leaks in the hull, even pinpoint holes, will allow for the escape of oxygen, fire from industrial furnaces and accidents consume oxygen, and so on. Thus, from time to time, new oxygen must be added to the depleted supply. The less efficient space stations and vessels will need to replenish their oxygen supply more often, because of ruptures, leaks, and normal activity that expends oxygen. Breathable air in space should never be taken for granted.

The job of oxygen recycling is usually split between the hydroponics farms, other plants, in way of parks, gardens, and house plants, and chemical systems that "crack" water, and systems that store oxygen (and hydrogen), and circulate, purify, and recirculate breathable air throughout the station. This circulation system also filters the old air, removing dust, hairs, and particles from the atmosphere. These will be reduced, like everything else, to their basic chemicals and fed into the hydroponics tanks.

Spacecraft and the best space-suits have their own, smaller, built-in oxygen recycling and purification systems. On a ship the system is likely to be mechanical and powered either from solar cells or from excess power diverted from the drives, while a suit's recycling pack will probably use chemicals to purify the air.

The recycling of plastic, glass, and metal is comparatively easy and many things can be cleaned and reused or melted down and remade into a new, useful item. Even clothing and other materials can be reused in some way. In manufacturing, what was once considered worthless by-products and escaping gases are now captured, stored and used. For example, oxygen is a by-product from processing iron ore and is now captured and saved. Other gases and trace elements are captured and used in a similar fashion.

Water

Water has become one of the most precious substances required by the orbital communities, especially those of the **After the Bomb** setting. Their archaic technology prevents a truly efficient level of conservation of oxygen, requiring continual renewal of this precious resource on a regular basis. In fact, much time and energy is spent mining the ice caps on Mars and in mining the asteroid belt. Many are the skirmishes over the acquisition and piracy of water/ice and other resources. Note that the moon is devoid of water and the strong gravity of Earth prevents getting water from its lakes and oceans.

Water serves five main functions: Drinking, hydroponic farming, shielding, currency, and the production of oxygen and hydrogen.

1. Drinking and sewage systems are important and comparatively easy to maintain. Water can be recycled almost endlessly, with minimal loss of fluid.

2. Hydroponic agriculture is the major source of food production and another source of creating and recycling breathable air.

3. Water can make an effective shielding, both against heat and against radiation, such as cosmic rays. Many spaceships and stations keep a layer of water between the inner and outer walls. This is particularly true of space stations that desire to store large amounts of the precious fluid. By storing the water between the walls of the hull, they are creating a simple but effective shield and storing vast quantities of water in a way far more useful than just sitting in stagnant storage tanks.

4. Water has become recognized as the new currency. The inhabitants refer to it as "Ice" and write it as "IOU," short for Ice-Oxygen Units. IOU's are accounted for on credit cards and scarce metal coins. Denominations of coins are limited to \$1, \$10, \$20, \$60, \$100, and \$500 IOU. The coins are all small, about the size of a dime, and lightweight, usually made from nickel and with a forgery-proof hologram inscribed on one side. These coins are generally recognized as legal currency by all stations except the moon. Still, in a crisis there is a rush to buy ice, because you can't breathe a nickel coin.

One IOU is equivalent to half a liter of water or one pint (half a quart). One liter is equal to approximately 0.908 quarts dry/frozen or 1.057 quarts in liquid form and is worth two IOUs. One gallon equals 3.8 liters and is worth about 7.8 IOUs. **Note:** Players should never have much need to understand the conversion formula, as they will see everything priced in IOU; i.e. a wrench is 5 IOU, a bottle of liquor is 15 IOUs, a flashlight 20 IOUs and so on.

The actual pieces of frozen water are kept locked safely in vaults or tethered to space stations or spaceships. This is very similar to the system of currency guarantee that was used by the United States and other countries when they were on a *gold standard*; meaning that the paper money and notes were guaranteed by a physical gold reserve (remember Fort Knox?).

Many spaceships and space stations have huge lumps of ice tethered outside them, where the vacuum of space will keep them frozen. A million IOUs of ice weighs five hundred tons, so it makes sense to keep it outside rather than inside; and if the worst comes to the worst you can always hack off a lump of ice, bring it into the ship, unfreeze it, crack it and breathe it. Blocks of ice are also stored in huge storage trailers attached to the outer hull of the station or floating in these large box-car like containers on a tether line outside the hull. Some use old, gutted, spacecraft to store ice. All of these outer storage chamber have no environmental or life support systems and must be accessed by spacesuits and ships. It is often possible to tell how rich a trader or freebooter is from the amount of ice that he tows outside his ship.

There are two problems with leaving ice tethered in space. Firstly, it makes the vessel a very tempting target for space pirates, vagabonds, unscrupulous freebooters, and the desperate. Secondly, heat from the sun and more notably, solar winds, will cause the ice to melt and escape as vapor. This cosmic erosion tends to be a slow process but can and does whittle away unprotected chunks of ice. Protecting the ice can be fairly simple; by shielding the ice behind a solar sail, or an array of solar panels, or other form of simple wall or enclosure. Other techniques include keeping the ice perpetually in the shadow of the vessel, parking in the shadow of a larger ship, or space station, or even making sure that either the Earth or the Moon is always between the ice and the sun. Ice is too valuable to be put at needless risk.

5. Production of oxygen and hydrogen. Most ships and all space colonies have the equipment to "crack" water molecules to provide oxygen and hydrogen. Oxygen is needed for breathing, while hydrogen is used for energy storage and for the creation of energy via burning hydrogen to power turbines, engines and rockets, as well as powering some of the advanced ion drives.

To provide enough oxygen for a creature of Size Level 7 to 10, an average sized human, to breathe for one hour, a pint of water (1/8 gallon), or one half-liter, must be "cracked." Generally, the availability of breathable air is not a problem for characters living on one of the orbital space stations or moon colony, because the oxygen recycling system is very good. The same air can be recycled for nearly a year before requiring about 5% to 10% new, fresh oxygen to be added (providing there is no accidental air loss). Likewise, a spaceship with a good recycling unit can purify and recirculate the initial oxygen supply for months before requiring additional or fresh oxygen to be added.

The real problem with maintaining breathable air is the elimination of carbon dioxide. This can be done fairly easily and efficiently. The

addition of the hydroponic gardens and other plant life also greatly contributes to the availability of oxygen and the oxygen purification process. Plant life typically accounts for 50% of the breathable air (can be even higher) at most space stations. Overcrowding and air loss is the real fear. When the breathable air supply is lost there must be an immediate means to seal the leak and replenish the lost air supply. This is where having a readily available storage of ice and/or water becomes critical.

Hydroponics

Hydroponics is the science of growing plants without soil. It is a very important part of life in orbit, since it provides both food, removes carbon dioxide from the air and produces oxygen. Large sections of each space station/colony are dedicated to hydroponic farm systems. The variety of plants grown is huge, from plankton and seaweed, to such things as spinach, tomatoes, cabbage, beans, cucumbers, potatoes, rhubarb, squash and melons. The only serious considerations on cramped space stations are that the crop plants be efficient at converting carbon dioxide into oxygen and also be edible. The moon colony has the luxury of room to establish virtual forests and city parks with trees, grass and flowers (artificially pollinated), but many of the space stations also have park or garden areas.

Power

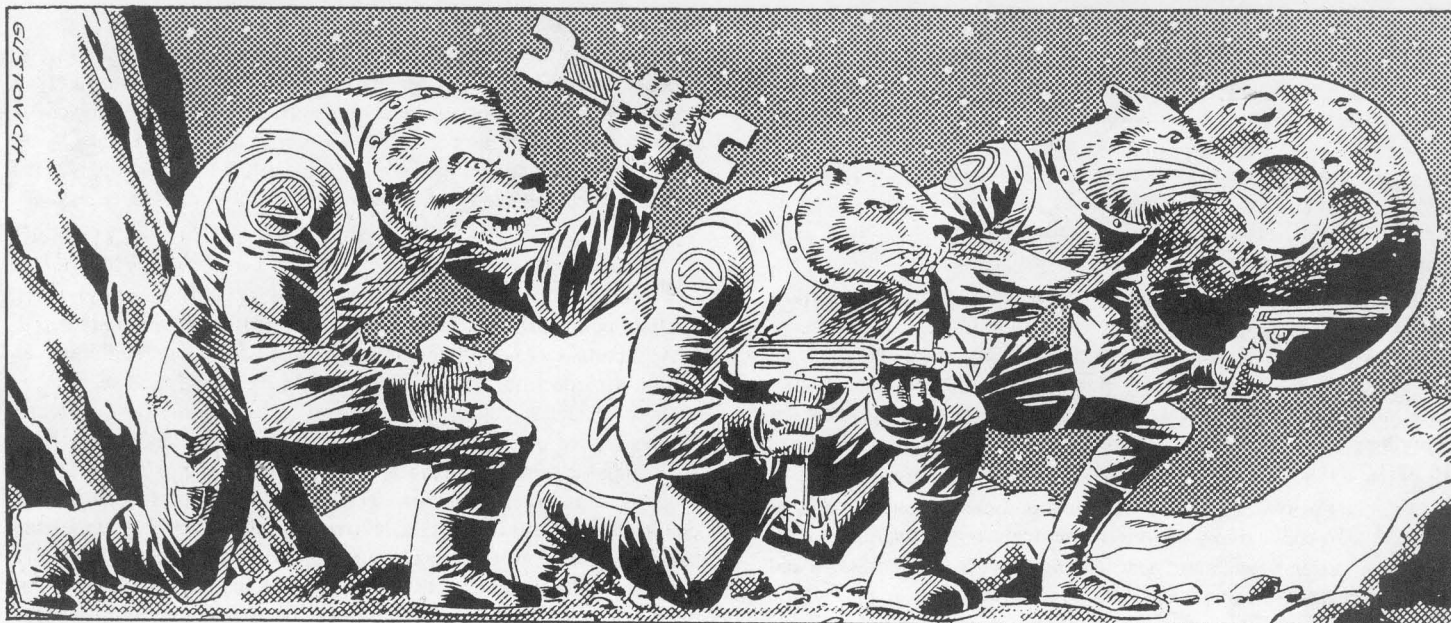
Most of the power used by the orbital stations, bases, and ships is electrical. Electricity can be generated by a number of means, but the most common, cleanest, inexpensive and plentiful is solar energy. Since most space stations and satellites are in the sun most of the time, tapping solar energy is extremely simple. The use of solar energy collection systems represents 50% to 90% of the energy used by the space stations. Huge arrays of solar panel collectors spread their silver wings toward the sun and cover large areas. Remember, in space, energy is a virtually endless commodity that can be squandered and wasted with little consequence.

Nuclear reactors and hydrogen powered systems are also used, but are fewer and tend to be treated with caution. Many of the nuclear systems are getting old and increasingly difficult to control and regulate. Many of the fail-safe mechanisms, like dropping emergency control rods into the reactor core, do not work without direct intervention of the operator and/or without mechanical assistance. **Note:** True only of the *After the Bomb* setting, not *Rifts*.

Mining Space

Chondrite (carbon, hydrogen, oxygen, nitrogen) asteroids, are really good sources of organic resources. Water and oxygen can be pulled from these asteroids and planetoids with relative ease. Likewise, there are metallic asteroids composed largely of iron (a cheap building source in space). Both are found in the asteroid belt between Mars and Jupiter, but a number of these asteroids actually pass near Earth, known as the Earth Crossing asteroids. The moon is the closest and richest resource for raw materials, especially iron and silicates, and is mined by everybody. Unfortunately, it is devoid of water. Mars, its moon, Deimos, and the asteroid belt also offer water and other elements to be plundered by ambitious miners, but have the disadvantage of being a long way away (about an 8 to 16 month trip, one way).

Because outer space is so energy rich (solar power) it is easy to perform chemical extraction and manipulation of raw materials. Cracking molecules is extremely efficient and effective. Consequently, mining, extraction of ores and minerals and molecular and chemical separation and bonding is not the energy prohibitive process it is on Earth. This process can provide almost everything the space colonists need.



Crimes & Penalties

Things we take for granted or ignore can be serious matters for space colonists. Consequently, the penalties for vandalism and wasting a station's resources are high. They can range from steep fines right up to exile or death. What follows are some examples of crimes and punishments.

Carrying firearms. 1D4 × 100 IOU fine and confiscation of weapons.

Petty theft. 2D6 × 100 IOU fine and/or 3D4 weeks of community service.

Breaking & entry, burglary, and assault. 2D6 years of imprisonment and/or labor. Sentence may be commuted for good behavior or acts of heroism.

Murder or extortion. Death or life imprisonment.

Petty vandalism. Varies from a 1D4 × 100 IOU fine to 2D6 × 10 hours of community service for inconsequential incidents.

Minor vandalism that wastes air. Varies from a 2D6 × 100 IOU fine to 1D6 × 100 hours of community service for minor incidents.

Major vandalism that wastes air. Varies from a 5D6 × 10,000 IOU fine to 1D6 years of imprisonment and labor for serious incidents. Life imprisonment and labor, or death, if lives were lost or if the space station was endangered.

Vandalism of life support systems or power plants. Varies with the seriousness of the act and loss of lives; typically 1D4 × 10 years of imprisonment and labor, but could be life imprisonment or death.

Reckless or malicious use of mutant powers. Anything from fines to imprisonment depending on the severity; similar to sentences for vandalism. Repeat offenders will be exiled for life and sent to the Outcast station.

Piracy/theft of a Spacecraft. Varies from a 2D6 × 1000 IOU fine if the vessel is recovered in good condition, to 2D6 years of hard labor, usually doing the most difficult or dangerous work.

Piracy of Oxygen. Death.

Piracy of Ice. Imprisonment and labor at the mines in the asteroid belt or on Mars for 6D6 years. If lives were lost during the piracy then the penalty is life or execution.

Claim jumping of ore or water. Life imprisonment or death.

Note: A life sentence means LIFE, not 10 or 20 years. A life sentence may be commuted to 40 years for good behavior. Death sentences are executed quickly. Pirates and murderers caught in the act outside the Zone are often executed on the spot. In the Zone there is typically a quick trial (within 2D6 days) and, if found guilty, is executed within 4D4 days. The most common form of execution is being "spaced"; shot into space without a vacuum suit.

Imprisonment and labor usually means years of hard labor, working at mining operations, or physical labor, loading and hauling cargo or working in foundries, factories and other difficult tasks, often in the asteroid belt or off station.

Space Pirates

Pirates and freebooters are not particularly concerned about conservation and will waste resources at a far greater level. Consequently, they must replenish their vital resources, such as water and oxygen, far more often because they waste them (less efficient in every way). This means they are inclined to steal these resources from the larger, more stable communities at the space stations, moon colony and large mining operations.

Orbits

A quick word about Earth orbits. Newton's Law of Universal Gravitation says that every particle in the universe is attracted to every other particle. The force of attraction is proportional to their combined weight, and inversely proportional to the square of the distance between them. Therefore, if you double the distance between two objects, you effectively quarter the gravitational pull on them.

The best force to counteract gravity is centrifugal force, which is partly how orbits work. Naturally, the further an object is from the earth, the less force it will require to stop being pulled in by the gravity, and the slower it can travel. In the lowest Earth orbits, an object must be travelling at a minimum of five miles per second (about 8 km). This is at a height of about 150 miles (240 km) and will take about 90 minutes to circle the Earth. Any lower and atmospheric drag will slow down the orbiting object until its orbit decays and it falls into the atmosphere. At a height of 240,250 miles (384,400 km) — lunar orbit, an object must travel at about half a mile (one km) per second, or 2250 mph (about Mach 3.4 or 3600 kph) to maintain orbit.

Those speeds are the minimum needed to stay in orbit, and a craft travelling at that speed will describe a circular path around the Earth. If they travel faster, the orbit changes from a circle to an ellipse, with one of its two foci at the Earth's center. As the speed of the object increases, the ellipse becomes longer and longer and its other focus further and further from the earth. This continues until the craft is travelling at "escape velocity" (11.18 km/sec or approximately Mach 5), at which point it can break free of Earth's gravity and head out into space.

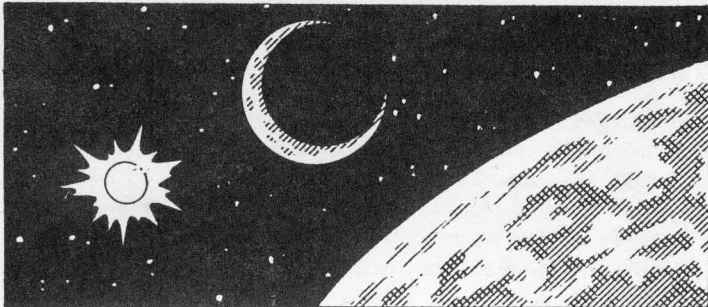
Very little remains in low orbit since most of the satellites and craft that were there at the time of the Flash have fallen back to Earth. Some space junk is occasionally found in low orbits, but the orbit is usually decaying and the item too dangerous to retrieve. The danger is not just falling victim to Earth's gravitational pull, but activity at that level might attract the attention of military S.D.I. satellites that are still active and programmed to destroy intruders.

Most inhabitants of Earth orbit do not descend any lower than 19,000 miles above the Earth (approx. 30,000 km). This is mainly because of the threat posed by the two Van Allen radiation belts, which encircle the Earth at heights of between 1250 and 12,500 miles (2,000 km to 20,000 km). The belts consist of positively charged protons and negatively charged electrons respectively, and generate a strong magnetic field which interacts with the Earth's magnetic field and gives them a constant and erratic movement. The belts can be a serious threat to electronic equipment that is caught in them. Electronics must be heavily shielded to avoid interference. Electrical and electromagnetic disturbance could knock out important computer and navigational mechanism and endanger life support systems. The cautious traveler stays well above the range of their possible effects.

At a height of 22,422 miles (35,875 km), an object will take almost exactly 24 hours to circle the Earth, in a "geosynchronous" orbit. If it is above the equator, it will stay at exactly the same point over the Earth's surface, in a "geostationary" orbit. There are ways to make a satellite or station remain over a fixed spot on the Earth's surface without being over the equator; see the Yuro space station for an example.

The area around the geostationary orbital zone has a curious feature known as the "geosynchronous graveyards." Concentrations of mass within the Earth will slowly pull satellites and objects in this orbit towards one of two geosynchronous orbit points at the Equator, one at 75 degrees east (just south of the southern tip of India) and 105 degrees west (above the Pacific, west of the Galapagos islands). These areas are watched closely by scavengers and freebooters, for the chance of picking up some small but valuable artifact. Geostationary orbit has been heavily plundered for pre-Flash satellites, but there are still prizes to be found.

Above 60,000 miles (96,000 km), the Earth's gravitational force is almost uniform and comparatively light. Beyond a certain height, the gravity fields of the moon and sun begin to have an effect on orbiting craft, although not a major one. There are five points in orbit, known as Lagrange points or L-points, where the gravitational forces of the Earth and Moon cancel each other out and an object may remain in an undisturbed, stable orbit. The first three Lagrange points are unstable; if an object stays exactly at the L-point it is fine, but if it moves even slightly away its orbit will slowly become more and more erratic, moving further and further out of line. L-4 and L-5 are different. They are attractive points, meaning that objects orbiting nearby feel a slight gravitational attraction towards the L-point and may be drawn towards it. This has made the area around these points an astral Sargasso Sea; rocks, wrecks, corpses, dead satellites and other space junk are all slowly drawn here. The Freedom station (described elsewhere) is based at the L-5 point, while the wreckage of the Sino-Japanese station lies at L-4.



The Zone

General Background & The After the Bomb® Setting

The large space stations and smaller, independent spacecraft and mini-space stations (satellites that house 4D6 people/family members) are located in the **Zone**. The Zone is the expansive area of space populated by humans and mutants, space stations and freebooters, around the planet Earth and the moon.

Orbital Space Stations

The limitations and rigors of life in space have kept the populations and expansion of the space colonies limited and slow (**Note:** Not so in **Rifts**). There are approximately sixty thousand people spread between the asteroid belt just beyond Mars and throughout the Zone, the area around Earth and the Moon. There are four mutant occupied space stations in Earth orbit, plus a sprawling base on the Moon, with many tiny mining and observation outposts around it. There was once a base on Mars, but it has been abandoned for over 70 years. Deimos, one of the moons of Mars, has an abundance of frozen water and is frequently mined for its precious liquid. The majority of the space survivors live on the orbital space stations which have populations around six to ten thousand each.

The stations are in a high, fixed, stable, "geosynchronous" orbit above the earth. They operate on a 24 hour cycle with an artificial day and night; night lasting ten hours, in keeping with the old ways of Earth. This helps the individual's biological clock to stay in synch, but remember, there really is no such thing as night and day in outer space. Once every 24 hours, there is approximately 70 minutes of darkness, known as **shadow fall**. During this period of darkness, the space station falls into the earth's shadow and their solar panels stop generating energy. Defense officers are known to get particularly edgy during shadow fall. None of the stations have their own means of propulsion; they are all fixed in their current positions of orbit. It is possible that in an extreme emergency, many smaller ships could be brought together to tow a station to a new position, but this has happened only once since the Flash. **Note:** That each station experiences shadow fall at different times and the length of time that it is dark can be as much as 1D4 hours longer.

Overpopulation is another difficulty that plagues every station at one time or another. The lack of room on the stations is a major reason that most characters in **Mutants In Orbit** tend to be *smaller* than other **TMNT And Other Strangeness** or **After The Bomb** characters; typically size level five to eight — it's easier to survive if small. Although the orbital community is small and people tend to know a lot of other people, it is impossible to know everyone in orbit. However, it is comparatively easy to become famous or notorious, often by accident. For example, people still talk about poor, ol' Arkin Saw who managed to sleep-walk his way through an airlock, into hard space and popsicled himself twenty years ago.

All of the stations have some kind of defense, in the way of a small fleet of spaceships, troops, or civil militia, which they use to patrol their sector of space and to deter invaders and piracy. Large, devastating skirmishes are rare, but do occasionally happen. Small disputes and petty skirmishes are a regular event, especially among the independent, non-allied freebooters, miners, and pirates, usually as the result of a misunderstanding, a mechanical breakdown, an accident, too much booze, miscommunication, snide remarks, unfair prices, claim jumping, theft, and piracy.

The orbital community lives in uneasy harmony; some divided along old national lines, others by racial tension. This Cold War feeling gives the *freebooters* and *traders* a perfect opportunity to make a living by carrying out trade of goods and services with the different bases and sometimes acting as diplomatic liaisons between arguing stations. Running the errands that make life in orbit possible is the freebooter's occupation. Freebooters tend to be regarded with suspicion by most space inhabitants and are often treated as if they are thieves or enemy spies (sometimes they are both), but their services are frequently a necessity. The freebooters ignore most insults and the poor treatment they may receive, because it's all in a day's work and the profits outweigh the rudeness.

Communication between the space communities can be difficult, but not because of language barriers. English has become the common language and everyone speaks it, although some stations still preserve their original national tongue (notably **Laika**, where the inhabitants speak Russian, and the **Yuro** base, where they speak English, French, German, Italian, Spanish and various Scandinavian dialects). If someone claims that they cannot understand you, it is a diplomatic way of suggesting that they do not want to hear what you are saying without actually saying so. In the tricky area of inter-station diplomacy, this is quite common.

Freedom Station

Freedom Station is the oldest of the occupied orbital stations, having been launched at the beginning of the twenty-first century. Orbiters often refer to it as the "Yanker" station. Freedom Station was originally a multi-national effort, but, later, as other countries concentrated on their own nation's space programs, the Freedom Station was abandoned by many of the original sponsoring nations. Eventually, American and Canadian private industry bought control of the station (considered to be somewhat obsolete). The private sector provided funding, crew members, maintenance, and conducted scientific and industrial/manufacturing operations. A lot of experimental equipment was sent to, and developed at, Freedom for zero gravity testing, and much of it is still there.

Of all the stations, Freedom is the most open to outsiders. A lot of freebooters, traders, miners, and even pirates make it their temporary home, and bring a lot of trade with them. A lot of scavenged artifacts and raw materials find their way here. As a result, it has become the richest of the orbital stations, and has over three million tons of ice tethered around it.

To an outsider, the space station may seem to be a wild and lawless place. There is no police force and minor acts of violence are fairly frequent. Genuine grievances are always settled by the Committee, the space station's governing body.

The station is very heavily computerized, and many of the inhabitants have expertise in building, programming and operating computers and electronic gear. They also have fair facilities for the manufacturing of new chips and circuitry, but nothing as advanced as the Yuro station or moon colony. They are also expert in using and modifying circuitry and technology that they scavenge from pre-Flash satellites.

Many Freedom inhabitants have adapted and used the pre-Flash artifacts left by the original crews to enhance their own abilities, including such things as the data-plugs used by cyberjacks, artificial eyes, implanted two-way radios or mini-packs, giving them greater maneuverability in zero gravity. All of these are rare and very expensive; a typical price for a basic piece of bio-mechanical equipment (bioware) such as one set of razor nails would be around IOU 2500, assuming that anyone has a set currently for sale. The only sure way to acquire a piece of bioware is to kill its original owner and steal it.

These bioware add-ons can be found in most of the stations and large ships, but it is only the Freedom Station that has the best equipment

and know-how for cybernetic implantation. This operation is also expensive; typically equal to one-fifth of the cost of the bioware gear. The technology needed to manufacture new bioware is limited and seldom developed.

The Freedom station is also the base for a communications network used by the station and many freebooters and independent miners, entrepreneurs, squatters and explorers. The computer network is tied to most (90%) systems on the station, as well as all the ships that it controls and many freebooters' ships and independent satellite stations/homes. They are kept in constant contact and updated by a tight-beam radio signal with a range of a million kilometers from the central computer on the Freedom station, which updates the data on each outside unit in the Link. Cyberjacks can enter the Link through the data plugs on their necks. They experience it as a huge virtual reality, and can use it to communicate with other cyberjacks in the Net to access data, or even to control computers at a distance. However, this is both difficult and dangerous.

It is Freedom Station that is largely responsible for fuelling and supplying the many independents with the essential supplies that they need, both to survive and to continue their livelihoods as freebooters, miners and scavengers.

Name: Freedom Station, commonly called: "Yankers"

Original Sponsoring Nation: Multi-National (though largely financed by America and Canada) — later sold to USA and Canadian private business. In Rifts, this included the KLS Corp, the robotics company that developed the Glitter Boy, and other rivals of the Cyberworks Company.

Position: Originally in a geostationary orbit above the USA, it has since been towed to the L-5 stable point. The distance from L-5 to Earth is the same as from the Earth to the Moon and from the Moon to L-5; an equilateral triangle with sides 384,400 km long.

Size: A domed, circular station, about one and a quarter miles (2 km) in diameter, with cylindrical appendages and crowned with solar panels.

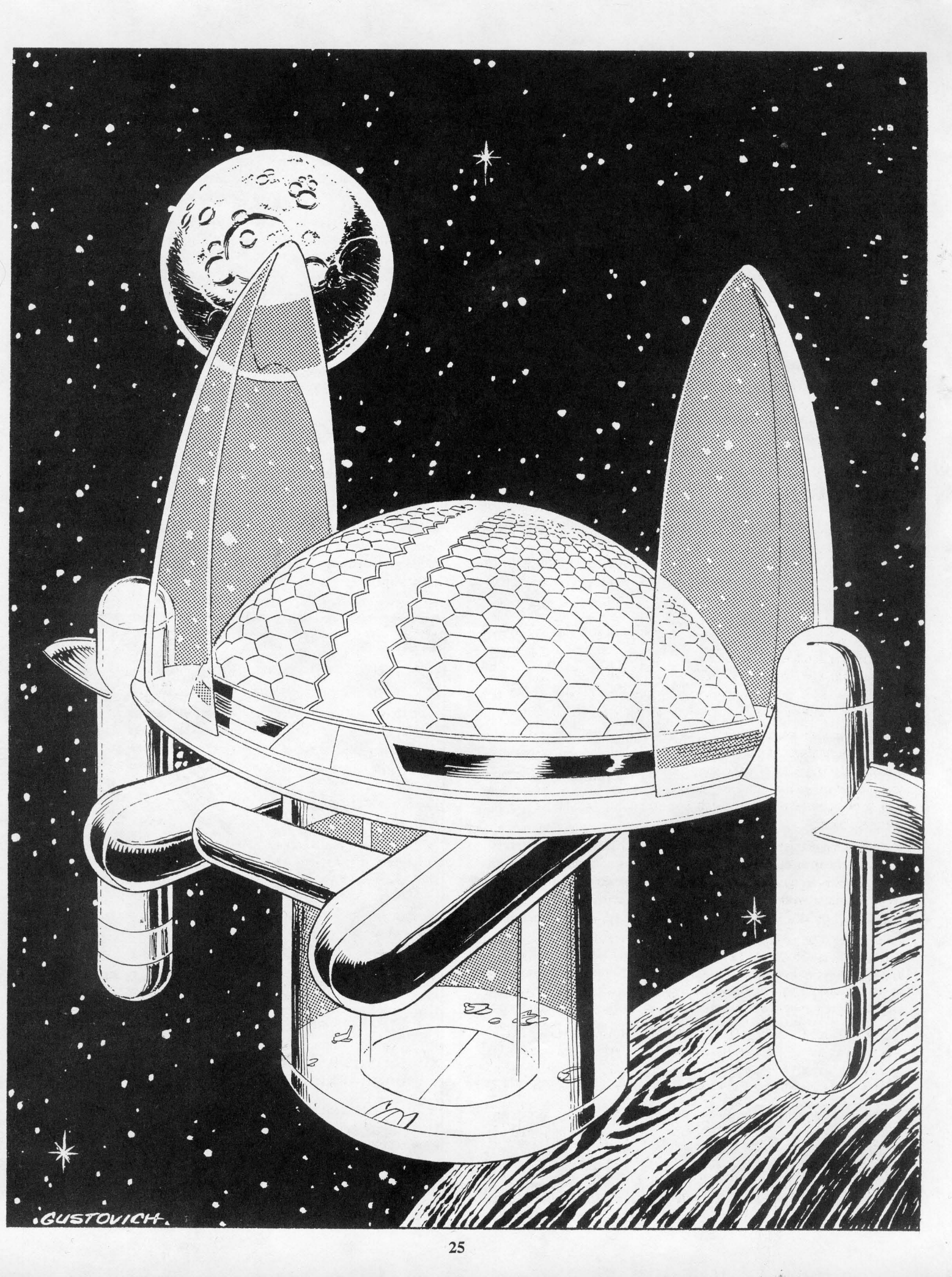
Internal Gravity: The Freedom Station spins slowly, creating an artificial gravity roughly equivalent to Earth's (slightly less).

Population: 6000 mutant animals of all species and about 1000 humans. The inhabitants get along well and call themselves "Freebies," but people from other stations refer to them as "Yankers." Freebies have a first name followed by the number of the module where they live; so a typical Yanker might be called Toby 2301 or Percy 1640. The older modules with lower numbers are highly regarded; only the very rich or influential have a single digit after their name.

Organization: The Freedom Station is overseen by a democratic, central Committee of twenty-one members, made up of one individual from every species on the station. Members are elected every three years and it is up to the members of that species to decide how to pick their representative. This can lead to vicious politicking and in-fighting between rival groups.

The Committee meets every other day to debate and vote on matters concerning the station, such as defense, allocation of resources, scavenging, or mining, sales to other stations, setting prices, civil disputes, and so on. They also work as a kind of court, hearing and judging complaints from members of the station community. The members of the Committee do not usually leave the Freedom Station during their term of office, and are mostly well respected by their constituents in this prosperous community.

Power: The station draws most of its power from the solar dome and a series of long, thin panels which are extended away from the station on large vanes. These can be angled to catch the maximum possible amount of sunlight. An old, but well maintained nuclear power station is used for emergency power. The station also has a solar battery reserve that can provide full power to the station for six days, or minimal power for up to six weeks.



Defenses: The station has four main free-electron laser batteries, positioned at either end of the projecting cylinders. These have a combined arc of fire which covers the whole of the station and are always in touch with a central monitoring room, which uses sensors mounted on the solar panel vanes to observe the space around it. Station defense also includes a dozen, small, armed shuttles for use as interceptors (see section on Ship Types), six medium cargo shuttles, two large ore carriers, and 12 small, unarmed shuttles permanently allocated to it. An additional 6D6 freebooter/visitors' spacecraft will be docked with the station at any given time.

Design: Freedom is built to a modular design, using cylinders joined together by smaller "nodes." This means that if the station takes damage, areas can easily be evacuated and sealed off while they are being repaired, or the station can even be reshaped around the damaged area. This is not done often, but someone who does not visit Freedom regularly may well become confused by its changing layout, further complicated by the very similar design and appearance of many module areas.

There are seven basic module designs: habitation modules, laboratories, manufacturing, processing, hydroponics, offices, and storage (including equipment bays containing recycled and computer equipment). Older modules, the ones built on Earth before the Flash and shipped into orbit on a shuttle, are made of plastic and metal. Newer modules are entirely metal. Each one has its registration number stamped just inside its door. The station is made up of around 6000 modules.

Exports: Computer network time and data, computers, micro-circuitry, bioware/cybernetics, solar panels, processed and refined metal and raw materials of all sorts. They are experts in computer operation and repair, and bioware.

Imports: Ice, oxygen, hydrogen, raw metals and ores, scavenged scraps and, unofficially, stolen goods sold by freebooters, and occasionally pirates.

Diplomatic Relations: Freedom Station welcomes responsible and respectable freebooters, miners, and even welcomes vagrants and adventurers. They will trade with independent miners, companies and people, the moon colony and the Laika station, but the latter two only out of necessity. They avoid dealings with the Outcasts, the Network, pirates, and especially the Yuro station.

Personalities: The best-known personalities in the Freedom community are the members of the Committee. About half the Committee's members change every year but some are so popular among the rest of their species that they seem to be permanent fixtures in the group. The most notable of these is Klaus 27, a mutant cat (size level 9) who firmly believes that if Freedom developed its military capabilities, it could dominate the orbital community. His influence over the Committee is long-standing and powerful, but is now being challenged by Martin 80, a mutant chimpanzee (Size Level 7). Martin has an abundance of common sense, is an eloquent yet down to earth speaker, tempered with a sense of humor. Although younger and less experienced, he is gaining support and quickly becoming the second most popular member of the Committee.

Another notable person is the mysterious and aloof Anastasia 1, a mutant human and the head of the most powerful manufacturing company on Freedom Station. She is rarely seen, hermit-like and eccentric, but is rumored to be the richest person in orbit. She is also rumored to secretly control other elements and influential people on the station.

Space Station Laika

The Laika represents the Russian's entry into the race to colonize space in the early 21st century. Despite its military and industrial emphasis, the Laika station is much less strict and not as paramilitary as one might expect. The crew sections mix, mingle and intermarry with few restrictions. The station has a strong feeling of community, nationalism, and family; far more so than the other stations, except possibly the moon colony.

Despite this, or perhaps because of it, the Comrades are rather xenophobic when it comes to the other stations. They regard freebooters and independent miners as a regrettable necessity, but are paranoid about the possibility of newcomers being spies or infiltrators, or worst yet, being invading monsters. Consequently, they restrict freebooters and newcomers to a few specific areas of the station. Mutants (and aliens) are especially suspect and handled with great caution and paranoia. The Outcasts are avoided like the plague. In regards to preventing infiltration by spies from the other stations, they were infiltrated years ago.

All crew members of the Laika have almost identical quarters; a cubicle roughly seven by seven by seven feet ($2 \times 2 \times 2$ m). Families may have slightly larger rooms. The only real exception is the General and chief administrators and officers, who have a suite of two large rooms. Since this is also where they often work and entertain visitors, this luxury is generally regarded as very equitable.

Laika is the only space station with the technology and facilities to build new spacecraft, or to carry out extensive expansion of other space stations. They are also the best equipped for repairing and overhauling spacecraft, a service that they market to the other less capable space colonies. It takes about $1D4 + 2$ months to completely design and build a medium size spaceship not more than 300 feet long (91 m). Their manufacturing secrets are fastidiously guarded, production facilities constantly monitored and protected, and their prices generally expensive, but the quality is high. They can also refine ores mined from the Moon or found in the asteroid belt into refined steel and finished components, but frequently need to purchase additional ore and processed metal from the Yankers, moon base, and independents. They often trade for food, energy, micro-circuits, and solar power rather than using IOUs as payment.



Name: Laika Station, a.k.a. "Little Russia."

Original Sponsoring Nation: Russia and the Eastern Commonwealth.

Position: In a stable, low-level orbit around the Moon. The orbit passes through or close to the L-1 and L-2 points.

Size: Cylindrical, roughly two miles (3.2 km) long and with a diameter varying between 500 feet to 1000 feet (152 to 305 m).

Internal Gravity: The Laika station spins slowly, creating a slight gravity field of just under 0.6 g, about half of Earth's. Towards the center of the station the gravity is about 0.35 g.

Population: About 4000 people, mostly mutant animals (70%) and some humans.

Organization: Laika is run on a military type structure. It is divided up into ten different sections: Defense (military), police (internal military), communications (military: includes secret surveillance and spying on other space communities), hydroponics, life support, maintenance (including gravity and power), research, diplomatic relations (including trade with others), manufacturing, and construction/repair of spacecraft.

Each of the ten major sections are overseen by a Commander and they in turn report to the General, who commands the station. Within each of these ten sections are smaller, more specialized units of about fifty to a hundred people each. These units are directed by a lieutenant and his two assistants.

When an officer dies, retires, or is demoted, he is immediately replaced by someone from within his section. The replacement is typically next in rank, but can be anybody with sufficient ability and experience. Should the General die, his replacement is selected from one of the ten commanders. This can lead to a lot of internal politics when an officer seems to be getting old or sickly.

Power: Most of Laika's power comes from two nuclear reactors housed on long arms, away from the rest of the station; one at either end of its long, cylindrical body. They use heat produced by the decay of plutonium to create electricity via a bank of thermoelectric elements. Unfortunately, they do not produce enough power to continuously serve all the station's massive manufacturing needs. As a result, over the last 20 years, the Laika has been slowly implementing conversion to solar energy. Unfortunately, only 22% of the station's power is from solar energy, so they have a long way to go.

Defenses: The station's hull is dotted with surveillance and defensive systems, such as chaff throwers and sand-casters designed to scatter incoming laser fire. One end of the station carries a small number of laser cannons, giving a limited arc of fire. In addition, all 34 of Laika's spacecraft (5 large ore and cargo carriers, 7 large transports and 22 small shuttles) are equipped with lasers and both guided and smart missiles.

Laika's defense section operates a small network of observation satellites scattered in Earth and lunar orbit, many disguised as space junk or meteoroids. This is top secret and the other stations do not know that these exist.

Design: The cylindrical body of Laika is divided into ten cross-sections, one for each of the ten organizational divisions. The divisions are not exactly equal, with the hydroponics section, requiring a large area, and the spacecraft manufacturing section, for example, takes up almost a third of the whole station. Crew quarters are scattered all over the ship but most tend to be towards the middle of the station, shying away from the nuclear reactors.

Exports: Spacecraft and space station modules, metal panels and other finished building materials. Occasionally, they export raw ore, food, plutonium, and hydrogen.

Imports: Ores, computers, micro-circuitry, solar panels, energy and occasionally, food.

Diplomatic Relations: Laika is happy to deal with the Yuro station, mainly exchanging spacecraft for computers and energy/power, because they see Yuro as no threat. They also deal with the moon colony, trading water and spacecraft for ore, energy, and building materials.

They will occasionally deal with independents, when necessary. They have a steady if frosty relationship with the Freedom Station. They suspect Freedom Station of everything, largely because of the great number of mutants, freebooters and transients at the station. This hits hard to the paranoid isolationists of Laika. Who knows what could be happening among the Freebies, or what kinds of diseases and mutagenic agents these strange, carefree people harbor and invite. Laika will have nothing to do with Mars.

Personalities: The current General of Laika is Comrade General Algonov, who has overseen the station for almost thirty years, after working his way up from a minor job in the Research section. He has kept the station at peace with itself and with the rest of the orbital community, but is now beginning to show his age, and his colonels are already beginning to vie for the right to succeed him. See *Useful Characters*, later in this book.

Yuro Station

The Yuro Station is a place at war with itself. It was built as a cooperative effort by the European Community, before the Flash, for space research and development. However, over the years, old feelings have reasserted themselves and the eight nationalities which built the station, Britain, France, Italy, Spain, Germany, Sweden, Denmark and Norway, have retreated into their own wings of the station. Although there is no actual war, and all the nationalities work fairly well together to run the station, there are frequent arguments and scuffles. These sometimes turn into protracted feuds, trade wars, acts of vandalism, physical assaults and even bloodshed. The leaders of the various wings try to keep such things to a minimum, or at least hush them up.

There is an informal council made up of representatives from the various factions, but it meets infrequently, usually when the station is faced with some major problem or threat. Even then, about a quarter of the leaders will not attend because of current feuds between their wing and another. It can be a difficult place in which to negotiate.

The bickering and hostility instills a feeling of creeping paranoia among the inhabitants. The paranoia is fueled by their reliance on the solar sail and few defenses, making the station a very easy target for hostile forces. Should an invasion ever be launched against them, the enemy would only have to destroy the solar sail, or the station's links to it, and Yuro would be doomed. At the moment they are unable to change the situation, so they just feel vulnerable.

If any of the wings dominates the station, it is the French. Of the station's fleet of thirty ships (a mixture of transports, shuttles and large personnel carriers), they control fifteen. Five of these are permanently surveying the solar sail for damage since the French share responsibility for the sail with the Scandinavians, while the other vessels are usually involved in trading with other space stations. As a result, it is typically the French who negotiate on behalf of the station, while the other nations watch and grumble.

The Yuro station is in a dominant economic position. Other than the Moon base, it is the only station with an excess of power, and the only one with superior laboratories and industrial plants for chemical and molecular extraction, and vastly superior computer and nano-technology facilities. The chemical and molecular extraction process gives Yuro Station an abundance of refined oxygen, hydrogen, silicon, carbon, nitrogen and other elements from rock, ores and ice. This means they can produce an abundance of air/oxygen and other elements, gases and fuels, as well as purify water. The silicon crystals necessary for computer circuitry are even easier to grow, process and etch in a gravity free environment and this was, and is, Yuro Station's specialty.

In addition, they have superior medical and science facilities and personnel (doctors and scientists) and manufacture solar panels (selling the stored energy). They also seem to be able to find more than their

fair share of useful pre-Flash artifacts in orbit. What the station has difficulty obtaining is food, raw materials, and finished building materials. Yuro Station is currently trading much of its excess energy, solar panels, and computers to Laika in exchange for spaceships and repairs, food, and building materials. They hope to become more independent by building a fleet of spacecraft to be sent to the asteroid belt and remote areas of the moon for raw materials.

Name: Yuro Station, sometimes called "King Angel."

Original Sponsoring Nation: Multi-National: Britain, France, Italy, Spain, Germany, Sweden, Denmark, and Norway.

Position: Geostationary orbit approximately 100,000 km above what remains of Brussels, the capital of Belgium.

Size: About 450 meters in diameter.

Internal Gravity: Light, about 0.4 g.

Population: 12,000; roughly 1500 people per wing, with another 500 living in the hub of the ship. They are of all species, and are known as Yuros. Only 10% are humans. Each Yuro is called by a first name, followed by the name of the country who built and operated the spoke where they live. "Charles Britain," for example, or "Bjorn Denmark," or "Carl Deutschland" (German).

Leadership: Divided Kingdoms. Each wing has its own form of government and none agree on the best way to do things. Most are basically democratic, although the British wing is ruled by a hereditary monarch, King Philip, and Sweden and Denmark are socialist republics.

Power: All of the station's power is generated by solar cells mounted on the station's huge solar sail. The solar energy reserve can maintain Yuro Station for 4D6+6 days at full power or 2D4×10 weeks if reduced to minimal levels. Yuro constantly has excess power and frequently sells its extra power to the Laika station and occasionally others. A small nuclear reactor is mounted at the far end of the hub, but is usually only brought up to full power when the sail is severely damaged and can only power the station at 43% efficiency.

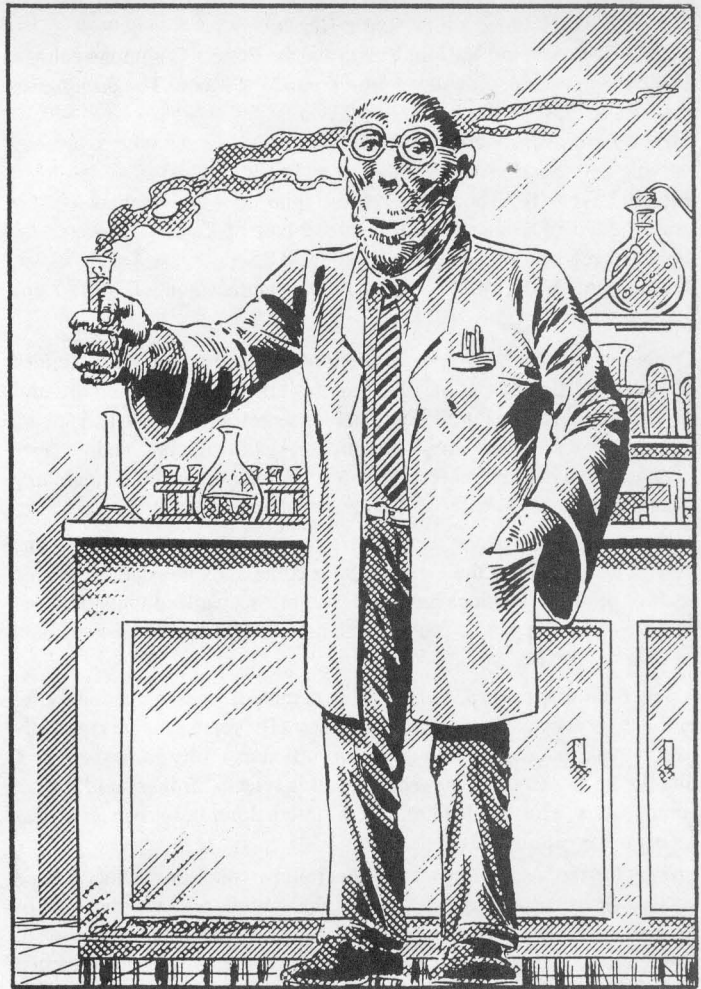
Defenses: Only two of the wing spokes, the British and the French, have any kind of exterior defense against external attack; both have a battery of laser cannons. There are rumors that the Italians may be building an x-ray laser, but this is probably not true (GM's option).

Meanwhile the Germans have developed a hard suit for both mining and combat in space. In *After the Bomb* terms, this power armor can be fundamentally the equivalent to the Type 2xd Robotic Armor and 2xj Flying Armor (both exoskeleton) and include the ion blaster and flechette gun used by the Empire of Humanity (see *Mutants of the Yucatan* for the latter items). Only the appearance is different and the suit is designed as a space suit, with full air recycling capabilities, two hour emergency oxygen supply, temperature control, etc.

For **Rifts** the suit can be roughly equal to the Titan power armor, complete with its standard weapon features. They are also experimenting with smart bombs and robots.

Design: The Yuro station is a star-like structure, with eight spokes extending from a spherical central hub. The spokes are cylindrical, about 2000 feet long (610 m) long and about 655 feet (200 m) in diameter. Each spoke or wing is controlled by a different country. Each one has a universal docking mechanism at its end, allowing any ship to tether there and transfer personnel and equipment. There is no such docking facility for the central hub, which houses the station's main hydroponic plant, nuclear power stations, and 50% of the stored solar energy.

The station gets its nickname of "King Angel" from its glittering, star-like appendages, like the halo of an angel encircling the hub, and from the huge, shining circular solar sail, the wings of an angel. The massive sail has an expanse of nearly 30 miles (48 km) and helps to hold the station in its strange geosynchronous orbit. The sail is made of ultrathin, ultra-light fabric, and can be seen with the naked eye from up to 125,000 miles (200,000 km) away, as well as by people on the Earth's surface, where it looks like a star. Without the sail, the station's orbit would slowly become erratic and it would eventually fall into the Earth's atmosphere and burn up.



The sail's primary purpose is to collect solar energy and convert it into electricity. The electricity is channelled back to the Yuro station down a web work of rigging cables which also hold the sail to the station and allow the Yuro to vary its angle, so that neither station nor sail are carried away by the force of the sunlight. The sail's surface is constantly monitored and repaired by a large team of workers. They examine it from the shadowed side; partly to avoid being fried by the raw sunlight and partly because spotting any holes is easier in the dark.

Exports: Energy/electricity, air, chemical fuels and gases, computers and circuitry, medical and laboratory services. Reluctant to share solar panels and technology with anybody selling services and finished products.

Imports: Raw ores, ice and other materials, food, and spacecraft.

Diplomatic Relations: The Yuros are on good terms with the Comrades of the Laika station, fair terms with the Outcast Station (mainly to spy on others), and on very cool terms with the moon colony (whom they despise), Freedom Station and the independents. They dislike independents and freebooters, who they see as ruffians and non-allied rogues, and seldom trade with them. They do, however, trade fairly regularly with miners and do hire freebooters and miners to do their dirty work. Since Freedom Station deals so freely with independents, it has strained relations with Yuro, who looks at Freedom Station with suspicion, contempt and envy.

Yuro hates the arrogant, powerful and self-reliant moon colonists. They vocally lambast them to others in the orbital community, agreeing that the moon's surface and resources should be made available to everybody for colonization and mining. However, they rarely voice their contempt to the moon base because they rely on the moon colony for silicon and other materials. An uneasy alliance at best.

Careless, playful, and malicious freebooters and other independents have accidentally (and on purpose) driven so close to, or through, the

solar sail in the past that they are now completely unwelcome and asked to come no closer than 312 miles (500 km) of the station and the sail. Unfortunately, Yuro Station has no way to enforce their demand and their unfriendly attitude has instilled growing resentment within the independent space community.

Personalities: The leader of the French wing is a flamboyant and charismatic character named Marc de Gascogne, who is described further in the section on *Useful Characters*. His principal opponents are the leaders

of the British and German wings of the station. King Philip Britain is very forceful at arguing his point, which is usually that the British should have more control over the station. Obauer Deutschland, the German leader, tends to be a bit more persuasive; he controls much of the production of hardware, juicer technology, and advanced robotics, and the unverified rumors of the Germans developing military armaments and armor doesn't hurt his position either.

Outcast Station

The Outcast Station is the home of all the dregs, subhuman mutants, the disadvantaged, unconventional, retarded, and hideously mutated in the orbital community. Although most of the other stations and moon colony refuse to have anything to do with the Outcasts, they frequently send children, badly mutated by radiation, to the station, where they hope that they will be looked after by their own kind, subhuman mutants. Sometimes they are, but life on the Outcast Station is difficult and can be cruel.

The Outcast station lacks any form of real government, preferring to use a brand of "might makes right" and lazy anarchy. The station has very few laws so almost anything goes. However, murder is frowned upon unless you can prove that you were acting in self defense. Gangs control various sections of the station and bloody, though seldom deadly, conflicts are frequent. Anyone trying to usurp control of the station, especially through betrayal and murder, is quickly dealt with, usually by being pushed out of an airlock. The act of being shot out of an airlock without a space suit is called being "spaced" and means instant death for most life forms.

The Outcast Station is the only orbital community where the average citizen is allowed to own and carry guns and other weapons. And most do. Unauthorized weapons are unpopular on most space colonies because it is far too easy to cause serious damage to the station, causing decompression to entire sections, electrical fires and smoke, mass death, and loss of precious resources such as air. The presence of guns is one of the reasons that the Outcast station is always in need of new supplies of oxygen and food. If something is damaged and needs to be repaired, someone will get to it, eventually. Only under extreme emergencies does the community unite to work as one people.

The Outcasts, or Dreggies, have two major problems. One is that they have very little in the way of products or services that they can trade for new supplies. Second, the other stations are fearful or revolted by them, like Laika, who sees them as monsters. Consequently, none are prepared to trade with them on a regular basis. As a result, they have to either comb the Zone to scavenge for what they need, hire themselves out for the worst jobs (like scavenging, mining, protection, and construction), or resort to violence, like theft, kidnapping and piracy.

Piracy ranges from intercepting incoming ice asteroids, attacking freebooters' and mining ships to steal their cargo, weapons, equipment and food, and sometimes stealing the ship itself. Occasionally, if their oxygen, water or food supplies are getting really low, they will launch a full-scale attack against another station, but this is rare. The Outcasts usually take heavy losses in such a raid, which lowers the station's population and therefore means that they are all the more vulnerable to their enemies.

The Outcasts' only allies are the freebooters, freelance miners, and independents who use the station as a rest stop and sanctuary from the other stations. This is beneficial for the Outcasts since these rogues bring money, news, and new supplies with them. The station charges a small docking fee in the way of ice, air, fuel or food, and then the visitors will spend or trade more for a place to rest, booze, drugs,

entertainment (both conventional and illicit) and related things. Breaking and entry of docked ships is a common problem, but the crooks typically steal small, easy to sell or trade items. The vessels are seldom seriously damaged nor stolen. It is a Zone proverb that "When meeting an Outcast, keep both hands in your pockets and one on your gun."

Many of the station's population is suffering from radiation poisoning, decompression sickness, zero gravity, and mutation. This adds to their misery and hatred toward the rich stations that have abandoned them. It also means that a much larger percentage of the people have strange and powerful abilities (see *Random Mutations*). Quite apart from those who can fly, see through walls, or stick to walls, there are exiled and hideously deformed geniuses who live in the depths of the station, tinkering with pre-Flash equipment and their own inventions. Most are eccentric and many are cranks or crackpots, but one or two are genuinely brilliant in their field.

The Network, a criminal underground, sometimes uses dreggies as pawns to do their dirty work. The poor and resentment filled outcasts are only too eager to comply, receiving both money and revenge for their efforts. It is really only the outcasts' need for each other to survive and the fact that they are all misfits, abandoned by the prettier communities, that binds them and gives them any measure of solidarity. Although they may treat each other shabbily, they are quick to come to the defense of a fellow dreggie under attack by a handsome mutant, human, or member of another space station. Attacks on the space station is like disturbing a beehive, sending thousands of angry, often superpowered, mutants out to defend their home and fellow mutants to the death.

Name: Outcast Station, sometimes called "Dregsville" and the people, "Dreggies."

Original Sponsoring Nation: Japan, but this new station was only partially completed and not yet populated when the Flash happened. The station has since become a refuge for social and economic outcasts, mostly mutants.

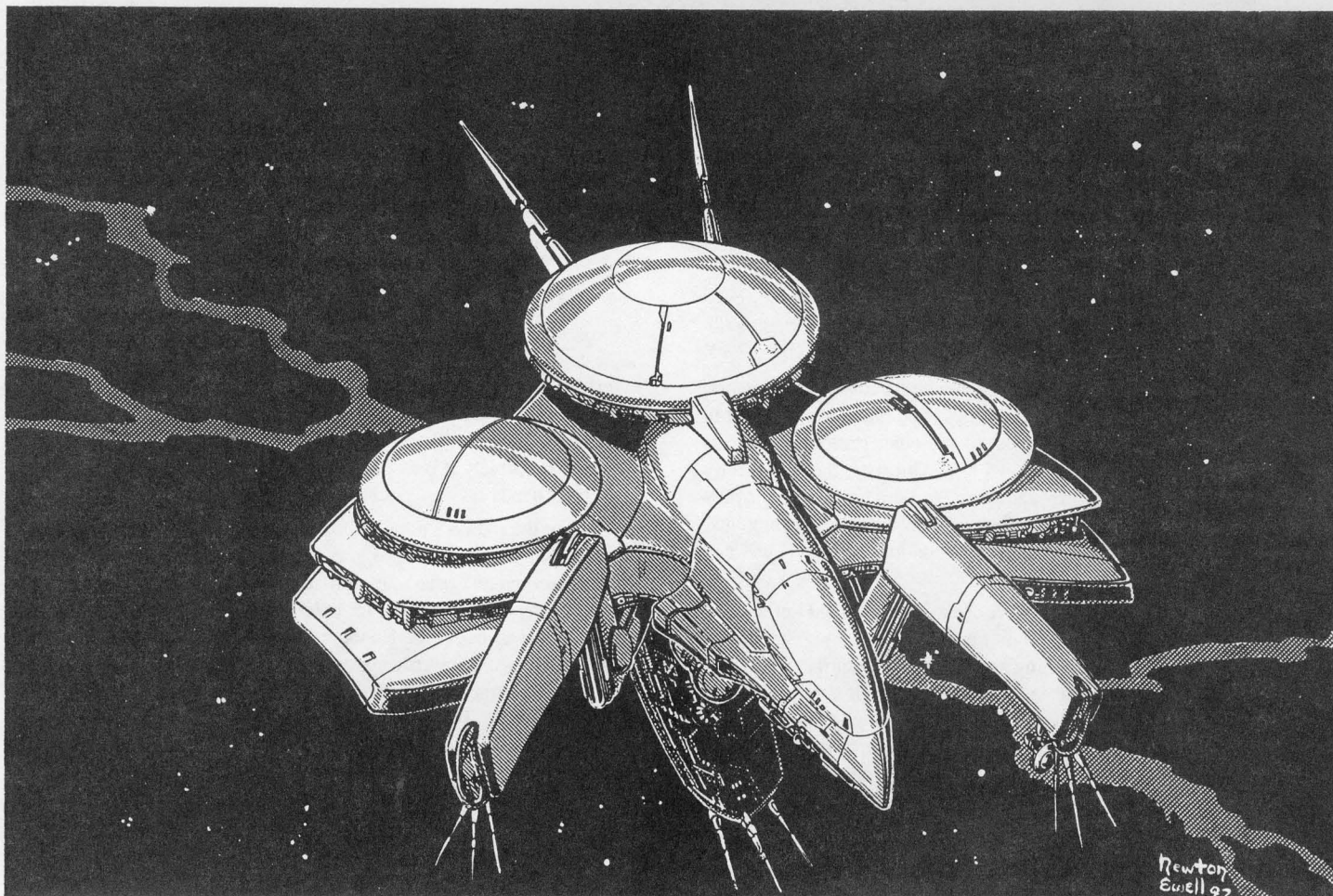
Position: An eccentric elliptical orbit encircling both the Earth and Moon. This path brings it close to the Laika and Yuro stations, neither of which look forward to these close encounters.

Size: A rough egg shape, about 1.5 km long.

Internal Gravity: Effectively zero gravity; 0.110 g.

Population: About 5000, although nobody ever counts and numbers could be as high as 8000. 90% are mutants of some kind. They tend to give themselves names like "Zero" or "Ripper," or call themselves after old pre-Flash artifacts or products. Examples include "Stephen Compact-Disk," "Dave Teletext" and "Ian Twinkie."

Organization: Very little. Several gangs control various sections of the space station and the people in that area. The Solar Rogues are the big honchos that command the station in general. They tend to negotiate the major trade deals, establish docking fees, resolve disputes and assign rudimentary jobs involving the basic maintenance of the station. They, like most of the inhabitants, subscribe to the concept of might makes right. Surprisingly, the Solar Rogues turn a blind eye to petty crimes and corruption, domestic assaults, lesser gang activity and decadence. They act only when their gang members or the safety of the entire station is threatened. To be a member of the Solar Rogues, one must



possess super abilities. The leader, Walter "the Fire Brand," can transform into a being of living fire and is impervious to energy attacks; seventh level.

Power: A ragtag assortment of solar panels and small nuclear generators stripped from old satellites generate most of the electricity that the station needs.

Defenses: The station itself has no external defenses, but there are always a number of highly customized and heavily armed ships docked around it. Mutants with super abilities and psionics offer additional defense, as do friendly freebooters and independents.

The station owns twelve ships (five small personnel carriers, three large personnel carriers, two small shuttles, one large shuttle and one large transport), all in working condition. Anyone may borrow these ships on the condition that they bring them back afterwards. Someone tried to steal the large transport eight years ago and got as far as the Red Zone before the rest caught up, boarded the ship and spaced the pilot and his entire crew. Nobody has tried anything similar again.

Design: The Outcast station is a mess. Half of it is made from the partially constructed Japan station, the rest is composed of the visiting supply ship that was unloading at the time of the Flash, a chunk of a large, hollowed-out asteroid, and these sections are pieced together with bits of old spacecraft and debris. It is a maze of passages and corridors with no overall design or pattern. Rooms jut off at odd angles, people live in the corridors, the air is littered with rubbish, the air circulation system works sporadically and the place has the feel of a shanty town (or **Rifts** "Burb"). A newcomer without a guide can get lost very quickly.

There are only one or two docking bays for spacecraft. Most pilots simply tether their craft to the outside of the asteroid or one of the projecting parts of the station, put on a vacuum suit and go to the nearest airlock. Too often a pilot will forget to untie their ship before

blasting off, and will drag a piece of the station away with them. Nobody seems to care much. Some areas of the station have no shielding against external cosmic radiation, but nobody seems to care about that either. As a result, death and mutation among the inhabitants is high; the average life expectancy is a tragic 55, and less than 12% of the population show no signs of dramatic mutation. Most possess super abilities or psionics and unnatural features.

Exports: Labor, hired muscle, raw materials salvaged from debris and the asteroid belt, and the services of their super empowered mutants (psychics, geniuses, and super-powered). Such super services can involve construction, research, exploration, murder, assassination, espionage, theft/piracy, and protection (the latter five services are usually levied against rivals and enemies of the employer).

Imports: Oxygen, hydrogen, ice, energy, food, clothing, medical supplies, weapons, and whatever else they can get.

Diplomatic Relations: The Outcasts are on good terms with a lot of the less scrupulous freebooters, traders, criminals, and vagrants in the Zone. The other stations, especially the Laika, are fearful and/or greatly suspicious of them, and may well open fire on an approaching Outcast ship, after a stern warning to turn back. Trading with Yuro and Freedom does take place occasionally. As stated previously, dreggies are infrequently hired for labor or dangerous work and other services.

Personalities: One of the first people that a newcomer to the Outcast station may meet is Cynan, a young and reasonably good looking robin (Songbird, Size Level 6). He is cheerful and helpful; so much so that the more nervous will be certain that his behavior is a trick. It isn't; Cynan is a genuinely friendly and helpful person who earns a living guiding people around the station.

Deep in the tunnels of the asteroid, half of the station lives in a small commune of thinkers and inventors, including Kay (an alien, Size Level 7), Malc (a mutant mouse, Size Level 6), Pete (a cat, Size Level 8) and Brian (a human, Size Level 8). Kay has the Machine Empathy

mutation and is a genius with computers and physics. Malc is a cyberjack who was thrown out of the Freedom station for his data-hacking activities in the Link. Pete is an astrologer (75% success), navigational wizard (92% on the following skills, although he has never had schooling: all pilot related skills, astronomy, basic and advanced math). Brian knows more about the theory of mining than almost anyone else. The four are friends and often work together as freelancers. For those who can persuade them to work for them, these four can be a formidable team.

Note: Recently, some freebooters have delivered Martian mutant insects to the Outcast Station as slave laborers. These insects include eight mutant ants (one of which is ready for the transformation to egg laying queen), a pair of beetles, and a pair of common flies. This could mean trouble in the future if care is not taken with these creatures.

The Graveyard

Sino-Japanese Station

Once the largest and most advanced of the space stations in the Zone, the Sino-Japanese base was destroyed during the Flash by an attack from an S.D.I. satellite. All the inhabitants died within seconds. Afterwards, many of the orbital community were reluctant to go and strip the carcass of the station for usable materials, and over the years it has become an area associated with superstition and bad luck.

As time moved on, the stable gravity around the L-4 zone began to attract the station's wreckage, as well as other pieces of debris from nearby space. This has also happened around the Freedom station at L-5, but objects there are quickly collected and reused. Only the bravest scavengers dare venture near the Graveyard. There are rich pickings to be had here, but many travelers who come to search it do not return. This is partly due to the nature of the Graveyard, which has collected all manner of space debris, including proximity mines and a number of still functional and malfunctioning defense satellites. Some will fire at anything that comes within range of their sensors, while others wait to detect energy sources, heat sources, or life readings before attacking or detonating; the bodies and ships of the victims joining the silent orbital dance of the graveyard.

The Graveyard is also rumored to be a haven for extra-terrestrial visitors, space monsters, ghosts, and daring pirates. None of these rumors have been substantiated. Most people simply avoid the place.

Name: The Graveyard, once the gigantic Sino-Japanese station, and now includes other space junk, old satellites and debris.

Position: L-4, the stable Lagrange point on the other side of the Moon from L-5 (the Freedom station).

Size: The wreckage of the station covers an area almost 3125 miles (5000 km) wide. At the center of it is the ruined hull and remains of the Sino-Japanese station. The original station was three times bigger than any other.

Internal Gravity: Zero gravity

Population: None

Little Green Mutants?

If you were to ask the average orbit-dweller in the **After the Bomb** world if they believed in aliens or other intelligent life forms, most (75%) will probably laugh at you. Only the paranoid inhabitants of Laika believe otherwise. Ask the average orbit-dweller if they had ever seen anything strange in space, and many will tell stories of odd radar images, moving lights or bizarre objects seen among the asteroids, curious radio transmissions, strange inscriptions on rocks and any number of other inexplicable phenomena. But for peace of mind, most have convinced themselves that aliens, at least in this solar system, are the stuff of fantasy.

For some years space dwellers have been reporting encounters with things that can only be described as alien UFOs; alien because they are not from Earth — UFOs because they are unidentified. They seem to be like will-o-the-wisps; flickering lights seen only at a distance, which if they have a purpose, it is hard to comprehend. Spacers who have chased them report that the chase seems to turn into a game; they are led on by the dancing lights which remain just out of weapon range, accelerating and maneuvering at incredible speeds. Nobody has ever caught up with one.

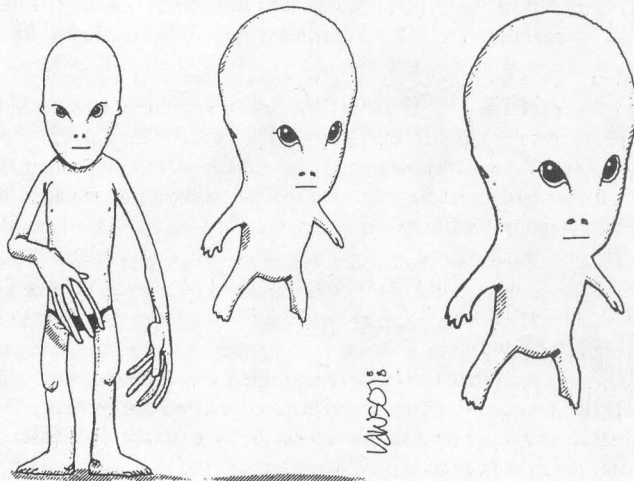
Occasionally, retired miners will tell stories of having found a parked UFO and have met the crew, who are inevitably aliens on a mission of peace. These stories are treated with the same level of belief as the old 20th Century tales of alien encounters back on Earth.

Hoaxes? Hallucinations? Human or mutant error? There is some proof that there may be some facts to the stories. Pilots near the L-4 point often report that their long-range scanners have detected ships moving in the wreckage of the station, but that the computer database cannot identify them. Occasionally a trader will produce a piece of equipment with no obvious function, and which is either made from an unknown substance or which seems to have been designed for hands with three or seven fingers. Most bizarre of all, there are several stories of spacecraft which have run out of fuel while on a dangerous trajectory, heading into the Sun or out of the solar system, the crew, unconscious or dazed, later report finding themselves back in the Zone or other safe place. The computer log shows no data on how they got there.

This mystery seems unlikely to have an easy solution. The only true answer will come when the aliens, if that is what they are, decide to reveal themselves. Until then, some of the orbit dwellers live in a mixture of fear and expectation, uncertain if they are being watched, and if so, then for what purpose.

Game Master's Choice: Whether aliens, friendly or otherwise, exist in the world of **After the Bomb** is left solely to the GM. This offers more adventure possibilities and story twists. Elements from other games in the Palladium megaverse can also be included. Perhaps some of these UFOs are time or dimension travelers, a la **Transdimensional TMNT** or even **Robotech** or **Rifts**. Perhaps some are the curious, friendly and playful creatures from **Beyond the Supernatural** known as UFOs. Perhaps others are supernatural beings also from **Beyond the Supernatural** or aliens or strange mutants created from the pages of **Heroes Unlimited**. The choice is yours.

Playing in the world of Rifts, the question of aliens is a completely different story. Everybody is paranoid about aliens, supernatural beings and other monsters because they *know* they exist. Strange creatures have come from the mother planet and out of nowhere (rifts in space) on a regular basis. Aliens are viewed with great suspicion and fear. Most will be chased away or destroyed. The people of **Rifts** space have little desire to communicate with aliens and monsters.



Independents

There are about 100, comparatively tiny, satellites and spacecraft that function as the homes and businesses of independent companies and people not directly affiliated with one of the large space stations or the moon colony. These independent spacecraft and mini-space stations/satellites typically house two to 24 people, while some of the larger, business owned stations may house as many as 120 people. Most have no means of producing artificial gravity and many are hodgepodge constructions that are made from one or more spacecraft and space junk. Most are located in the **Zone**, although there are at least another three dozen in the asteroid belt.

The inhabitants of these independent homes and businesses are typically freebooters, miners, scavengers, and squatters. Some are just loners who want little to do with civilization and prefer the solitude of space; living off what they can find and trading with other independents (and occasionally, the larger space community). A third are private companies, usually owned by a rich trader living on one of the stations or an independent living on a luxury yacht or mini-space station/satellite in the Zone. These independents are few and trade to all the various stations and lunar base.

Note: There are also a large number of freebooters and miners, perhaps totalling as many as 5000 people, who are not officially members of a space station, but live on one of the large stations as employees working for the station.

Freebooters

Freebooters come in all shapes, sizes, races, and descriptions too numerous to describe. Some stay in Earth orbit, others venture out as far as the asteroid belt to trade with miners and other freebooters. Or to explore the cosmos. Not all freebooters own spaceships; those who do not, typically work as freelance crew members for those that do. Wages are typically small, between IOU 100 and 300 per week, depending on their skills and experience. Super empowered characters may earn two or three times as much depending on the usefulness of their power and their productivity.

Most freebooters with ships earn their living through any of the following means:

- **Charter work:** An independent company, individual, or one of the stations may hire the freebooter to perform a particular task for them. Often the task is too dangerous for the employer to risk one of their own ships or personnel, although it can be as simple as collecting or delivering cargo, a package or passenger, or scouting or surveillance.

Typical payment: IOU 200 per day, plus basic expenses. Really dangerous work can get as much as IOU 500 plus all expenses.

- **Chauffeuring:** The freebooter is employed as a taxi service, at the beck and call of a rich patron. Typical payment: IOU 100 to 200 per day. Some freebooters may be paid a retainer of around IOU 400 per month on the condition that when their patron calls, they will come immediately.
- **Piracy:** Very few freebooters resort to piracy and fewer make a regular living from it. Still, when times are tough, they may give it a try. The rewards can be very high but the dangers are equally huge. Nobody likes a pirate and captured villains are often hung or spaced on the spot. Likewise, selling stolen goods may be difficult, especially if they come from a ship that can be easily identified. Only the Freedom Station and the Outcasts regularly associate with suspected pirates.

Typical payment: A percentage of the loot, which can be zero to thousands of IOUs.

- **Recovery:** The freebooter and crew are hired as private detectives to track down and recover lost or stolen property or person, a kidnap victim, or similar situation. Employers will range from mining companies searching for a lost snowball to the leaders of a station looking for a stolen shuttle, or a rich patron trying to find a pre-Flash artifact or stolen property.

Typical payment: IOU 200 to 300 per day plus expenses. Typically a bonus is also paid for a successful mission.

- **Rescue:** Rescue is not a source of regular income, and only those with fast, well armed and medically equipped spacecraft and/or super abilities should think about it. A rescuer waits for a distress call, then heads to the source of the call. If combat is in progress, they may open negotiations with either side to join in for a percentage of the salvage rights or booty, or jump in to help an obvious victim of piracy or the richer of the two combatants. Similarly, a vessel



in distress because of power failure, oxygen loss, injury, or damage can be given assistance in a variety of ways; like evacuating passengers to safety, transporting the injured to a hospital or administering medical aid on the spot, towing the vessel, etc. If there is nothing but wreckage, the freebooter may scavenge whatever is salvable and saleable from the ruins, or search for an escape pod or bodies that might be saveable.

Typical payment: In most of these cases, the freebooter hopes that the rescued people or ship owner will reward them in IOUs, ice, or other valuable commodity. Sometimes the reward is great, other times small, but characters of a good alignment will always enjoy personal satisfaction knowing that they have saved a life or

helped a fellow sentient being. Some of these freebooters have even become known as heroes within the space community.

Evil and selfish freebooters may demand or seize some sort of payment for their services before they lift a finger to help. The worst (pirates) will sit like vultures, waiting for the crew of a crippled vessel to die so they can lay claim to ship and cargo as salvage, and perhaps get a reward from the relatives of the deceased if they bring the bodies to their families.

- **Scavenging:** Scavengers spend their time looking for wreckage, ore meteors, asteroids, pre-Flash artifacts, space junk floating around and other valuable items in the Zone and in the asteroid belt. It is a hit and miss job, with weeks or months of nothing followed by either a big strike or even more nothing.

Typical payment: A dead satellite with usable parts, such as a laser, circuitry, or nuclear power plant, can be sold for a minimum of IOU 500 and often two to five times more. A chunk of ice can bring big bucks, as can precious metals and iron ore.

- **Snowballing:** A freebooter down on his luck may be asked to pilot a "snowball," or huge ice-cluster, back from the asteroid belt into Earth orbit. This job can take up to eight months and is usually very boring.

Typical payment: Around IOU 100 per week plus basic expenses. Also see the Asteroids section later in this book.

- **Supply & cargo trips:** Mining companies charter freebooters to take supplies out to the asteroid belt or to bring back cargo, including strange finds, radioactive materials, broken machinery, sick people, dead bodies, ice, and ore. This is a common practice when the employer is short on transportation.

Typical payment: IOU 500 per week plus reasonable expenses. Falling victim to piracy means no pay or expenses. Repeated incidents and accidents will create suspicion that the supply hauler is a pirate and can create a bad reputation and little work.

- **Trading:** Most freebooters have a side line in trading. Since some of the stations refuse to deal with each other directly, they may depend on freebooters to buy and sell for them. The independent mining companies with ice, water, and ore may have to go through a middleman to deal with a space station or other independent miners, freebooters and traders, especially those far in the asteroid belt. Trading is a good way to make a fortune, or lose it, depending on how good the trader is at making deals and avoiding pirates.

Where to find a Freebooter

Freebooters have three main hang-outs: the Freedom Station, the Outcast Station and the tiny asteroid belt outpost known as the Belt Way. It is here that they trade, rest, relax, refuel, make repairs, and exchange information and rumors that they have picked up. Unemployed freebooters and those without ships will often wait here while looking for work.

There are a number of well-known traders and freebooters in orbit. All other freebooters will have heard of them, and there is a 50% chance that the average space station citizen will also have heard of them. The most prominent are: **Honest Sacha**, who owns a self-sufficient ship and who makes regular runs between the Zone and the Belt, where she has an uncanny knack for finding or buying precious stones and rare metals. She is said to be both rich and beautiful.

There are the heroes **Josef and Hans**, two ex-Yuros who search for ships in distress. They have taken two large transports, welded them together and use the resulting hybrid as a travelling gallery for their wares, which are mostly spare parts and solar panels for spacecraft and paramedic's medical facility, as well as ice, oxygen, and food.

Their major competition for heroics comes from **Alex and Pons (Ponsby)**, who pilot a small, souped-up personnel carrier with an ion

drive (Speed class 36; T.M.F. 8; S.D.C. 200), their small cargo space filled with an unlikely array of spare parts and first-aid kits. Alex and Pons are usually the first to arrive at any ship in distress, and if they don't have the correct spare parts to fix the job, they can usually improvise something from what they do have or agree to towing the crippled vessel. They are also known for derring-do and taking gutsy risks to save lives.

Finally there is the renegade known as **Dark Myk**, a vagabond who has tried his hand at everything from piracy to hijacking and still manages to elude the people on his tail. His ship is called the "**Julianne**." It is said that he steals a new one every six months or so and immediately christens it the "**Julianne**." There are hundreds of rumors about him: that he has a base in the asteroid belt, that he is a secret agent of the moon colony, that a secret lover gives him sanctuary at Freedom Station, that he possesses great superpowers, is a mind melter and is an alien. One of the least likely rumors is that he has discovered a way to get back to Earth. Nobody knows for sure and most sane traders do not want to find out; not at firsthand anyway.

The Network — Organized Crime —

The family of organized crime known as the Network has firm roots in the orbital community. It is an efficiently run organization consisting of around four hundred members. They are widely spread, well armed and quick to move to each others' defense. The influence of the Network extends to the Outcast station and as far as miners in the Belt. Except for the Outcast Station, all the other stations have tried to avoid association with the Network, but even Laika Station has been infiltrated by its members.

The Network has several functions. It works as a kind of black market for goods which are normally unobtainable because they are illegal, very rare, very valuable, or only manufactured in a few places. Examples might include drugs and alcohol, handguns (illegal for citizens on most stations) a computer technology or software not normally available to individuals, or sensitive data like the armaments and weaknesses of a rival's spacecraft, political dissension, etc. The Network can obtain and supply all of these, at a price.

Secondly, they offer "insurance." This is not an idle promise or a veiled threat. While it is true that anyone who is told to pay the Network a regular amount (usually about IOU 100 per month) and refuses may find a hole in their vacuum suit, the Network finds big money in selling protection. Insurance might include bodyguards, spies, and even a secret escort to protect against pirates and assassins. It is bad for their reputation if someone with "insurance" gets hurt or killed or their insured property damaged or stolen. Consequently, the Network makes a major effort to deliver on all insurance policies, and do deliver 7 out of 10 times. This means that many of the Network's operatives have unnatural powers and/or great skill. Insurance, however, is no defense against stupidity.

The Network also works to ensure that they are the only people involved in major crime in the Zone. While they usually overlook such minor offenses as pick-pocketing and petty theft, a professional criminal will be found and persuaded to either stop or give a percentage of his income to the Network. Truly gifted criminals will be invited to join the Network itself. Becoming part of the Network is an honor and should be seen as such. Gifted criminals who worry the Network and who refuse membership into the organization may have a deadly accident or are liable to disappear. The Network employs only the most expert criminals and makes sure that they only practice their trade when necessary. Crime is not something for amateurs or freelancers.

This policy of controlling the amount of crime has often brought the Network to odds against the Outcasts and pirates, at times becoming a war. It is very hard to fight the Network because they are a secret society with members and influence everywhere.

The Network leader is Baron Dioxin, who lives permanently on the **Inside Joke**, a self-sustaining yacht usually found in Earth orbit. He never leaves the ship, not even when it has travelled to the moon. Very few people outside the Network have ever seen him, but rumors say that he is a human, at least 130 years old, and very large. (See the section on **Useful Characters** for more details). He treats his friends well and will always return a favor, but is ruthless against double-crossers and his enemies.

The Network possesses around thirty ships, and, if necessary, can borrow another fifty from various freebooters who owe them favors. A quarter of all freebooters with ships regularly pay insurance to the Network.

Miners

There are an estimated thousand independent miners and twice as many citizens of space stations working in the asteroid belt. Deimos, the small moon of Mars, is also a mining site, particularly for ice/water (8% of the moon has water) and iron.

Freelancers running their own ships and crews sell their prizes to the highest bidder in the Zone. All the stations, except the Outcasts and the Mare Imbrium moon colony, have crews working the belt. The main resource needed by the moon colony is water, and they mine the Martian moon of Deimos for ice. Still, one can find the occasional moon reconnaissance vessel or armored team surveying the activities of the others in the belt.

The miners who work for an employer typically get a flat fee of about IOU 300 a week, plus room and board, or are on commission (plus room and board). In these cases it is the employer who provides the room and board, ship, equipment, and cargo transportation. They may even hire security guards or get insurance to make sure that the miners do not try to steal from them or are menaced by pirates.

The miners are scattered all over the belt. They tend to work together and help each other, having learned that camaraderie is critical for survival in the isolation of the asteroid belt. Thus, they will answer the distress call of another as quickly as they can, even if it is a worker of a rival colony. Novice miners and those working for larger companies tend to stick to the inner edge of the belt and the spot closest to Earth, where things are safer and there are more of their comrades. Experienced miners and those working for themselves are more gutsy and will venture deep into the belt, sometimes spending years alone looking for the big find that may never come.

The promise of fortunes to be found has also attracted undesirable elements to the Belt. Conflicts will occasionally break out over a disputed claim, and it is easy for an unscrupulous company, miner, or explorer to jump another's discovery, kill them, and disguise the corpse or the wreck of the ship as an "accident." Claim jumpers caught doing this are immediately spaced (executed). If that is not possible, the suspect will be made known as a suspected claim jumper and pirate and should be treated with extreme caution. This kind of word spreads surprisingly quickly among miners.

Miners use various ways of getting ice and rocks back to the Zone. It's usually referred to as "throwing stones" or, in the case of ice asteroids, "snowballing." The first and simplest way is to tow the asteroid behind a spaceship. This will slow the ship down considerably. A ship towing the equivalent of its own weight in asteroid will have its acceleration and maneuverability halved, but will still consume the same amount of fuel as normal. Hauls two or four times heavier will consume 15% more energy, while hauls five to ten times heavier will consume 50% more energy and reduce speed to one-third.

The second way is to use Jupiter's gravity well. Any good pilot can plot a course which will propel an asteroid towards Jupiter, so that it is caught by the gas giant's gravity. The propelled object will pick up

speed, loop around the planet and hurtle back towards the Sun. If the course is correctly plotted, it will rendezvous with the Earth and fall into a neat orbit, braking slightly from the effect of the Earth's atmosphere. There are many problems with slingshotting asteroids. They take a long time to complete the round trip, sometimes up to two years. Jupiter may not be in a convenient position for the slingshot to take place. A badly plotted course may miss the Earth, hit the Moon or miss altogether. And it's easy for space pirates to intercept a slingshot asteroid and claim it as their own. Nevertheless, it is cheap and reliable, and can be spectacular; ice asteroids sent this way may begin to sublimate and ionize, creating a long, comet-like tail behind them.

The final transport method is only used with ice-clusters too large to be towed or too valuable to be slingshotted. A habitation unit and drive unit (usually an ion drive, or occasionally, a plasma drive) are fitted to the huge snowball. Hydrogen and oxygen from the ice are used to fuel the propulsion system, and a crew of one or two people pilot the impromptu craft back to Earth orbit. It is a slow way of operating since the journey will take between five and nine months, but it is reliable and safe. It also avoids the problem of slowing the asteroid down when it reaches the Zone; the pilot just flips the snowball and applies reverse thrust. Very large ice asteroids may be given armed crews to defend against pirates, and characters down on their luck may find employment in this most tedious of jobs.

The Asteroid Belt

The Asteroid Belt is an untidy mess of rock, ice and dust, sprawling between Mars and Jupiter in a huge band between 200 million and 300 million miles (320 to 475 million kilometers) from the sun. The number of asteroids is immense, but so is the area that they cover and collisions between them are comparatively rare. They range in size from boulders to planetoids over 560 miles (900 km) across; the largest even have their own light, gravity. They range in shape from round to elongated, and there are binary and multiple formations as well.

The asteroid belt is not as crowded as many would think. Piloting a ship through the belt is about as difficult as walking down a street without bumping into another person. Most ships have computers programmed with the orbital patterns and trajectories of most asteroids of significant size, and automatic detectors should signal the approach of any rogues or uncharted ones.

Asteroids are all different, but come in several basic categories. The most common (75%) are known as **C-type**, and make up roughly three-quarters of all asteroids. Two-thirds of C-types contain at least some water in the form of ice, usually frozen within the main body of the asteroid, but often not enough to make it worth mining. Typically, C-types contain a lot of carbon, and some (25%) also contain substantial deposits of aluminum, iron or magnesium. Other C-types are giant ice balls (15%) composed of 50% to 80% water (the remainder is rock). As luck would have it, C-types are most common at the outer edge of the asteroid belt, though many exist in the inner belt as well.

S-type asteroids contain little if any ice, but are mostly rich in iron and magnesium silicates. Some have a core of almost solid iron due to a process of heating and cooling, and may have actually ejected this iron core into a separate orbit, at which point the core becomes an M-type asteroid. S-types make up about 15% of the total asteroids.

M-types are about 10% of all asteroids and are very rich in nickel-iron, but with no silicate, to the extent that many are almost pure. Large ones are rare, but reward the diligent hunter. A third of the M-types will contain less common and often unique compositions of elements.

Those three types make up most of the asteroid belts, but there are hundreds of other varieties. Many are worthless hunks of rock but some contain rare metal ores or precious minerals. Asteroids of solid ice are

also rare, but do exist. There are rumors of solid gold rocks and some miners say they have seen a great white asteroid that looks like ice from a distance, but is actually a huge diamond. It is known as "Maybe Dick," and almost nobody believes in it. Mining ships are equipped with spectrographs that help them identify likely targets, but the only way to actually find out what an asteroid contains is to analyze a sample from it. **Note:** Not all asteroids stay in the Belt. Over a thousand have orbits that take them inside the orbit of Earth and some even get closer to the Sun than Mercury does.

Some asteroids both in and out of the Belt have been settled by retired miners or self-styled **belters**, who have a small hydroponics plant to service their food and oxygen needs. A few are disguised watching and listening stations, either components of the old S.D.I. system or part of the new long-range defenses of an orbital station (and a couple secret spy satellites launched by the Laika and Moon colonies).

Nobody bothers to venture beyond the asteroid belt any more. There is no point. The cost and time taken to bring anything back from that far becomes too high to make exploring worthwhile. It is known that the gas giants and the planets beyond them have icy moons and that the ring system of Saturn is mainly ice, so new supplies would be no problem for anyone venturing out that far. There are also rumors that the old humans managed to get out that far before the Flash and may have established bases and possibly even colonies on some of the gas giants' moons, and that out beyond Pluto and Charon space is filled with ice asteroids and the husks of dead comets, riches for the taking, but most people treat stories like these as fairy tales. Staying alive is too much of a struggle to allow anyone the freedom to go off chasing dreams.

The Belt Way Station

The Belt Way Station is a small outpost built on a planetoid found in the asteroid belt. It is effectively a rest stop owned and operated by a family of tough wilderness space scouts, the Wintel family (mom, pop, four sons, two daughters, an uncle and three male cousins). The Belt Way can accommodate up to 50 people at a time, plus the family, and offers hot cooked meals, gossip, gambling (usually cards or dice), a variety of alcohol, a game room (pool, darts, cards, checkers, air hockey, pinball and computer games), bathing facility, first aid, and rooms for rent (IOU 30 per night). They also sell a variety of candy, booze, bottled water, tanks of oxygen, and basic supplies like soap, deodorant, containers, clothes, footwear, space suits, rope, metal cables, chain, basic tools, and can recharge batteries and energy clips. The Belt Way also sells odds and ends acquired through trade, gambling, or salvage; the kinds of items varies dramatically (a Game Master's tool). The planetoid has a natural gravity of 0.25, about twice that of the moon, and tons of space for parking. Escape velocity is three miles (4.8 km) per second.

The Wintel family has a legitimate claim for the entire planetoid (C-type) and all its resources, which they infrequently mine. Resources include ice (which gives them precious water and air), some iron and other trace minerals.

Comets

There are approximately a thousand known comets in the solar system, and probably thousands more. Generally they pose little threat to a space traveler. The chances of being hit by a comet in interplanetary space are about the same as the chances of traveling from New York to Los Angeles and accidentally falling into the Grand Canyon.

Comets consist of a nucleus, which is typically a mile across (1.6 km) and is made up of dust, ice and possibly rock, a coma, which surrounds the nucleus to a distance of 60,000 to 600,000 miles (100,000 to a million kilometers), and two tails. The visible tail is made of dust and can be millions of miles long. The second tail, is the plasma tail

which consists of streamers of electrons and ions, always points away from the sun and can stretch up to ten times as far as the dust tail.

Comets have a long, elliptical orbit which can range from three years to nine hundred. Short period comets will swing out beyond Jupiter and back to 60 million miles (100 million km) from the Sun. Long period comets may originate from as far as billions of miles (20,000 astronomical units; just over three light-years).

Spacecraft have little to fear from a comet's nucleus, but passing through either of its tails may cause problems. The dust tail can cause great damage and interference, especially to sensitive instruments mounted on the hulls of spacecraft and stations. A space suit would almost certainly be ripped to shreds. The exact amount of damage depends on the size of the comet; figure at least $3D6 \times 10$ S.D.C. (or $1D6 \times 10$ M.D.) and radio range is reduced by half as long as the comet is in the area.

The plasma tail can be even more dangerous because it is not visible and is surrounded by a magnetic field which can send a ship's instruments haywire, even if they have been hardened or protected. Unwary pilots have found themselves on collision trajectories or at full acceleration into deep space after passing through such a tail. The damage caused by the plasma tail is generally equal to the dust tail plus there is a 1-81% likelihood that a spaceship will be knocked $4D6 \times 100$ miles off course, all navigation and sensor panels are knocked out for $4D6$ hours, half the weapons do not respond ($1D6$ hours) and there is a 1-25% chance of an additional $3D6 \times 100$ S.D.C. (or $3D6 \times 10$ M.D.) damage to the vessel caught directly in the tail.

Occasionally a comet will pass close enough to the Earth that either or both of its tails overlap with the orbital stations, showering them with minute particles and/or a field of micro-meteorites that accompanies many comets. The orbital community will be on full alert if this happens; all repair crews will be on standby, all unnecessary systems will be shut down to minimize the risk of damage, ships will be docked with space stations or moved into the shadow of the Earth or Moon to protect them. It usually takes a fortnight to carry out repairs to the stations, with the Yuros coming off worst because of the damage done to their solar sail. Generally, space vessels and stations will suffer the same damage and effects as noted previously. If a meteorite shower hits (25% chance) add an additional $1D6 \times 100$ S.D.C. (or $1D6 \times 10$ M.D.) damage to everything caught in its path.

The Moon

The Moon orbits the Earth at a distance of about 240,250 miles (384,400 km). It is a rocky ball with an equatorial diameter of 2172 miles (3476 km), a quarter of Earth's mass (1.81 mass ratio), and a surface gravity of 0.165 g, one sixth that of Earth. The low gravity means that it is fairly easy for most orbital ships to land and take off from the lunar surface, requiring an escape velocity of only 1.5 miles (2.37 km) per second. The low gravity is not enough to hold an atmosphere, so there is no hope to ever terraform the moon. The conditions at the surface of the moon are virtually indistinguishable from a hard vacuum.

The lack of an atmosphere makes the environment a hostile one. The surface is bombarded by solar winds (protons and electrons), radiation (250 to 500 times higher than on Earth, 1000 times greater during a high energy solar flare), particles and fragments of rock, including some substantial meteors. Furthermore, exposure to sunlight and lack of sun causes dramatic temperature changes from 245 degrees Fahrenheit (120 C) to -240 degrees Fahrenheit (-150 C). All of this makes living on the surface incredibly difficult.

The lack of sunlight is another major problem. A typical lunar location sees a one month rotation period, which means there is two weeks of

constant sunlight and two weeks of constant darkness. When there is sunlight, the surface temperature increases to boiling hot, 245 to over 400 degrees Fahrenheit. During the two weeks of night/darkness, the temperature plummets to -200 degrees below freezing. Thus, a major concern must be heat/temperature and radiation shielding during the sunlight period. A serious, related problem is an alternative source to solar energy during the long period of darkness when the solar panels are dormant. An alternate energy source(s) is a necessity.

One solution is solar satellites in moon orbit to provide a constant source of solar power. On the down side, the satellites fly faster than earth satellites, requiring sophisticated tracking stations to monitor them. Satellites are also vulnerable to continual damage from space dust and meteors, as well as solar winds, pirates, and enemy attack. This means they must be constantly repaired and damaged sections replaced. Crippling the solar panels could threaten an entire base or space station and is likely to reduce the available energy for defensive weapon systems. Of course, all the space stations, bases, and most spacecraft have facilities to store power in emergency batteries and generators, but these are unlikely to last more than a few weeks under normal use. Thus, an alternate energy source is mandatory for safe operations of a moon base.

An alternative to a nuclear back-up power system might be a hydrogen gas system. Pressurized tanks or a high-tech sponge that soaks up hydrogen — a hydrogen farm — mixing hydrogen and oxygen creates hot flame and heat can power turbines, generators, and engines. This could also be combined with a steam system or other variants, like a water and electrical battery system using hydrogen & oxygen batteries — the by-product: water.

If the moon was to be colonized, the logical decision is to build the actual colony underground. Being underground provides protection from all the natural hazards, hydroponics requires artificial conditions so they work above or underground, and the colony is hidden and protected from invaders and collisions with meteors.

The moon is composed largely of basalt and is rich in raw resources like iron, magnesium, and titanium. To a lesser degree, there is copper, aluminum, and silicon. The highlands near the Mare Imbrium has a high quantity of potassium, phosphorus, uranium and thorium, the lowlands, iron, titanium and magnesium. Furthermore, oxygen, hydrogen, helium and carbon can all be extracted from the rock and soil through chemical and molecular processes. There are no water or ice deposits on the Moon, but water can also be extracted from the rock through the same chemical and molecular extraction processes. Very superior methods of chemical and molecular extraction allows oxygen to be extracted from many sources. Even iron ore contains oxygen and by processing the iron, oxygen is a chemical by-product, which can be trapped and stored. Even sand can be made to produce oxygen and there is an abundance of sand. Likewise, ceramic and other building materials can be created from sand. Still, water is the one resource that a moon colony would have to acquire from an outside source, like mining asteroids, Mars or the Martian moon, Deimos (8% ice/water).

Moon Colony: Mare Imbrium

The Near Side of the Moon

The moon colony is located on the near side of the moon (faces Earth) in the ancient plains of the Mare Imbrium, from which it is named. The Mare Imbrium is a gigantic dust plain surrounded by mountains. A small network of pressurized domes dot the surface, but the real base is subterranean, with over 100 feet (30.5 m) of dirt and rock between the moon's surface and the nearest underground compartment. The domes on the surface are storage and docking bays. Excavation and other small environmental and storage domes are scattered in a 100 mile (160 km) area; these are colony mining operations.

Underground is a vast network of tunnels and compartments that covers a ten mile (16 km) area with expansion ever in progress. Half of the southern wing is devoted to the hydroponic farms, although additional, supplemental farms are located in different areas of the colony (safeguards against sabotage). Parks, gardens, and plants are found everywhere, all part of the natural air system and beautification of the artificial environment. Manufacturing plants and laboratories are generally kept away from the heavily populated areas and can be sealed off in case of accidents.

Although the colony is powered by a huge and versatile solar collection system, they also have three fission power plants that can maintain the colony at 94% power indefinitely. They have also experimented with a hydrogen based power system which is used in some of the new ore processing plants on the surface.

The moon colony is rich in resources and totally self-sufficient, which makes its people arrogant and lean toward isolationist policies regarding the rest of the orbital community. They are also territorial in the extreme, laying claim to the entire moon. Furthermore, they are envious of the orbital colonists, because their artificial gravity enables them to visit Earth, should they ever decide to do so. This and their elitist attitude has alienated them from the rest of the orbital community.

Note: The decades in near zero gravity has altered the moon colonists' physiologies on a cellular level, preventing them from ever setting foot on a place with a gravity greater than 0.5 g. The irreversible muscular and cellular alteration means that the moon people (and anybody whose body has adapted to zero gravity over a period of decades) will experience immense weakness, muscle cramps, cardiovascular strain or brain hemorrhage, resulting in death. 1-50% chance of dying from system shock and strain. Roll once upon immediate arrival and again every 30 minutes for the first 24 hours, then only once a day thereafter. All bonuses, number of attacks and speed are reduced to half for the duration on Earth or similar level of gravity.

The Mare Imbrium colony has agreed to designate a large section of the moon on the far side as a neutral zone, where anybody can come and mine its resources. The problem is that while the moon colony will allow its raw resources to be mined (the needs of the small space community are negligible), they will not allow colonization. Any attempts at colonization, even families of squatters, will be met with strong, sometimes lethal, resistance. Would-be settlers are chased away, their property stolen, vandalized or destroyed, and in the worst cases, a full battle will ensue with deadly consequences. This harsh action only serves to create greater hostility between the moon people and the space stations. To make matters worse, the Mare Imbrium moon colony is always aloof, condescending, and uncooperative toward their space bound brethren. They hoard their resources and finished goods, demand high payment for goods sold, and turn a blind eye and deaf ear to the plight of the space stations and their people.

Name: Mare Imbrium Colony, also known as Luna-1.

Position: In the north of the Mare Imbrium.

Size: A small network of pressurized domes dot the surface, mostly storage and docking bays. Underground is a vast and ever expanding complex of passages, living quarters, parks, gardens, hydroponic farms, laboratories, manufacturing plants and everything else one might expect to find at a space colony. It covers about six miles (9.6 km). The mountains and surrounding area are marked by mining operations and the occasional processing facility (predominantly underground).

Internal Gravity: Lunar gravity is 0.165, one sixth that of Earth. Artificial gravity is not available.

Population: About 3,000 humans and 6000 mutant animals. Lunar colonists are also known by the derogatory nickname of "Loonies."

Leadership: The colony is run by a democratic government and is led by President Evarcha.

Power: Solar with three fission plants as a back-up. The solar energy reserve, alone, will maintain the colony for five months at peak power, and the nuclear back-up can service the colony at 94% efficiency inde-

finitely (solar is simply cleaner and abundant). They sell/trade energy to the Laika Station and select freebooters and asteroid miners on a regular basis.

Defenses: The subterranean base is difficult to breach, nestled deep underground, protected by thousands of S.D.C./M.D.C. per foot. The real weak links are the entry hatches, all of which have internal security and can be locked and sealed, and the dozen or so surface structures. In addition, they are a military power-house, armed with several different types of robots (see descriptions in the **Rifts Space** section), energy weapons, rail guns and missiles, and have a large fleet of armed spacecraft (4 large ore carriers, 50 medium transports and nearly 100 small shuttles).

Imports: Ice/water is their biggest need, followed by precious metals and elements not found on the moon, and occasionally import spaceships, pre-Flash artifacts, circuitry, medical services, and different foods and beverages.

Exports: Energy, solar cells, silicon based building materials, hydrogen, helium 3, raw and refined ores/metals, uranium, and occasionally food. **Note:** The moon colony mines the moon Deimos for ice and other elements not found on the moon; rarely mines the asteroid belt, but may purchase ice, water, ores, and elements from independent miners and freebooters.

Diplomatic Relations: Trades regularly with the Laika Station and select freebooters and miners. They try to curry favor with as many reliable freelance traders as possible. Trades infrequently with the other stations, except the Outcasts, and has recently made a few half-hearted trade negotiations with Yuro Station to quiet the growing discord between them and that station.

The moon colonists also have a score of spy satellites scattered throughout the Zone and another score in key locations in the asteroid belt. They also send out the occasional reconnaissance vessel and scouts, disguised as freebooters, to keep a handle on the political situations in the Zone.

Personalities: The main personalities are the president and the Lane family, who run the station. The senior members of the family are Andy and Helen. Almost everyone on the station regards them as friends, almost as relatives. They are always friendly and helpful, but are also decisive and businesslike and will never forget an enemy or a double-cross.

Earth: The Distant Planet

Although the planet Earth is within eyesight, it might as well be light years away for characters in the **After the Bomb** setting. The planet has been nuked and all or most of human life has presumably been destroyed. Enough time has passed to make the planet free from deadly levels of radiation and there have even been radio signals and other indications (artificial lights from cities, etc.) that people have survived. However, considering the level of mutation the orbiters have experienced, they dread to wonder what changes may have occurred on earth and whether these Earth people are humans or monsters. Even if they are human, the question then becomes whether they would accept the mutants of the space community as friends or as monsters to be feared. All this aside, the Earth could be a wonderful resource, with tons of water and other needed things, but it is impossible to get to it.

The space stations are designed for life in space and although they have a variety of spacecraft and could safely land on Earth, none of the ships can breach Earth's gravity to return to space. Thus, going to Earth is a one-way trip (approximately Mach 5.2 is needed to escape Earth's gravity). Furthermore, those who have been born and raised in zero gravity have undergone a dramatic physical change that makes life on mother Earth terribly difficult and, for many, lethal (see the section on *Adapting to Life in Space*). Any of the space people, including those living under an artificial gravity, will suffer from physical fatigue and muscle weakness for a period of months (2D4 + 2) before their bodies adjust to an Earth environment.

Some of the stations, particularly Laika, have entertained plans for sending a crew, rockets, and building materials to Earth in order to construct the means to blast a shuttle back into space, but the task would be herculean, cost prohibitive, and there are just too many unknown factors, including the weather, hostile forces, and other things, to make such a plan feasible. There is also the "Sleeping Dog Risk," that of alerting a potential enemy who doesn't presently know the orbital community exists to their presence. The moon colony won't even consider going to Earth; space is their home now.

Under the **Rifts** setting, the orbital community sees Earth as a planet besieged by hostile aliens and occupied by monsters, mutants and war-like humans. Consequently, they have gone to great lengths to isolate the planet and prevent anyone from entering or leaving. See *Rifts Space: The Containment of Earth* for details.



Mars

The fabled Red Planet is an inhospitable wasteland despite efforts at terraforming. The orbit of Mars lies 48.7 million miles (78 million km) beyond the Zone. It is half the size of the Earth and is a cold, dark place by comparison. Although the Martian day is three hours longer than an Earth day, the amount of light and heat from the Sun that reaches the planet is decreased by its distance. The atmosphere is pitifully thin (150 times less atmospheric pressure than that of Earth) and composed mainly of carbon dioxide (95%) and nitrogen (3%; the remaining 2% contains other trace gases). The atmosphere does not cause enough of a greenhouse effect to warm the planet, and allows the surface temperature to change dramatically from daytime to nighttime and season to season. Summer temperatures in the tropical zone are a comfortable 80 degrees fahrenheit (26.7 celsius) during the day, but drops to a bone freezing -70 below zero (minus 50 celsius) at night; twice as cold during the winter.

Despite the cold, Mars is not as quite as inhospitable as the Moon. The level of radiation is not as extreme, the gravity is about a third of Earth's, offers similar resources as the moon, and it has a reasonably large amount of water frozen within its soil, as well as two permanent polar icecaps. However, while the northern cap contains frozen water, the southern cap is completely frozen carbon dioxide. The surface gravity is light (0.38 of Earth's) and its escape velocity is 3.2 miles (5 km) per second.

The main danger to settlers are the frequent dust storms, about 40 annually, of which 1D4 can become global dust storms sweeping across the entire planet. Meteors will strike the planet from time to time and there is the occasional meteor shower (1D4 annually) that will pelt a 100 mile radius (160 km).

Travelling times to Mars vary because the distance between it and the Zone is constantly changing, partly due to the eccentric orbit of Mars. At their closest they are just 46.8 million miles (75 million km) apart, at their furthest, 234 million miles (375 million km). Nevertheless, Mars and its moon, Deimos, are important resources for the colonists in the Zone.

Mars Base — After the Bomb

The Mars base was set up in the days before the Flash, located in the tropical region of Mars. It had two purposes: to mine the planet for valuable resources, and to try to terraform the surface to a level where it is inhabitable, if not comfortable. Several large hydroponic domes and a moon base-style subterranean base were successfully begun before the Flash and continued to prosper for years after the Flash. The underground colony covered a square mile (1.6 km) and once housed nearly 3400 colonists. A network of fixed orbit satellites were also established to reflect sunlight and heat 24 hours a day to the base and covering an additional 500 mile (800 km) area around the base. The area was then seeded with algae and the area irrigated as the first step in terraforming Mars. Unfortunately, the Flash stopped further measures of terraforming, but the colony thrived. Sixty years later, the colonists would fall prey to the insane dreams of a mad scientist.

Doctor Matthew Walters, Ph.D, became obsessed with insect mutation. As his work progressed, he became convinced that insects were man's superior in every way. They were pure and simple organisms not driven by emotions, but by the instinct to survive. Several landmark genetic breakthroughs enabled Doctor Walters to increase their size, making them giants, as well as increasing their endurance, and intelligence and even their physical body shape. He found that he could genetically alter them to breathe both oxygen and carbon dioxide, which meant they could breathe the Martian air. He also found several species could survive the dramatic temperature changes by burrowing underground and even hibernating during the winter season.

Ultimately, Doctor Walters came to believe that his mutant insects were the next step in evolution; a new species superior to man. Consequently, he defied the laws of the colony and secretly began to create a legion of mutant insects that could survive on the surface of Mars. All he needed were a handful to seed the planet; a pair to mate and propagate, and they propagated oh so much more quickly than humans. To make matters worse, he secretly released dozens of different mutant insects into the uninhabited sections of the partly constructed, new wing of the colony, as well as into the large ducts and service passages of the subterranean base. The mutants thrived and multiplied.

By the time the human inhabitants realized they had a problem, the base was infested. The heightened intelligence of certain species, like the ants, made them all the more dangerous. A massive extermination campaign was progressing fairly well when the colony again fell victim to Doctor Walter's treachery. The colony leaders made the fatal mistake of believing that the mad doctor had been cured of his madness and allowed him freedom to create a new mutant insect that would hunt and destroy all the other insects. This was his master creation, the Bluebottle Bristle Fly, a cannibalistic predator of incredible savagery.

He insisted the monstrous killers were sterile and had a life span of only a few weeks. That they would instinctively hunt and slay only insects and should kill at least 75% of the other insects before dying. This would enable the humans to easily exterminate the remaining mutants. Unfortunately, the madman had entirely other plans. When he unleashed his army of two hundred plus Bluebottle fly mutants, they instinctively attacked humans (the normal fly feeds on the blood of mammals). The humans were completely unprepared for the terrible assault and perished in droves. Every one mutant fly slew six humans, obliterating nearly one third of the population.

Meanwhile, the mad doctor had created a chemical odor that allowed him to control them — making him their leader. Using a score of the flies to protect him, he successfully sealed his laboratory off from the rest of the colony. During the week of constant battle he continued with his work, releasing several fertile females into the walls of the colony and outside to the surface. He also continued to accelerate the growth of larvae for a second army of mutant assassins. When the colonists finally broke into Doctor Walter's research wing, three weeks later, they were greeted by the half eaten corpse of the Doctor and by 300 newly hatched adult mutants. Once again the creatures wreaked havoc, this time for a month, before they could be contained.

Although the colonists finally stood victorious, their numbers were depleted to less than 1300. The balance of their artificial ecosystem was destroyed. It was impossible to destroy all the mutant insects, so a new struggle for survival had begun and would span generations. The humans proved surprisingly resourceful but finally fell to the enemy's superior numbers and strength; the last humans perishing 19 years ago.

Today, Mars is a living planet dominated by giant insect cannibals and with spotty patches of algae. Actually, the number of insects is fairly small, perhaps as many as 15,000 scattered across the planet. Most are found in clusters in the tropical zones. The highest concentration is at the site of the old Mars colony. Here the domed farms and subterranean colony remain mostly intact and filled with oxygen from the plants that overflow from the farms, gardens and parks, which now sprawl into the streets and down corridors (the lights, watering system, and generators are still functioning). Plant life other than algae has even crept outside from insects carrying seeds. The satellites keep the area warm and the terraforming continuing. Even the atmosphere around the colony is noticeably thicker and moist.

The more delicate insects, like the bees and flies, are found only at and around the colony site. The bees feeding on the nectar from the plants; the flies seeking refuge from the cold by taking shelter inside. The other insects can be found almost anywhere. The bug population is held in check because the environment on Mars is harsh and food is scarce, forcing most to resort to preying on other insects, including their own species, to survive.

The inhabitants of the Zone know that monster insects inhabit the old Mars Base and avoid it at all cost. They left the old terraforming satellites in place as a continuing experiment. Most also avoid the tropical zones of Mars where the insects are common. From time to time, daring freebooters will attempt to salvage the old base, only to be run off, returning with tales of 20 foot beetles and armies of intelligent ants with body armor like a tank's. Less fortunate adventurers never return. A few of the giant insects have been captured and brought back to the Zone for further study or as a freak show attraction. Attempts to domesticate the insects for labor have failed. The presence of the giant insects makes Mars a dangerous place not presently worth considering for colonizing.

Mars Data of Note

Name: The old Earth Colony is known as Mars Base, or as Bug Base.

Position: The base is located in the Martian tropical zone, above the equator.

Size: The base sprawls over 900 square kilometers (347 sq. miles or 30 km by 30 km), but most of its outposts are abandoned mining installations, instrument set-ups, and sites for terraforming equipment. The central colony is only about a square mile, located in the center of the larger, overall colony site.

Internal Gravity: As surface gravity of Mars: 0.38 g.

Population: Humans: none. Insects: approximately 15,000, possibly more; approximately eight species. See section on mutant insects.

Leadership: None. Abandoned by humans.

Power: Seventy percent of the Mars Base is still powered by two fission power plants; running at low power and should last another 1D6 × 10 years. 33% is solar powered (last indefinitely).

Defenses: None

Resources: Mars is rich with most minerals, including the basic radioactive metals and water frozen under the soil and at the northern pole.

The Moons of Mars

Mars has two moons: Phobos and Deimos. Both are very small. Phobos, the nearest to Mars, is around 16 miles (25 km) across and orbits the planet every 7.6 hours at an altitude of just over 5800 miles (9300 km). Deimos is half the size of Phobos, and orbits every 31 hours at about 14,690 miles (23,500 km). Scientists suspect that both were once planetoids from the neighboring asteroid belt that got caught in Mars' gravity.

Deimos resembles a C-type asteroid, with an abundance of frozen water (5 to 10 percent), traces of iron and other elements, but is largely carbonaceous rock. The surface of Deimos is predominately smooth, with no craters larger than 2 miles (3.2 km) in diameter. Phobos is a worthless rock covered in large and small craters and dust. Both have light gravities. The moon colony sometimes mines Deimos for water.

Mutant Insects

By Kevin Siembieda & James Wallis

General Data

All the new species described in this section are adult insects. Insects are completely different than all other species of life. Consequently, they have mutated in different ways and generally lack human or even animal intelligence.

Just as most mammals have a common, basic, body design, so do insects. Their body is divided into three sections; the head, thorax, and the abdomen.

The head is typically small, compared to the body. The three most striking features of the head are the eyes, antennae and mandibles/mouth. All adult insects have two *compound eyes* made up of between 4,000 and 12,000 individual facets. Each facet works together to form a lens. The vision of an insect's eye is poor compared to a mammal's. They see in tones of black, white and grey. Some, like bees and wasps, have ultraviolet vision and see in shades of grey, blue and purple color, but all compound eyes discern mostly shapes, large images/areas and movement; seeing small detail is impossible. Consequently, an insect can not see the characters on a computer screen or the words in a book. A rough comparison for humans might be the equivalent of a person looking through a dense metal screen. Details are obscured, especially small details and things close to the screen. The insect relies more on the sense of smell and detection of motion/vibrations than vision.

Still, the compound insect eye does have a few advantages. One, the large eye is physically harder and can take much more damage than a mammal's before suffering blindness.

Second, the large, bulging eye enables the insect to see a much great area in a single glance. Most can see in at least a 180 degree arc. The common housefly, bees, wasps, and dragonfly can see everything around them in a complete 360 degree sphere of vision.

Third, many insects, notably most species of flies, dragonflies, bees and wasps, have polarized vision which prevents visual impairment by

the sun and glare. They can also navigate/tell direction by the position of the sun and the sun's rays. Likewise, these same bugs see in the ultraviolet light spectrum which makes the colors in their world tinted in blues, violets, and purples.

Some insects, like the earwig, have simple-lensed eyes called ocelli between their compound eyes. Simple-lensed eyes are even less effective and provide a very rough image of the world, seeing mostly areas of shadow and light, and movement. Antennae are mounted on the head and are the main source of the insect's sensory perception, including an unrivaled sense of smell, hearing, motion detection and touch.

The mouth may be represented by small or large mandibles, piercing needles, or sucking tubes.

The middle body is the *thorax* which carries the insect's six legs, as well as the one or two pairs of wings common to most insects; although these wings may be modified, shrunk or missing entirely among mutants. All true insects have six (6) legs. The type of legs will vary with the purpose they serve the insect; walking, running, climbing, or jumping. Some legs have protective spines (self defense).

The final body section, the abdomen, carries no limbs/legs, but may possess special appendages such as pincers or stingers. Most of an insect's vital organs are in its abdomen; heart, digestive system, sexual organs, etc. The abdomen, like the rest of the body, is protected by the rigid exoskeleton, but between the skeletal plating, the body is flexible. The entire body is covered in a wax-like substance to prevent losing too much water.

All adult insects have an external skeleton made of a hard but flexible substance known as *chitin* (pronounced "kie-tin"). The natural exoskeleton functions as a protective body armor. In **After the Bomb** that armor is S.D.C. based. In **Rifts**, insect body armor is of an M.D.C. nature.

The giant mutants usually communicate between each other in much the same ways as they did as true insects, via smells, vibrations and sound. Not spoken words but sound and vibrations created by rubbing legs together and similar means. Most can emit ultrasonic sounds that cannot be heard by humans (can be detected with a cybernetic ultra-ear and by a number of species of mutant animals). These ultrasonic chirps, whistles, whines and grunts are reminiscent of whale noises when amplified to an audible level. Most mutants can also make sounds within the range of human hearing.

Insect sounds and language are on the same level as animals and indicate, alarm, fear, concern, anger, threatening, danger, warning, pleasure, and similar broad meanings. They do not have a spoken language, but like a dog, can learn to understand one to three different human languages, and the most intelligent can even utter words and phrases. Literacy is impossible.

For the record: Arachnids: spiders and scorpions are not insects and have eight legs, a pair of feelers (often mistaken for another pair of small legs), book lungs, and softer bodies. They have no antennae nor wings. Likewise, millipedes, centipedes, and lice are not insects. Caterpillars and other larval forms are young *insects* before the metamorphosis into the adult and may have many pairs of legs at this stage of life.

The cycle of life

Most insects have two lives. Well, actually, two significant stages in life, with two distinctly different bodies. First is the ever hungry larva. The second is the transformed adult. The data and RPG stats that follow are for the adult insect.

In larval stage, the insect is typically worm or caterpillar like. Its flesh is soft (25% of the adult S.D.C. or M.D.C., and 25% of the A.R.), and speed is slow (20% of the adult's ground speed) and has only one attack per melee. Larvae do not have wings, stingers, antennae, or body armor, but do have powerful jaws and may have many legs; a dozen or more pairs is not uncommon.

Life starts after a mutant female lays 4D6 eggs. The typical mutant insect can lay 4D6 eggs every month. The larvae hatch within 2D6 days and immediately begin to feed. Larvae are driven by one thing: To eat. They eat and eat and grow and grow until they transform into the adult insect. As the larva grows, it sheds its skin (evidence that can alert humanoids to the presense of an insect). What the larva eats is vastly different than the adult. Butterflies and moths, for example, feed on the leaves of specific plants, while the winged adult feeds on the nectar of all flowers.

In the case of *mutant insects*, the larval period is very short. The mutant insects in **Orbit** reach full maturity within 3D4 × 10 days. When the larva has reached full size it undergoes a complete metamorphosis. A *pupa*, or cocoon, is spun and the larva within begins to change into its adult form. The pupa is often called the "resting stage." Most pupae are hard, equal to half the adult's body armor. Within a matter of 2D6 days, the adult emerges.

Life expectancy

The habits and life span of the mutant insects do differ from normal insects. The average mutant insect, though it matures quickly, can live in adult form for about six years. After about four years of life, or as soon as two years, if the number of insects is low, the adult mates, eggs are laid and the cycle of life continues. **Notable exceptions:** A mutant ant can live up to about 20 years, although the average life expectancy of these war-like insects is about eight years. The preying mantis can live up to 50 years.

The Mars insect population is held in check by the availability of food and by being hunted and killed by other insects. Most insects are cannibals, meaning they will eat other insects and typically, their own kind.

There are many species of insects that tend to swarm or live in colonies. There is a great sense of loyalty to the colony among hive/colony insects like bees and ants. The colony can live in a hive, nest of mud, clay or secreted resin, underground burrow or network of tunnels, or towering mounds, and is where an insect is born. Colony larvae are reared in the hive by a group of sterile, wingless, adult females. **NOTE:** A young insect doesn't know or care who its parents are. There is no paternal link with insects as there is with mammals.

The Danger of Mutant Insects

Insects have no emotions. They are creatures of pure instinct. An insect's life is simply one of reproduction and survival. Kill or be killed and they are killing machines — super predators. Most of these large mutants see humans and other life forms as rivals and as food. Thus, humanoids and mammals are methodically hunted, killed and eaten by the giant insects. There is no malice, love, hate, envy or any other emotion involved. The insects are predators that must, and will, survive. Although the praying mantis is the most aggressive and powerful of the mutant hunters, the ants are the most dangerous because they operate as an organized group. They function as an army, complete with reconnaissance teams, assassin squads, soldiers and commanders. They also employ basic, instinctive strategy and tactics, such as divide and conquer, selection of key targets, attacking several different targets or areas in coordinated group sieges, retreat and regroup, attack in mass (swarms), and so on.

Although the effects of mutation differ from insect species to species, in most cases, the front pair of legs become arms with human-type hands with an opposable thumb, and the two pairs of rear legs become more like humanoid legs. In some cases one of the pairs of legs disappears, making these strange creatures bipeds, such as the mutant cockroach. In some cases the middle pair of legs also become arms with hands. Or become partial arms and hands, like the ants, in which the insect can use the middle limbs as arms and hands when necessary, but can still run on four legs for greater speed than bipeds.

Player characters who are insects, and most NPCs, are assumed to be adults, although adventurers may encounter larvae or pupae, especially in hives. While most insects are human size or bigger, and may be roughly humanoid in appearance, they share nothing in common with humans or mammals. They are ugly, frightening, giant, predatory bugs repugnant to most humanoids and mutant animals. As a result there is great suspicion and antipathy between the mutant insects and other species of life.

Attribute Note: Insect intelligence is low compared to mammals (roll 1D6 instead of the normal 3D6), but they are not stupid and rely on instinct. Thus, they will not stupidly run into an inferno, nor fight to the death. Building, digging, and similar things are instinctive abilities, not learned skills. But most mutants can learn simple skills like how to open a door, how to turn a switch on or off, and may pick up an item and use it as a sword or club and even fire a modern weapon (but can't reload and accuracy is equal to shooting wild). Only the mutant ants are smart enough to use tools and learn rudimentary skills as noted under their description.

Insect instincts do make the monsters smart in a way and certainly make them methodical and tenacious, as well as deadly predators. Also see Combat Notes.

Insect combat notes

Mammals are instinctively recognized by mutant insects as either food or enemies, or both. However, this doesn't mean that a giant mutant insect will attack on sight. Even a hungry mutant bug will not attack if it is dramatically outnumbered. Insects understand how swarms and colonies work, and will avoid a fight against an angry swarm of

humanoids. If it does attack a group of mammals, it will strike only one member of the group and try to carry/fly its victim away before inflicting the final kill. If the intended victim proves to be too strong and too dangerous, or if the victim's companions swarm to attack/protect/help, the insect is very likely to stop its attack, release its prey and retreat in search of easier prey.

Likewise, most insects will not fight to the death if the chance for escape becomes available against a more powerful foe. This is especially true of solitary hunters or a pair of hunters. However, this is not generally true of insect swarms. If the insect group is five or more they will either all fight to the death or all run away. They will seldom leave a fellow mutant to fight alone.

Attacking and defending swarms will also fight to the death, especially if protecting a hive and/or queen. Colony insects are especially dangerous because the colony may contain tens of thousands of members (real life ant colonies can have as many as 100,000 members). Many insects, notably ants, bees, and wasps, secrete chemical alarm scents. These alarm chemicals warn of apparent danger (like a recognized enemy uncomfortably close to the colony), enemy attack, and violent death. The latter scent is released when the insect is killed. All serve to alert members of the hive or colony to danger and immediately mobilizes them into troops ready for action. This is how bees and ants swarm so quickly when a hive is threatened.

The chemical alarm cannot be detected by mammals, not even mutant dogs, but can be smelled by insect members of the colony up to four miles (6.4 km) away, and sends adventuring insects scurrying home to defend the colony/hive. When aroused and summoned by a chemical alarm, the insects will fight to the death or until the enemy has been slain or chased away; far away. Note that chemicals are also used in aluring males for mating (females tend to be dominant in the insect world) and some insects use scent to mark food and territory. Ants also secrete a chemical that lays down a scent trail so other ants may follow. This is excellent for following scouting parties and returning to locations of food. Remember, insects are also alerted to danger by other smells and sound vibrations.

Note: Insects are particularly vulnerable to psionics and magic, as well as heavy-duty weapons. Also note that it is sometimes easier to immobilize than to destroy mutant insects, especially swarms.

S.D.C. damage from typical mutant insects:

Punch: 1D6 plus P.S. bonus. Ants, beetles and mantis inflict 2D6 plus P.S. bonus.

Bite from fly, bee, wasp, and similar: 1D4 S.D.C.

Bite from ants or mantis: 2D6 + 2 S.D.C.

Bite from beetles and large mandibles: 6D6 S.D.C.

Kick: 1D6 S.D.C.

Body Slam: 4D6 S.D.C.

Rifts M.D.C. — Damage by insect supernatural P.S.

P.S. 15 or less: 4D6 S.D.C. for a full strength punch or kick.
1D6 M.D. for a power punch.

P.S. 16 to 20: 1D6 M.D. for a full strength punch or kick.
2D6 M.D. for a power punch.

P.S. 21 to 25: 2D6 M.D. for a full strength punch or kick.
4D6 M.D. for a power punch.

P.S. 26 to 30: 3D6 M.D. for a full strength punch or kick.
6D6 M.D. for a power punch.

P.S. 31 to 35: 4D6 M.D. for a full strength punch or kick.
1D4 × 10 M.D. for a power punch.

P.S. 36 to 40: 5D6 M.D. for a full strength punch or kick.
1D6 × 10 M.D. for a power punch.

P.S. 41 to 50: 6D6 M.D. for a full strength punch or kick.
2D4 × 10 M.D. for a power punch.

P.S. 51 to 60: 1D6 × 10 M.D. for a full strength punch/kick.
2D6 × 10 M.D. for a power punch.



Note: Bites: Small mandibles inflict 1D6 M.D.C. while large inflict 3D6 mega-damage. Body blocks/rams inflict 2D6 M.D. and have a 55% chance of knocking down the victim of the hit. Victim loses one melee attack and initiative.

Encountering mutant insects

Encounters with a mutant insect can be with a lone individual, a pair of insects, a group (2D6 + 1; typically a hunting or reconnaissance party), or small swarm (2D4 × 10). Even the colony oriented **ants** will travel as individuals or in groups of two to 13. Small swarms of 20 to 80 are typically encountered when the ants are scavenging or hunting for food. Remember, every last ant will swarm and fight to the death to protect the underground colony or queen.

Beetles and **cockroaches** gather in similar numbers as ants, but do not have a queen, nor huge colony, nor central hive, so they are seldom found in groups larger than 20 to 80 members. However, they can be very territorial and fight those who invade their land (typically a 20 mile/32 km area).

Most **flies** are nomadic, winged scavengers and although the typical fly will tolerate their own species, as well as beetles, roaches, and many other non-threatening insects and animals, they do not have a queen, society, hive or territory. Thus, lone fliers, pairs, small groups, and small swarms are common. Flies are found where it is warm, comfortable and where there is food.

The **praying mantis** is the only mutant insect that is never found with members of its own species, except when mating. At mating time, as many as one female and 1D4 males might be encountered, but they will not attack unless they are threatened (they have other matters on their minds for the moment).

Insect hostility index

The common, four legged, mutant fly is generally not very aggressive. They are nomadic scavengers that feed on the decay (dead animals and insects) and refuse (garbage and feces) of other animals and insects. They will seldom attack a healthy, living creature, although a group or swarm might attack another living being(s) if they outnumber their prey by at least three to one. Flies will also attack the sick, hurt, helpless, and dying.

The so-called Bluebottle Bristle Fly is one of the strangest mutations. It is a biped that has lost its wings and a pair of legs and has a very humanoid body. However, it is a vicious, murdering, insect predator that feeds on the blood and flesh (particularly internal organs) of all other life forms, insects included. Hostile and aggressive in the extreme! Tends to be a solitary hunter or hunts in pairs, and small groups of 1D6 + 1. Rarely swarm unless directed by a higher intelligence. Often fights to the death.

The four-armed flying ant is the most unusual, humanoid, and intelligent of the ants. Its communities are small and they are the least aggressive of all the mutants, attacking only if threatened. Like to be left alone.

Mutant ants come in three varieties, the wingless workers, the female soldiers and the soldier males. All are incredibly hostile and aggressive predators and will savagely fight to the death to defend their colony and queen. The mutants feed on other insects and mammals.

Mutant Praying Mantises look very similar to their tiny ancestors, except now they are giant and prey on other giant insects and mammals (slow moving humans are a favorite target). The mantis is super aggressive and heavily armored.

The Giant Cockroach is usually a non-aggressive scavenger. Like the fly, they feed upon the waste of other creatures and the dead and dying. Actually, they'll eat just about anything. The real danger of mutant roaches is that they will break or sneak into food storage areas and eat everything in sight. Otherwise only fight in self defense.

Mutant beetles are the largest and most heavily armored insects. They eat all kinds of plants, animals, humanoids and other insects, dead or alive. They tend to be territorial and moderately aggressive. A hungry or angry beetle can be a ferocious and relentless foe. They will often fight to the death. Hunt alone or in small groups.

Mutant bees and wasps are communal creatures, just like ants, but typically attack only when threatened or when the hive is under attack.

Insect Powers

The term *BIO-E* or *BIO-E points* refers to the rules for the mutant creation process as found in **TMNT/Heroes Unlimited**. This method of mutant creation provides for a much greater range of mutation diversity and choice, particularly for player characters. **Rifts** mutant insects (and NPC monsters for S.D.C. games) will have specific stats and listings of all the insect features and abilities. **Rifts** insects inflict mega-damage from punches and bites.

Insect features

Wings costs 5 BIO-E points. Flight is purchased separately.

Four legs for walking: Speed 27 or 18.5 mph (29.7 km). Costs 2 BIO-E points.

Four legs for running: Speed 88 or 60 mph (96 km). Costs 5 BIO-E points.

Four legs for jumping — can leap 50 feet (15.2 m) high or lengthwise. Can repeatedly leap but each leap counts as one melee

action/attack and maximum running/walking speed is 18.5 mph (28.7 km). Costs 10 BIO-E points.

Four legs for climbing and clinging: Can climb, walk and run (at half normal speed) up, down, sideways and upside down on even smoothish surfaces as long as there is some tooth, like brick, concrete, wood, and metal that is rough or has protruding rivets/bolts. Cannot climb on glass, or smooth, polished plastic and metal surfaces. Proficiency level is 90%. Costs 15 BIO-E points for walking speed or 20 BIO-E for running speed.

Two-legged Biped: Maximum ground speed is 22 or 15 mph (24 km), but stands and walks erect, like a human. The other pair of legs disappear or are shriveled, useless stumps. Costs 5 BIO-E points.

Two-legged Biped with a second pair of partial limbs used as both arms and legs: Maximum ground speed is 44 or 30 mph (48 km). Can stand and walks erect, like a human, on two legs or runs on all fours. The second pair of partial arms and hands offers greater versatility; most common among ants. Costs 10 BIO-E points.

Humanoid arms and hands: All insects have six legs, the front pair turn into arms with human-like hands. Partial (two fingers and thumb) costs 10 BIO-E points. Full (3 or 4 fingers and a thumb) costs 15 BIO-E points.

Clawed hands and feet: Adds 1D4 damage to punch or kicks and enables the insect to run at full speed while climbing or clinging to a surface. Costs 15 BIO-E points.

Insect Strength: Add 6 points to the P.S. attribute, can lift and carry 100 times their P.S. (i.e.: P.S. 22 means it can carry 2200 pounds, over one ton, with ease) and P.S. is considered to be supernatural strength. Costs 20 BIO-E points.

Insect Endurance: Can fight, work, run, fly, 20 times longer than the average mammal, and have the following bonuses: +4 to save versus poison and drugs, no bonus to save vs magic. Costs 15 BIO-E points.

Insect Mouth

Superior Taste: Recognizes food, fellow insects, and other substances by nibbling on the object of curiosity. The nibble may pinch or scratch but does no damage. 80% accuracy in recognizing tastes. Automatic, no BIO-E cost.

Large mandibles and insect jaw are the large, outer powerful jaws common to beetles and ants. The bite inflicts 3D6 S.D.C. (or 3D6 M.D.). Costs 10 BIO-E.

Small mandibles and insect jaw are common to most other insects. The bite inflicts 2D6 S.D.C. (or 1D6 M.D.). Costs 2 BIO-E.

Note: Other types of mouths are common among other insects but not applicable to those presented here.

Compound Eye

Insect vision is crude, offering shapes, shadows, and limited color range. Cannot read or see details. Limited color vision. Like a human looking through a tightly woven screen window. But the following features are available:

Typical Eye Powers:

180 degree area of sight and +1 to dodge. Automatic, no BIO-E cost.

360 degree area of sight and cannot be surprised by attacks from behind — gets an automatic parry or dodge and a bonus of +1 to parry and dodge. Costs 5 BIO-E.

Ultraviolet vision: Costs 2 BIO-E.

Polarized sight: Can tell direction (95%) by the position of the sun and by the direction of sunlight. Not adversely affected by bright light and glare. Costs 2 BIO-E.

Hard eye: 50 S.D.C. (or 30 M.D.C.). Costs 5 BIO-E.

Optics bonus: +2 on initiative and +1 to strike and dodge. Costs 10 BIO-E.

Advanced eye is smaller, about twice the size of a human eye, and has mammal-like vision capable of seeing color and small details. If the advanced eye is selected, the insect can only have the following additional eye powers: ultraviolet, polarized sight and hard eye but with half the normal S.D.C. or M.D.C. points. Costs 10 BIO-E.

Antennae

Antennae function like arms and hands that can hear and smell. The sensitive antennae can feel motion, wind, changes in temperature, and touch objects. In this capacity, antennae can be used to feel around in darkness and to identify food, friends and enemies. The typical antenna is covered in thousands of tiny tubercles and scent-sensitive hairs, making it super-sensitive to odors. The insect can smell and identify a range of smells twice as great as the best hunting dog, at twice the distance.

Antennae: Smelling Powers:

Track and maneuver by smell alone: 75%; roll once for every 2000 feet (610 m). Double range for the chemical secretions of that species and four miles (6.4 km) for smelling the chemical alarm of that species (automatically recognizes alarm chemicals). A failed roll means the scent trail is temporarily lost; two successful rolls out of three means the trail has been rediscovered. Costs 5 BIO-E.

Identify common, known smells, and insect chemical smells: 90%. Range: 1200 feet (365 m). Costs 2 BIO-E.

Remember and identify a specific unusual scent: 50%. Range: 1200 feet (365 m). Costs 2 BIO-E.

Smell the coming of rain and large fires: 60%; two miles (3.2 km) range. Costs 2 BIO-E.

Antennae: Touch Powers:

Accurately identify common, known objects/substances: 70% (30% if very uncommon). Automatic, no BIO-E cost.

Identify temperature: 80%, within 1D6 degrees, includes air temperature. Costs 2 BIO-E.

Accurately identify wind direction: 80%. Costs 2 BIO-E.

Furthermore, the antennae (and body hair) are also sensitive to vibration, enabling them to detect both motion and sound vibrations.

Antennae: Hearing/vibration/motion sensing abilities:

Track by sound alone: 60%. The giant mutants can locate human prey by following the vibration of a running car or robot engine, voices, noise from movement, or the audio transmissions of a television set or radio. Range: 1000 feet (350 m). Costs 5 BIO-E.

Motion detection and track by motion detection alone: 50%. Can follow and locate prey by following the air vibrations caused by movement (not sound per se, but air movement). Range: 500 feet (152 m). Costs 5 BIO-E.

Feel the vibrations of an approaching ground vehicle(s), giant bot, herd of mammals, or giant animals, up to six miles (9.6 km) away. Running or walking humans 2000 feet (365 m) away. Flying vehicle or animal 4000 feet (122 m) away. Automatic, no BIO-E cost.

Hear ultrasonic sounds; super keen hearing: Average range: 2000 feet (365 m). Automatic, no BIO-E cost.

Communicate with ultrasonic sound: Average range: 2000 feet (365 m). Can also produce and communicate using sounds audible to humans. Automatic, no BIO-E cost.

Antennae Combat bonuses: Applicable only if ALL antennae abilities are possessed. +2 on initiative, +1 to strike, +1 to parry, +1 to dodge. No BIO-E cost.

Insect Flight

Beetles, crickets, grasshoppers, mantises and ground oriented insects are generally limited to slow and medium flying speed. Bees, wasps, flies, dragonflies and other flying insects are fast to hyper-fast. Must have wings to fly.

Slow: 30 mph (48 km); costs 5 BIO-E.

Medium: 60 mph (80 km); costs 10 BIO-E.

Fast: 150 mph (240 km) and +2 to dodge and +2 to damage (M.D. if in **Rifts**) while flying. Costs 20 BIO-E.

Hyper Fast: 300 mph (482 km) and +4 to dodge and +6 to S.D.C. damage (+6 M.D.) while flying. Costs 30 BIO-E.

Insect Exoskeleton Body Armor

Light Armor — Cockroaches, earwig, crickets, moths, butterflies. Main body: 100 S.D.C. and A.R. 13 (or 130 M.D.C.). Costs 5 BIO-E.

Medium Armor — Flies, bees, wasps, ants, grasshoppers. Main body: 200 S.D.C. and A.R. 16 (or 240 M.D.C.). Costs 10 BIO-E.

Heavy Armor — Beetles, praying mantises, and some ants. Main body: 300 S.D.C., A.R. 18 (or 400 M.D.C.); costs 20 BIO-E.

Insect Chemicals

Chemical Alarm: The insect can secrete a variety of chemicals that send a warning scent to other members of its species. The warning scents include danger, attack, and death (of the sender). The scent can be smelled a distance of about four miles (6.4 km). The scent can only be smelled by other insects. Costs 5 BIO-E.

Chemical Trail: The insect secretes a chemical that is left on the ground and foliage that the insect travels, allowing others of its species to follow his trail. Not available to flying insects. Costs 10 BIO-E.

Chemical Attack: A corrosive acid spray can be squirted from the insect's abdomen. The range is limited and the chemical is typically used to inflict more damage to wounded prey. Common among ants. Range: 20 feet (6 m). Damage: 4D6 S.D.C. (or 2D6 M.D.). Bonuses: Counts as one additional attack per melee, +2 to strike with spray attack. Costs 10 BIO-E.

Chemical Death: When the insect is killed or loses 80% of his main body S.D.C. or M.D.C., it releases a strong chemical that reeks of death. This warns others of its kind that one of their members has just been violently slain, signalling danger. Costs: 2 BIO-E

Chemical Love: A chemical aroma is released that can be smelled by adult males of the same species for up to four miles (6.4 km). Males are irresistibly drawn to the area and are bewitched by the female's aroma of love: must roll an 18 or higher to save vs the insect love chemical — no bonuses to save are applicable.

The intoxicated male is distracted and docile, thinking only of mating and ignoring all else except self defense. Penalties: Reduce the character's number of melee attacks by half, -6 on initiative, -3 to strike, parry and dodge. Plus the love sick bug will not leave the side of the female, even if under attack, until he has mated. Note that only females can secrete this chemical and the love scent affects only members of that specific species of insect. Automatic for all beetles, moths, and butterflies; no BIO-E cost. 15 BIO-E for other insect species.

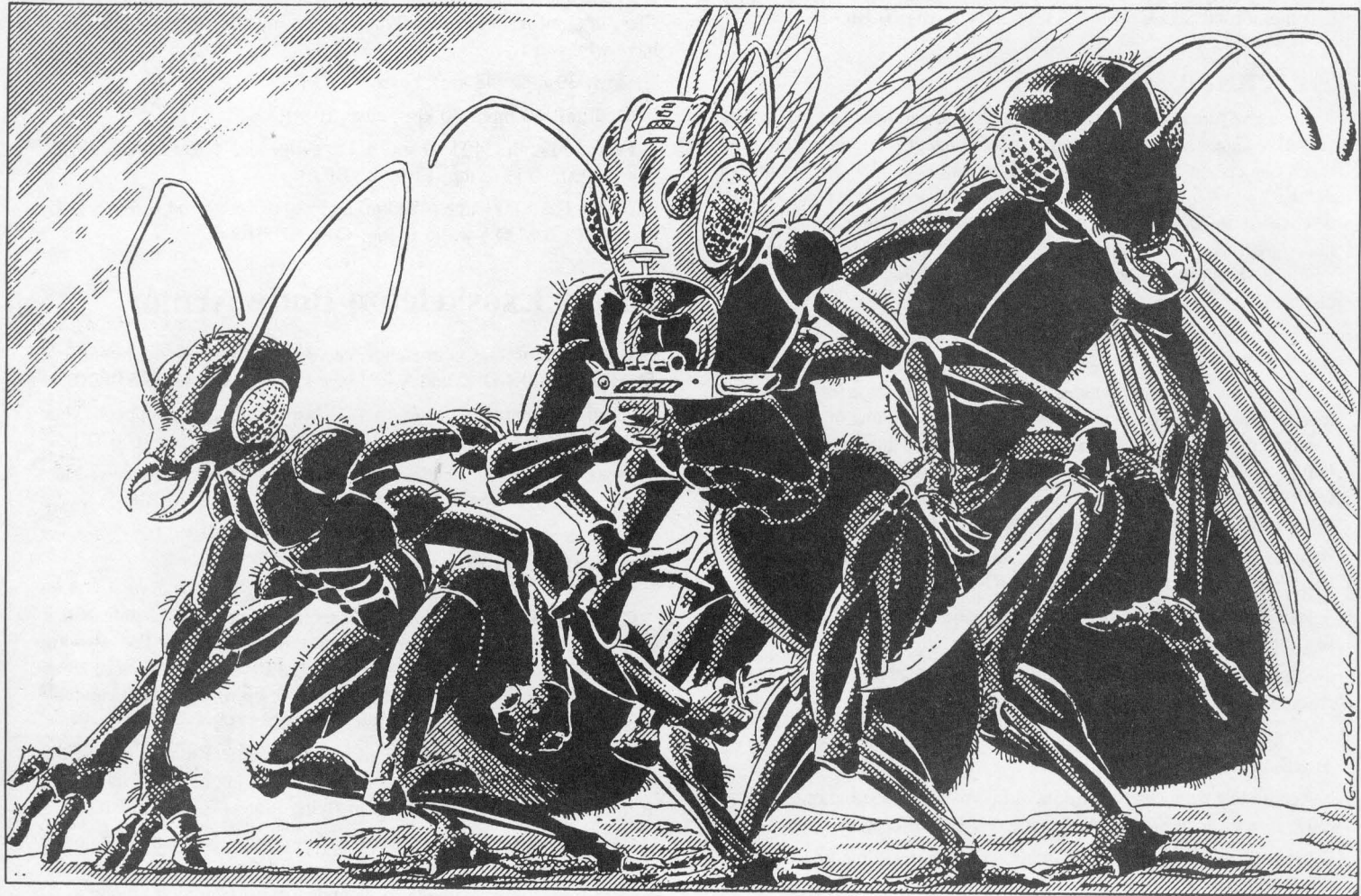
Animal & Other Powers

Only the following animal powers (TMNT/Heroes Unlimited) are applicable to many insects: **digging, tunneling, and excavation**, each at a cost of 10 BIO-E points.

Psionics of any kind: None.

Super abilities: None.

Magic of any kind: None.



Insect Descriptions

Common Mutant Ants

ORIGINAL INSECT CHARACTERISTICS

Description: All normal ants are tiny insect members of the family *Formicidae*. They have long antennae, a comparatively small head and thorax, a large, rounded abdomen and long, thin legs. They live in large colonies with a strict caste system between the three types of ant in each community: workers, who are sterile, wingless females, winged males, and winged females who may later become queens. There are over 200 species of ant worldwide, ranging from vegetarian to carnivore. They vary in color from yellow and red to black.

The mutant ants are the most intelligent of the giant insects. They operate as a rigid society, work together, utilize basic combat tactics, may use simple weapons, and practice birth control. The queen will lay as many eggs as necessary to maintain the optimum size of her colony. The more abundant the food supply, the larger the ant colony and the more frequent the laying of eggs. If food is abundant the colony

may divide into one or two splinter groups whose members leave the original colony, with a new queen, to start their own colony. Offshoot colonies are typically half the size of the first colony and are often perceived as an immediate enemy/rival.

Rival ant colonies engage in frequent war, killing the members of the rival colony(s) to raid the food supplies and water reserves of the other insect colony, as well as to kill rival ants and eat them (they are cannibals), or to reduce the population of a rival colony. Ants are the most aggressive, organized, and deadly of the mutants. Only the mutant bluebottle bristle fly and praying mantis are more aggressive, but none are as cunning.

In addition to raiding and killing other ants, these mutants will prey on humans and other life forms. The slow moving and soft skinned humans are easy prey. There is no malice, hate, or any other emotion involved. The ants are predators driven by instinct to survive. They are all the more dangerous because they operate as an organized group, and use basic instinctive strategy and tactics, use weapons and tools, and will attack in mass/swarms.

Heroes Unlimited & After the Bomb/TMNT Data

ORIGINAL INSECT

Size Level: 1

Length: Up to half an inch (12 mm)

Weight: Negligible

Build: Short

THE TYPICAL MUTANT ANT

Size Level:

Sterile, wingless, female worker: 14 — short; about 5.5 feet (1.7 m) tall and 400 lbs (180 kg).

Winged Female: 16 — short; about 6.6 feet (2 m) tall and 500 lbs (225 kg).

Winged Male: 15 — short; about 6 feet (1.8 m) tall, and 450 lbs (200 kg).

MUTANT COSTS AND CHANGES

Total BIO-E: 150, but 65 must be spent on growth steps to reach size level 14 (or up to 16).

Attribute Bonuses:

P.S.: +4 for workers and males, +6 for winged females.

P.P.: +2

P.E.: +4, but applicable only to duration, stamina, and saves vs poison; the save vs magic is not applicable.

P.B.: -2

Spd: +6 to ground speed, +10 to flying speed.

INSECT FEATURES & POWERS AVAILABLE:

Features: Any, except jumping and two/biped legs.

Mouth Powers: Any, at half the listed BIO-E cost.

Eye Powers: Any, except ultraviolet vision.

Antennae Powers: Must select at least two from each category, all are available.

Flight Powers: Any, except hyper (not available to wingless females).

Chemical Powers: Must select at least two. All are available at half the listed BIO-E cost.

Animal Powers: Any, at half the listed BIO-E cost.

Exoskeleton: Any, usually medium or heavy.

SPECIAL FEATURES & POWERS:

Human Looks: None: Tall, standing on two long, hind legs that jut from the thorax at an odd angle. A large abdomen hangs down below the ant's waist. The head has two long antennae, usually in constant motion as they "taste" the air. Large compound eyes stand out from the side of the head, with three smaller ocelli between them. The chitin "skin" is thick and gleaming.

10 BIO-E for Partial: Still tall and thin, but looking rather more humanoid. The abdomen is smaller and less distinct from the thorax. The main eyes are smaller and do not bulge out from the head as much, the ocelli have disappeared and the antennae are shorter and thicker.

Full: Not available.

Armor Bonus: 0 BIO-E: Winged Female +40 S.D.C.

Combat Damage Bonuses: 0 BIO-E: Workers are +2 to damage. Winged females and males are +4 to damage from bites and punches.

Rifts: Mutant Ants

General data, background, and size: Same as *After the Bomb*.

Alignment: Insect predator, generally considered anarchist or diabolic.

Attributes: I.Q. 1D6+4 (insect instinct), M.E. 3D6+1, M.A. 3D6+10 with other insects, P.S. 5D6+20, P.P. 2D6+10, P.E. 3D6+8, P.B. 1D6, Spd. see running feature +10 spd bonus.

Insect Features & Powers:

Automatic abilities, there is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, running legs or 2 legs with a second pair of partial legs/arms, climbing power, pair of forearms and partial hands (two fingers and a thumb), insect P.S. and insect P.E.

Mouth Powers: Superior taste sense and large mandibles.

Eye Powers: All, except ultraviolet vision and advanced.

Antennae Powers: All!

Flight Powers: Winged males: 30 mph (48 km). Winged females: 60 mph (80 km), and, of course, wingless workers cannot fly.

Chemical Powers: All.

Animal Powers: All.

Exoskeleton: Medium

M.D.C. by location — Exoskeleton:

*Antennae (2) — 15 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 50

**Head (1) — 150

Forearms (2) — 100 each

Partial arms/legs (2) — 110 each

Rear Legs (2 or 4) — 150 each

Wings (2) — 30 each

**Main Body of Worker — 130 (light exoskeleton)

**Main Body of Winged Ants — 240 (medium exoskeleton)

* Destroying both antennae will seriously impair the senses of the ant. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities! **Note:** The antenna is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Five by bite or punch plus one by chemical acid attack; six (6) total.

Damage: Considered to have supernatural strength. See P.S. damage table under insect combat notes. Plus any bonuses from insect powers and features. Can also ram with and hurl boulders weighing hundreds or even thousands of pounds. Add 1D6 M.D. to punch or kick attacks using boulders weighing 100 to 500 pounds, 2D6 for 600 to 1000 pounds, 3D6 for 1100 to 2000 pounds, 5D6 for 2100 to 3000. Damage listed is the damage from thrown boulders.

Bonuses: Includes powers and features, +6 on initiative, +3 to parry, +4 to dodge, +4 to save vs poison and chemical. All are in addition to attribute bonuses. Cannot be attacked from behind (360 degree sphere of vision).

Skills of Note: Mutant ants are surprisingly intelligent and can use items like sticks and rocks, as well as found tools, as weapons and tools. Swords, knives, clubs and spears are the most common weapons used. They can even fire and reload an energy or projectile weapon (no bonuses to strike), but do not know how to recharge an energy clip nor manufacture bullets/explosives.

The ants have learned how to open doors, use elevators, how to start and drive ground vehicles, how to start and stop simple machines and engines. They also understand that you can kill armored and robot vehicles by peeling away the armor and finding the mammal inside (good eating too). They also recognize sensor and communication clusters as antennae and often climb on top of bots and vehicles to destroy them first. Remember, the ant's sensitive antennae can hear, recognize and follow smells, sound and motion vibration to track its human prey. Attacking the head and neck are instinctive maneuvers. The ants also understand how petroleum and fossil fuels work and can make fire, though they tend to avoid doing so except as a combat tactic.

In addition, the following skills are known to all ants at about seventh level proficiency. No bonuses unless indicated otherwise. Sing (chirping and vibrations), detect ambush, detect concealment, intelligence, wil-

derness survival (+15%), first aid for insects only, prowl, swim, understand other spoken languages (select three), indentify plants and fruits, land navigation, preserve food (+20%), skin & prepare animal hides (+5%), carpentry (+10%), boat building, track animals and mutant insects (+30%) and W.P. Blunt. Pilot automobile, hover vehicle and truck, W.P. knife, W.P. sword, W.P. energy pistol are all at first level proficiency. **Note:** Except for constructing simple tools and weapons, and constructions from wood and stone, manufacturing and literacy are impossible for the mutants.

Value: Exoskeleton can be made into body armor. A full suit of plate body armor made from medium ant exoskeleton has 80 M.D.C., weighs about 40 pounds (18 kg), has fair mobility (-15% prowl penalty) and sells for about 20,000 credits. Large plates of insect exoskeleton sell to armorers at about 1000 credits per 40 pounds (18 kg). A single ant has about 120 pounds of armor.

Habitat: Found just about anywhere. Subterranean tunnel lairs/nests.

Enemies: Hunt and feed on other insects and most life forms, including humanoids and mammals. Mutants are very aggressive.

Bee

ORIGINAL INSECT CHARACTERISTICS

Description: This category includes all the various types of bee, as well as wasps and hornets. They are all members of the *Hymenoptera* family, and are related to ants. Most live in hive communities also similar to ants.

Typical bees and wasps have a wide, flattish head with two forward-pointing antennae, a thorax about twice as big as the head and an abdomen twice as large as the thorax. All have two pairs of wings, but only females will have stingers. The abdomen may be brightly striped or have some distinctive coloring. All have a hairy body, although the hairs are more pronounced on bees than on wasps or hornets. They may have wax-producing glands on the abdomen. Most, but not all, species have three ocelli between their main eyes.

Mutant bees, wasps and hornets are not quite as common on Mars as the predatory and scavenging mutants, because they feed on the nectar of plants, and plant life is not abundant everywhere. This has also kept their size comparatively small. They are not aggressive or hostile except when threatened or feel threatened.

Heroes Unlimited & After the Bomb/TMNT Data

ORIGINAL INSECT

Size Level: 1

Length: Up to one inch (25 mm)

Weight: Negligible

Build: Bee — short, Wasp & Hornet — medium

THE TYPICAL MUTANT BEE OR WASP

Size Level:

Male drone/worker Bee: 10 — short; about 4.5 feet (1.4 m) tall and 190 lbs (81 kg).

Female Bee: 12 — short; about 5 feet (1.5 m) tall and 220 lbs (100 kg).

Wasp or Hornet: 12 — medium; about 7 feet (2.1 m) tall, and 480 lbs (216 kg).

Note: Only a few hundred of the thousands (40,000 to 80,000) of bees in a hive are males.

MUTANT COSTS AND CHANGES

Total BIO-E: 125, but 50 must be spent on growth steps to reach size level 10 (or up to 12).

Attribute Bonuses:

I.Q.: +2

M.A.: +4

P.P.: +4



INSECT FEATURES & POWERS AVAILABLE:

Features: Any, except jumping and two/biped legs.

Mouth Powers: Only superior taste and small mandibles.

Eye Powers: Any!

Antennae Powers: Must select at least two from each category, all are available.

Flight Powers: Medium and fast only, at half the listed BIO-E cost.

Chemical Powers: Limited to alarm and love; females only.

Animal Powers: Any at half the listed BIO-E cost.

Exoskeleton: Light or medium only.

SPECIAL FEATURES & POWERS:

Human Looks: None: A large, flattish head with projecting antennae, a heavily muscled thorax and a large abdomen that almost touches the ground. All limbs are thin but strong. Thick bristles cover the main body but not the limbs. Wings are large and obtrusive, and ocelli are visible between the large compound eyes.

15 BIO-E for Partial: The head is more rounded, and the antennae do not project out as far. The abdomen is smaller but still separate from the thorax. The body is covered with a thin coat of hair. Limbs are thicker. Wings can be folded close against the body.

Full: Not available.

Leg Sacs: 5 BIO-E. Each of the insect's rear legs has a natural cavity intended for storing or carrying pollen, but which can be used to conceal and carry an object or objects weighing up to five pounds (2.3 kg).

Wax Glands: 5 BIO-E. A gland on the abdomen that produces a pliable waxy substance which solidifies within 3D6 minutes. It can be used as a kind of putty for holding things together, or in emergencies for blocking leaks in a ship's hull. Five pounds (2.3 kg) of wax can be produced every hour. The wax is an S.D.C. substance (10 S.D.C. per 5 pounds, A.R. 10). Wasps secrete a similar resin.

Natural weapons:

Stinger: 10 BIO-E for a poisonous stinger located in the abdomen, doing 2D6 + 2 S.D.C. damage (or 1D6 + 2 M.D.). Only females may take this ability.

Needle mouth: 5 BIO-E for a modified ovipositor which can be used to drill holes up to 15 inches (386 mm) into almost any S.D.C. material except metal (3 inches/76 mm). This takes five minutes. Again, females only.

Combat Damage Bonuses: 0 BIO-E: Male drones are +1 to parry and dodge in flight. Females are +3 to strike, parry and dodge while in flight.

Rifts: Mutant Bees & Wasps

General data, background, and size: Same as After the Bomb.

Alignment: Insect monster, generally considered anarchist or aberrant.

Attributes: I.Q. 1D6 + 3 (insect instinct), M.E. 3D6 + 1, M.A. 3D6 + 6 with other insects, P.S. 3D6 + 10, P.P. 2D6 + 12, P.E. 3D6 + 6, P.B. 2D6, Spd. see running feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species. There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, four climbing legs, pair of forearms and partial hands (two fingers and a thumb), and insect P.E.

Mouth Powers: Superior taste sense and small mandibles.

Eye Powers: All.

Antennae Powers: All.

Flight Powers: Male and female bees: 60 mph (80 km).

Male and female wasps: 150 mph (240 km)

Chemical Powers: Alarm and death only.

Animal Powers: All.

Exoskeleton: Medium.

Special Powers: Leg sacs, wax glands, and stinger.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 15 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 30

**Head (1) — 110

Forearms (2) — 75 each

Legs (4) — 100 each

Wings (2) — 50 each

**Main Body of Bee or Wasp — 240 (medium exoskeleton)

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities!

Note: The antennae is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Four by bite or punch plus one by stinger attack; five (5) total.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table under the insect combat notes.

Bonuses: Includes powers and features, +4 on initiative, +1 to strike, +1 to parry, +2 to dodge, +6 to dodge in flight, +4 to save vs poison and chemicals. All are in addition to attribute bonuses. Cannot be attacked from behind (360 degree sphere of vision).

Skills of Note: Mutant bees and their kin are fairly intelligent and may use items like sticks and rocks, as well as found human tools, as weapons and tools. Swords, knives, clubs and spears are the most common weapons used. They can even fire an energy or projectile weapon (equal to shooting wild), but do not know how to reload or recharge an energy clip nor manufacture bullets/explosives.

The bees have learned little about humankind but can open doors, and start and stop simple machines and engines. They keep to themselves. Remember, the insect's sensitive antennae can hear, recognize and follow smells, sound and vibrations to track its enemy. Attacking the head and neck are instinctive maneuvers.

In addition, the following skills are known to most bees, wasps, and hornets at about sixth level proficiency. No bonuses unless indicated otherwise. Sing (buzz and vibrations), detect concealment, wilderness survival (+10%), first aid for insects only, understand other spoken languages (select two), identify plants and animals (+10%), land navigation (+20%), preserve food (+10%). Swim and prowl are both at first level proficiency. **Note:** Except for constructing simple tools and weapons, and constructions from wood and stone, manufacturing and literacy are impossible for the mutants.

Value: Exoskeleton can be made into body armor. A full suit of plate body armor made from medium bee or wasp exoskeleton has 80 M.D.C., weighs about 40 pounds (18 kg), has fair mobility (-15% prowl penalty) and sells for about 20,000 credits. Large plates of insect exoskeleton or the entire dead bug, sell to armorers at about 1000 credits per 40 pounds (18 kg). A single bee/wasp has about 80 pounds of armor.

Habitat: Found just about anywhere. Beehives are subterranean nests, the common wasps build their hives suspended in tall trees, on cliff facings, or the sides of buildings, bridges, etc. Note that a beehive can contain as many as 40,000 to 80,000 members (a typical mutant hive has 1D4 × 10,000), but wasps and hornet hives seldom exceed more than 500 members (1D6 × 100).

Enemies: Bees are not aggressive and fight only when threatened. They feed on nectar. Wasps are much more like their ant cousins and hunt other insects and all life forms, as well as feed on nectar and scavenge food in the way of waste and decay. Mutant wasps are quite aggressive.

Mutant Beetles

ORIGINAL INSECT CHARACTERISTICS

Description: *Coleoptera*, the order of beetles, is the largest family in the insect kingdom, with over 300,000 species ranging in size between both tiny and huge and in all types of shapes. Their main feature is that the wings are protected under a hard, armored wing case (the elytra) which is used to protect the more delicate pair of wings underneath, when not in flight. The body tends to be bulky, smooth, hard and chitinous, with a short head and thorax and a very large abdomen. Antennae tend to be very long, thin and often, feathery.

Beetles usually do not live or function in colonies like bees or ants, but are territorial and a group of as many as a hundred may inhabit the same general area. However, they seldom work together in groups larger than four.

Heroes Unlimited & After the Bomb/TMNT Data

ORIGINAL INSECT

Size Level: 1

Length: Up to two inches (50 mm)

Weight: Negligible

Build: Typically medium or long. The known mutants are generally the larger "medium" types.

THE TYPICAL LARGE BEETLE

Size Level:

Male Beetle: 16 — medium; about 8 feet (2.4 m) tall and 600 lbs (270 kg).

Female Beetle: 18 — medium; about 9 to 10 feet (2.7 to 3 m) tall and 1000 lbs (450 kg).

Note: Small Beetles can range from size level 6 to 11 — medium.

MUTANT COSTS AND CHANGES

Total BIO-E: 155, but 75 must be spent on growth steps to reach size level 16 (or up to 18).

Attribute Bonuses:

P.S.: +8

P.P.: +1

P.E.: +2, but applicable only to duration, stamina, and saves vs poison and saves vs magic are not applicable.

P.B. -2

INSECT FEATURES & POWERS AVAILABLE:

Features: Any.

Mouth Powers: Any.

Eye Powers: Any.

Antennae Powers: Must select at least two from each category, all are available; all cost half the listed BIO-E.

Flight Powers: Slow, medium, or fast.

Chemical Powers: Any, but the chemical love power is exclusive to females.

Animal Powers: Any.

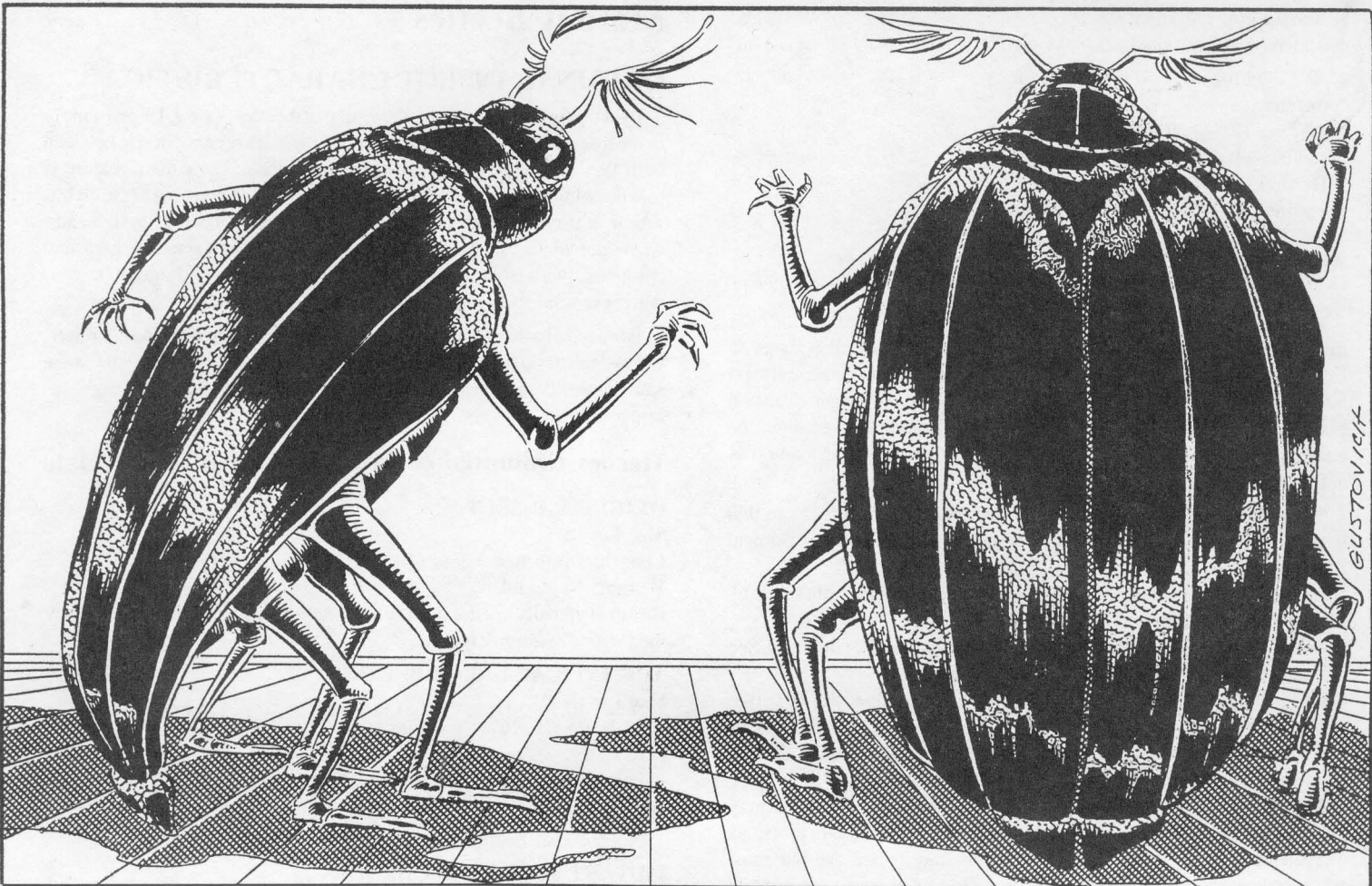
Exoskeleton: Medium or heavy only. Cost half the listed BIO-E.

SPECIAL FEATURES & POWERS:

Human Looks: None: A small head with long antennae, small thorax and a large abdomen. Long and powerful hind legs, short forearms. The body is chitin and has a hard, glossy, armor-plated look to it, especially from the back where the wings are protected behind the elytra. The beetle may well have distinctive bright coloration. If a beetle in this stage falls on its back, it will have difficulty in getting up without help.

15 BIO-E for Partial: The head looks like a head rather than an extension of the thorax. The abdomen is smaller but still hangs below the waist like an inflated cloak. Antennae are short and stubby. Arms and legs are not so long or thin. The chitin loses its glossy sheen.

Full: Not available



Chemical Stench: 10 BIO-E. If frightened or alarmed the beetle with this chemical attack can spray, from its mouth or abdomen (pick one), a blood-red fluid that creates a nauseating smell. All creatures, except other beetles, within 20 feet (6 m) must roll to save vs poison/toxin or be overcome for 1D4 minutes. The beetle can use this ability as often as once per hour. The stench spray counts as one additional attack for the melee that it is used.

A **failed roll** means the powerful stench causes the victim to run from the area (at least 100 feet/30.5 m), in addition to suffering from horribly burning eyes, nose and throat, choking and gagging, dizziness and vomiting: lose initiative, cannot attack but can defend self, -4 to strike, parry, and dodge, -50% to perform skills that require clear sight, like reading, piloting, etc., because eyes burn and water too much to do more than squint. Duration: 1D4 minutes or 4 to 16 melees. Range: immediate 20 foot area from the spraying orifice.

Rifts: Mutant Beetles

General data, background, and size: Same as After the Bomb.

Alignment: Insect monster, generally considered anarchist or miscreant.

Attributes: I.Q. 1D6 (insect instinct), M.E. 3D6 + 4, M.A. 2D6 with other insects, P.S. 5D6 + 30, P.P. 2D6 + 10, P.E. 3D6 + 10, P.B. 2D6, Spd. see running feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species. There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, four legs: running and climbing, pair of forearms and partial hands (two fingers and a thumb), claws (add +1D4 M.D. to attacks — full speed climbing), insect P.S. and insect P.E.

Mouth Powers: All.

Eye Powers: All, except ultraviolet vision.

Antennae Powers: All.

Flight Powers: Male and female: 60 mph (80 km).

Chemical Powers: Trail and death, and the females also have love.

Animal Powers: Digging.

Exoskeleton: Heavy.

Special Powers: None; few have the chemical stench. The armored wing covers add to the overall M.D.C. of the main body.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 20 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 30 (50 if large)

**Head (1) — 150

Forearms (2) — 75 each

Legs (4) — 110 each

Wings (2) — 30 each

**Main Body: large beetles — 480 (heavy exoskeleton + wing covers).

Small beetles — 400 (heavy exoskeleton)

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities! **Note:** The antennae is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Six (6), typically by bite or punch. Can also perform a wrestling style pin and crush maneuver. Pinning

an opponent means he cannot attack/move. Crush inflicts half the punch/kick damage and is the only damage that can be inflicted while pinned.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table under the insect combat notes.

Bonuses: Includes powers and features +4 on initiative, +2 to strike, +2 to parry, +2 to dodge, +2 to dodge in flight, +4 to save vs poison and chemicals. All are in addition to attribute bonuses. Cannot be attacked from behind (360 degree sphere of vision).

Skills of Note: Mutant beetles are not too intelligent, but may use items like sticks, debris, and rocks as crude weapons and tools. Clubs and spears are the most common types of weapons used. They may fire an energy or projectile weapon (equal to shooting wild), but do not know how to reload or recharge the weapon and are just as likely to use it as a bludgeon as they are a shooting weapon.

The beetles have learned very little about humankind but can open doors, and accidentally start or stop simple machines and engines. They are ferocious predators and powerful combatants that will often fight to the death when provoked, especially when in their own territory. Remember, the insect's sensitive antennae can hear, recognize and follow smells, sound and vibrations to track its enemy. Attacking the head and neck are instinctive maneuvers.

In addition, the following skills are known to most beetles at about fifth level proficiency. No bonuses unless indicated otherwise. Sing (buzz and vibrations), detect concealment, wilderness survival (+10%), can learn to understand one human language (spoken), identify plants and animals, land navigation (+20%), preserve food (+10%), and swim. **Note:** Beetles rarely even construct simple tools and weapons made from wood and stone; more likely to just pick up a boulder or tree trunk and use it as a club or tool. Manufacturing and literacy are impossible for mutant beetles.

Value: Exoskeleton can be made into body armor. A full suit of plate body armor made from a medium beetle exoskeleton has 100 M.D.C., weighs about 50 pounds (22 kg), has poor mobility (-25% prowl penalty) and sells for about 24,000 credits. Large plates of insect exoskeleton or the entire dead bug, sell to armorers at about 1000 credits per 50 pounds (18 kg). A single beetle has about 300 pounds of armor.

Habitat: Found just about anywhere. Beetles sleep in shallow burrows, under rocks, fallen trees, in ruins, caves, tunnels and other subterranean places. During the day they are found on the surface hunting and sunning themselves. Note that no more than 40 to 80 will be found in a 20 mile (32 km) territory. **Enemies:** Beetles tend to be very aggressive and fight over territory, mates, and food, as well as being aggressive hunters. Ants, flies, other beetles, mammals and all other life forms are hunted as prey. They will also feed on nectar and scavenge food in the way of waste and decay.

Cockroach

ORIGINAL INSECT CHARACTERISTICS

Description: Cockroaches are not beetles; they are members of the family *Blattidae*. There are over 2,000 different species, but all are medium to large, and dark brown to black. They have an oval, flattish body. Their head is bowed down and protected by a large hood-like plate, the pronotum. They have long, curved antennae and shortish legs. They are nocturnal and prefer warm to hot climates. They have a very tough layer of chitin and can release an unpleasant smell to chase away enemies.

Heroes Unlimited & After the Bomb/TMNT Data

ORIGINAL INSECT

Size Level: 1

Length: Up to two inches (50 mm)

Weight: Negligible

Build: Typically medium or long. The known mutants are generally the larger "medium" types.

THE TYPICAL LARGE COCKROACH

Size Level:

Male Cockroach: 15 — medium; about 7.6 feet (2.2 m) tall and 500 lbs (225 kg).

Female Cockroach: 17 — medium; about 9 feet (2.7 m) tall and 800 lbs (360 kg).

Note: Smaller species of roaches can range from size level 7 to 12 — medium.

MUTANT COSTS AND CHANGES

Total BIO-E: 135, but 70 must be spent on growth steps to reach size level 15 (or up to 17).

Attribute Bonuses:

M.E.: +2

P.P.: +1

P.E.: +2, but applicable only to duration, stamina, and saves vs poison, saves vs magic are not applicable.

P.B.: -4

Spd.: +6

INSECT FEATURES & POWERS AVAILABLE:

Features: Wings, 2 leg biped (slow), human arms and hands, and insect P.E.

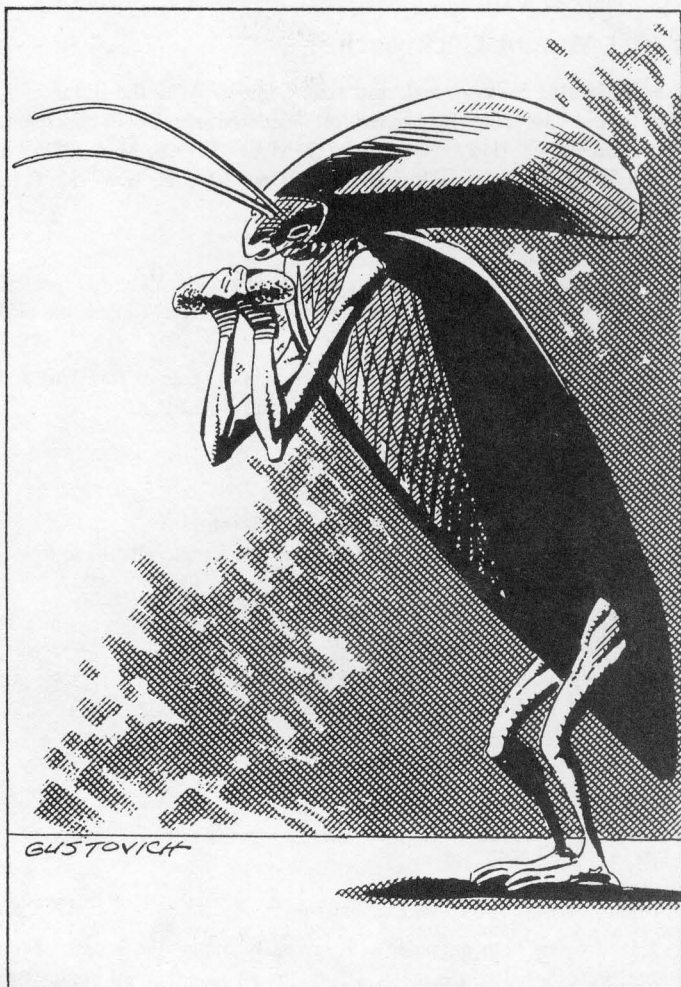
Mouth Powers: Superior sense of taste and small mandibles.

Eye Powers: Any.

Antennae Powers: Must select at least two from each category, all are available; all cost half the listed BIO-E.

Flight Powers: Slow only.

Chemical Powers: Trail and death, and the chemical love power, but only females have the love scent.



Animal Powers: None.

Exoskeleton: Light or medium only.

SPECIAL FEATURES & POWERS:

Human Looks: None: The body is tall, broad and flat, covered in shiny, scale-like chitin, while arms and legs are short. Wings are concealed in cases on the back of the thorax. The pronotum rises behind the head, covering it like a large hood and making it difficult for the cockroach to look up or behind. Antennae droop down to about waist level. They have a distinctive "cockroach" smell.

5 BIO-E for Partial: The legs are longer and the body is less broad and flat. Arms are better developed. The pronotum has shrunk to become more of a collar than a hood, but still protects the creature's neck. The antennae are shorter but still hang down to shoulder level. The chitin coat does not shine so much and there is no characteristic smell.

Full: Not available

Stench Chemical Spray: 15 BIO-E. The cockroach has stink-glands in its abdomen that can emit a really ghastly stench. If frightened the roach can use its chemical attack spraying a yellow-green fluid at its attacker(s). All creatures, except other cockroaches, within 20 feet (6 m) must roll to save vs poison/toxin or be overcome for 1D4 minutes. The roach can use this ability as often as once per hour. The stench spray counts as one additional attack for the melee that it is used.

A **failed roll** means the powerful stench causes the victim to run from the area (at least 100 feet/30.5 m), in addition to suffering from horribly burning eyes, nose and throat, choking and gagging, dizziness and vomiting; lose initiative, cannot attack but can defend self, -4 to strike, parry, and dodge, -50% to perform skills that require clear sight, like reading, piloting, etc., because eyes burn and water too much to do more than squint. Duration: 1D4 minutes or 4 to 16 melees. Range: immediate 20 foot area from the spraying orifice.

Rifts: Mutant Cockroach

General data, background, and size: Same as After the Bomb.

Alignment: Insect monster, generally considered anarchist or miscreant.

Attributes: I.Q. 1D6 (insect instinct), M.E. 3D6+6, M.A. 2D6+1 with other insects, P.S. 4D6+10, P.P. 2D6+10, P.E. 3D6+12, P.B. 1D6, Spd. see running feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species. There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, two legs biped (slow spd), pair of forearms and partial hands (two fingers and a thumb), and insect P.E.

Mouth Powers: All.

Eye Powers: All.

Antennae Powers: All.

Flight Powers: Male and female: 30 mph (48 km).

Chemical Powers: Trail and death and the female also have love.

Animal Powers: None.

Exoskeleton: Medium.

Special Powers: Chemical stench.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 15 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 30

**Head (1) — 110

Forearms (2) — 50 each

Legs (4) — 80 each

Wings (2) — 20 each

**Main Body — 130 (light exoskeleton).

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to

strike, parry, dodge, and initiative by half. Loses all antennae abilities!

Note: The antennae is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Four (4), typically by bite or punch.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table; see insect combat notes.

Bonuses: Includes powers and features, +4 on initiative, +1 to strike, +2 to parry, +3 to dodge, +1 to dodge in flight, +4 to save vs poison and chemicals. All are in addition to attribute bonuses. Cannot be attacked from behind (360 degree sphere of vision).

Skills of Note: Mutant cockroaches are not too intelligent, but fairly cunning and very sneaky. They may use items like sticks, debris, and rocks as crude weapons and tools, as well as found human tools and knives/swords. Clubs and spears are the most common types of weapons used. They may fire an energy or projectile weapon (equal to shooting wild), but do not know how to reload or recharge the weapon and are just as likely to use it as a bludgeon than as a shooting weapon. The cockroach also understands human habits and activities (like when they sleep and eat), and understands what heavy equipment, food and food containers, vehicles, bords, and bots are, but cannot operate them.

The roach has learned a lot about humankind and can open doors, use elevators, and start or stop simple machines and engines. They are scavengers and thieves who try to avoid physical combat and are nearly impossible to provoke to violence, fighting only in self defense. Like most insects, they have sensitive antennae and can hear, recognize and follow smells, sounds and vibrations to track its enemies and locate food. Attacking the head and neck are instinctive maneuvers.

In addition, the following skills are known to most cockroaches at about fifth level proficiency. No bonuses unless indicated otherwise. Detect concealment, intelligence, pick locks, pick pockets (-10% penalty), palming (+5%), concealment (+10%), prowl, streetwise, swimming, climbing, wilderness survival (+20%), first aid for insects, can learn to understand three human languages (spoken), land navigation, and preserve food (+5%). **Note:** Cockroaches rarely construct anything, preferring to steal what they need from others.

Value: None for their flimsy exoskeleton, but the stink chemical is desired for making tear gas-like aerosol sprays and bombs. 400 credits is the usual price per gallon (3.8 liters). One gallon can make about eight grenades or spray cans. The typical roach will have two gallons in its gland. Insect stench grenades/tear gas sell for about 250 credits each because of their dramatic effects; area of affect of the grenades are 10 feet (3 m), sprays work on contact, with a six foot (1.8) spray range.

Habitat: Found just about anywhere. Hide and sleep in shallow burrows, under rocks, fallen trees, debris, in ruins, etc. Tend to be nocturnal. Seldom found in groups larger than 40 to 80 members strong.

Enemies: Preyed upon by the other insect predators and mammals. They scavenge food and feed on garbage, decay, fruits, grain, meat and just about anything else. They might be thought of as garbage cans with legs.

Earwig

ORIGINAL INSECT CHARACTERISTICS

Description: Earwigs are members of the insect family *Dermaptera*, and there are about a thousand species worldwide. They have a long, cylindrically-shaped body, usually brown, and can grow to two and a half inches (63 mm) in length. The head is distinct from the thorax,

with two small black eyes and long, thread-like antennae. Not all species have wings, but when they are present the rear pair are small, semi-circular and seldom used, usually covered by the stubby, hard forewings. The thorax and the abdomen are not divided, and its legs are short. All earwigs have large, curved pincers at the rear of their abdomen, which can be used in defense.

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ORIGINAL INSECT

Size Level: 1

Length: Up to 2.5 inches (63 mm)

Weight: Negligible

Build: Typically long.

THE TYPICAL EARWIG

Size Level:

Male Earwig: 11 — long; about 8 feet (2.4 m) tall and 230 lbs (103 kg).

Female Earwig: 12 — long; about 8.4 feet (2.5 m) tall and 300 lbs (135 kg).

MUTANT COSTS AND CHANGES

Total BIO-E: 120, but 50 must be spent on growth steps.

Attribute Bonuses:

P.S.: +2

P.E.: +2, but applicable only to duration, stamina, and saves vs poison, saves vs magic are not applicable.

P.B.: -4

INSECT FEATURES & POWERS AVAILABLE:

Features: Wings, four legs: walking and climbing (slow), human arms and hands, insect P.S. and insect P.E..

Mouth Powers: Superior sense of taste and small mandibles.

Eye Powers: Any.

Antennae Powers: Must select at least one from each category, all are available.

Flight Powers: Slow only.

Chemical Powers: Trail and death, and the chemical love power, but only females have the love scent.

Animal Powers: Dig only.

Exoskeleton: Light only.

SPECIAL FEATURES & POWERS:

Human Looks: None: Tall and skinny, with a hard covering of plated, brown chitin. All limbs are short but not thin. The thorax seems closely joined to the abdomen, which is usually curved back to avoid dragging its fierce hooks on the ground. The head and eyes are comparatively ordinary, but the antennae are long and stand almost vertically on the head.

5 BIO-E for Partial: Still tall but not quite so skinny. The chitin is more jointed and looks more like skin than armor. Arms and legs are longer, and the abdomen with its pincers is smaller and less obtrusive. The wings have almost disappeared. Antennae are short and thin.

Full: Not available

Pinning Pincers: 10 BIO-E for 2D4 + 2 Pincers. Do no damage but if they strike, their opponent is pinned, cannot move and the earwig is free to attack by biting.

Rifts: Mutant Earwig

General data, background, and size: Same as After the Bomb.

Alignment: Insect monster, generally considered anarchist or miscreant.

Attributes: I.Q. 1D6 (insect instinct), M.E. 2D6 + 6, M.A. 1D6 + 2 with other insects, P.S. 4D6 + 10, P.P. 2D6 + 10, P.E. 3D6 + 8, P.B. 1D6, Spd. see walking feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species.



There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, four legs: walking and climbing (slow spd), pair of forearms and partial hands (two fingers and a thumb), and insect P.S. and insect P.E.

Mouth Powers: Taste and small mandibles.

Eye Powers: All, except 360 degrees and ultraviolet.

Antennae Powers: All, except wind direction and track by sound alone.

Flight Powers: Male and female: 30 mph (48 km).

Chemical Powers: Trail and death and the females also have love.

Animal Powers: Dig only.

Exoskeleton: Light.

Special Powers: Chemical stench.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 15 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 30

**Head (1) — 80

Forearms (2) — 50 each

Legs (4) — 60 each

Wings (2) — 15 each

**Main Body — 130 (light exoskeleton).

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities! **Note:** The antennae is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

**** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.**

Number of Attacks Per Melee: Five (5), typically by bite or punch and pin. Typically, one attack per melee (usually the first) will be a pinning attack. If the opponent is pinned, he cannot move or perform any physical attacks, but the earwig can continue to strike his helpless victim by biting him. An earwig cannot crush a pinned victim.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table; see insect combat notes.

Bonuses: Includes powers and features, +5 on initiative, +2 to strike, +2 to parry, +3 to dodge, +3 to save vs poison and chemicals. All are in addition to attribute bonuses.

Skills of Note: Mutant earwigs are dull-witted, insect predators. They know virtually nothing about humanoids. They occasionally use items like sticks, debris, and rocks as crude weapons and tools, as well as found human tools and knives/swords. They never uses modern fire-arms.

The earwig can figure out how to open doors, use elevators, and start or stop simple machines and engines, but it will take 1D4 melees to figure it out or remember how. They are scavengers and hunters who feed on living and dead plants, insects and other life forms. Like most insects, they have sensitive antennae and can hear, recognize and follow smells and motion to track its enemies and locate food. Attacking the head and neck are instinctive maneuvers.

In addition, the following skills are known to most earwigs at about fourth level proficiency. No bonuses unless indicated otherwise. Detect concealment, prowl, swimming (+5%), climbing (+10%), wilderness survival (+20%), land navigation, identify plants and fruits (+10%), preserve food (+5%) and can learn to understand only one human language. **Note:** Earwigs rarely construct anything.

Value: None! Exoskeleton too light.

Habitat: Found just about anywhere. Hide and sleep in shallow burrows, under rocks or debris, in ruins and trees, etc. Tend to be nocturnal. Seldom found in groups larger than 24 members strong (4D6).

Enemies: Preys upon most life forms, preferably slow mammals like humans and slow insects like cockroaches. They also scavenge food, feeding on the dead, garbage, fruits and grain/plants.

Fly: Common

ORIGINAL ANIMAL CHARACTERISTICS

Description: The word "fly" is a catch-all for members of the **Diptera** family, in which there are over 75,000 species. We are only concerned with the subfamily **Cyclorrhapha**, which includes the common houseflies, bluebottles, greenbottles, warble fly, horsefly and hover-flies.

All flies only have two visible wings; the second pair having shrunk to become flight stabilizers. They have a small head with large, bulbous eyes, and small antennae. The thorax is large and the abdomen is slightly larger. Their legs are fairly long and well-developed. Most have distinctive, iridescent colors.

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ORIGINAL INSECT

Size Level: 1

Length: Up to one inch (25 mm)

Weight: Negligible

Build: Medium

THE COMMON FLY

Size Level:

Male and Female: 11 — medium; about 6.8 feet (2 m) tall and 220 lbs (99 kg).



MUTANT COSTS AND CHANGES

Total BIO-E: 125, but 50 must be spent on growth steps.

Attribute Bonuses:

P.P.: +6

P.B.: -3

Spd.: +4

INSECT FEATURES & POWERS AVAILABLE:

Features: Any.

Mouth Powers: Superior sense of taste and small mandibles.

Eye Powers: Any.

Antennae Powers: Must select at least one from each category, all are available.

Flight Powers: Fast and Hyper at half the listed BIO-E cost.

Chemical Powers: Chemical love power, but only for females.

Animal Powers: None.

Exoskeleton: Medium only.

SPECIAL FEATURES & POWERS:

Human Looks: None: A very wide head with flat face and two very large eyes. Small, pointed antennae with three joints. The body is well formed, with a very narrow waist, usually covered in chitin and thick, bristly hair. Thin arms and legs. The wings are large and heavily veined, and do not flatten against the body.

5 BIO-E for Partial: The head is still wide and flat. The eyes are smaller but still prominent, and the antennae are much less obvious. Wings are less obvious, and can be flattened against the body. The joint between the thorax and abdomen is thicker and stronger. The body has less bristles on it.

25 BIO-E for Full: The head is narrower and the eyes are smaller. The antennae are only visible if you look for them. Arms and legs are thicker and stronger. There is hardly any gap between thorax and abdomen. Wings fold close against the back. There is almost no body hair. The insect may still be a distinctive color.

Stabbing needle mouth: 10 BIO-E. A modified mouth designed for stabbing and drinking blood and nectar; common to bluebottle and warble flies which also eat meat. Inflicts 2D6 S.D.C. (or 1D6 M.D.).

Rifts: Common Mutant Fly

General data, background, and size: Same as After the Bomb.

Alignment: Insect monster, generally considered anarchist or miscreant.

Attributes: I.Q. 1D6+1 (insect instinct), M.E. 2D6+6, M.A. 2D6 with other insects, P.S. 3D6+8, P.P. 2D6+16, P.E. 2D6+14, P.B. 1D6, Spd. see running & climbing feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species. There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, four legs: running, jumping and climbing, human arms and hands, claws, insect P.S. and insect P.E.

Mouth Powers: Taste and small mandibles.

Eye Powers: All.

Antennae Powers: All, except those in the touch category.

Flight Powers: Hyper fast: 300 mph (482 km).

Chemical Powers: Chemical love: females only.

Animal Powers: None.

Exoskeleton: Medium.

Special Powers: Needle mouth for bluebottle and warble flies only.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 15 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 30

**Head (1) — 110

Forearms (2) — 55 each

Legs (4) — 90 each

Wings (2) — 25 each

**Main Body — 240 (medium exoskeleton).

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities!

Note: The antenna is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Four (4), typically by bite or punch.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table. +6 M.D. from flying strikes (momentum and leverage).

Bonuses: Includes powers and features, +8 on initiative, +2 to strike, +4 to parry, +4 to dodge, +6 to dodge in flight, +4 to save vs poison and chemicals. All are in addition to attribute bonuses. Cannot be attacked from behind (360 degree sphere of vision).

Skills of Note: Mutant flies are not too intelligent, but fairly cunning and very sneaky. They may use items like sticks, debris, and rocks as crude weapons and tools, as well as found human tools and knives/swords. Clubs and spears are the most common types of weapons used. They may fire an energy or projectile weapon (equal to shooting wild), but do not know how to reload or recharge the weapon and are just as likely to use it as a bludgeon as they are a shooting weapon. The fly also understands human habits and activities (like when they sleep and eat), and understands what heavy equipment, food and food containers, vehicles, borgs, and bots are, but cannot operate them.

The fly has learned a lot about humanoids and can open doors, use elevators, and start or stop simple machines and engines. They are

scavengers and thieves who generally avoid physical combat unless they think they can win or there is no alternative. Only the bluebottle and warble flies are aggressive scavengers and predators. Flies have small sensitive antennae and can hear, recognize and follow smells and motion to track its prey and locate food. Attacking the head and neck are instinctive maneuvers.

In addition, the following skills are known to most flies at fifth level proficiency. No bonuses unless indicated otherwise. Detect concealment, detect ambush, intelligence, pick pockets (-10% penalty), palming (+5%), concealment (+10%), prowling, streetwise, climbing, wilderness survival (+10%), land navigation (+20%), first aid for insects, and can learn to understand three human languages (spoken). **Note:** Flies rarely construct anything, preferring to scavenge and live off the land.

Value: The usual for medium armor. Average fly has 100 pounds of armor.

Habitat: Found just about anywhere. Hide and sleep in trees, along cliffs, and high places. Seldom found in groups larger than 40 to 80 members strong.

Enemies: Insect predators and humanoids. Predatory flies prey upon other insects and mammals. Flies generally scavenge food and feed on garbage, decay, fruits, nectar, sugar, and flesh.



Bluebottle Bristle Fly

For Rifts Only: Of course, the fly can be easily converted to any S.D.C. RPG.

The bluebottle bristle fly is the most humanoid looking of the Mars mutants, but is also the most savage and among the least intelligent. The insect feeds on the flesh and blood of insects and other life forms, especially slow-moving mammals like humans. This horrid predator defies many of the mutation conventions common to insects. Most notably, although a biped, the bluebottle bristle fly runs with amazing speed (on two legs and on all fours), can leap amazing distances, climb on most surfaces, and possesses great strength. The spiny hairs that cover its body help the fly to climb, cling, and offers more M.D.C. protection.

This fly is a frenzied killer that always seems to be in a hyper state of anger and hostility. They tend to smash and destroy things out of anger and frustration and will often fight to the death. Tend to hunt alone, in pairs, and small groups.

General data, background, and size: Generally the same as the common fly.

Alignment: Insect monster, generally considered miscreant or diabolic.

Attributes: I.Q. 1D4 (insect instinct), M.E. 2D6+4, M.A. 1D6 with other insects, P.S. 3D6+20, P.P. 2D6+12, P.E. 2D6+12, P.B. 1D6, Spd. see running & climbing feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species. There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Two legs but possesses running, jumping and climbing, as well as human arms and hands, claws, insect P.S. and insect P.E.

Mouth Powers: Taste and small mandibles.

Eye Powers: All, except 360 degree sight (180).

Antennae Powers: All, except the touch category.

Flight Powers: Fast 150 mph (240 km).

Chemical Powers: Chemical love: females only.

Animal Powers: None.

Exoskeleton: Medium.

Special Powers: Needle mouth.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 20 each

Hard Eyes (2) — 30 each

Mandibles (1 small pair) — 30

**Head (1) — 120

Forearms (2) — 70 each

Legs (4) — 10 each

Wings (2) — 25 each

**Main Body — 270 (medium exoskeleton plus spiny hairs).

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities! **Note:** The antenna is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Five (5), typically by bite or punch.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table. +1D4 M.D. for claw feature and +2 M.D. from flying strikes (momentum and leverage).

Bonuses: Includes powers and features, +6 on initiative, +2 to strike, +3 to parry, +3 to dodge, +3 to dodge in flight, +3 to save vs poison and chemicals. All are in addition to attribute bonuses.

Skills of Note: The bluebottle bristle fly has a low intelligence, but is a cunning and ferocious hunter. They seldom use any weapons and never use a gun, attacking hand to hand. These flies don't understand human habits or devices either. They are very primal, compelled only to hunt, reproduce and survive. The best this fly can do is open doors and accidentally start or stop simple machines. Otherwise, they tend to smash what they don't understand.

Skills are limited to the following at fourth level proficiency. No bonuses unless indicated otherwise. Prowl, acrobatics, climbing (+5%), swim, wilderness survival (+10%), land navigation (+20%), first aid for insects, and can learn to understand one human language (spoken). **Note:** Flies rarely construct anything, preferring to scavenge and live off the land.

Value: Not desired because of the tough bristle and these mutants are hard to kill without blasting the armor into smithereens.

Habitat: Found just about anywhere. Hide and sleep anywhere; above ground, on the ground, in subterranean places, etc.

Enemies: All life forms! Feeds on the flesh and blood of living and dead creatures.



Praying Mantis

ORIGINAL INSECT CHARACTERISTICS

Description: The praying mantis is among the largest and most sinister of insects. They are long and thin, usually green or brown, and can be over seven inches (177 mm) in length. They have a large, triangular head with large eyes and thin, curved antennae. The two large, well-developed forelimbs are used for grasping prey, and have serrated undersides. The hind-legs are close together, at the rear of the thorax. Most mantises have wings covered by a long, protective wing-case. The body is covered in thick chitin. When at rest, they assume a position with legs bent and forelegs raised, as if they were praying. Originally taken into space as the subject of mutation experiments.

The praying mantis is perhaps the most aggressive and famous of the insect cannibals. Mantis eggs are laid in a large cocoon, the young hatch in swarms, leaving the cocoon as tiny versions of their adult selves. Instinctively they are hunters that *prey* on other insects, including their own kind. The baby mantis' first meal is his brother and/or sister emerging from the cocoon. Out of approximately 100 hatchlings, only 10 to 15 of the biggest and the strongest survive. Except when mating, a praying mantis will fight another mantis to the death and devour his opponent unless the one losing manages to escape and flee (or avoids the confrontation in the first place). Only during mating will one mantis tolerate other mantises (the female is always 30% to 50% larger than

the males). Immediately after mating, the larger female will thank her mate by devouring him. It's all a matter of instinct and survival.

Note: The mantis attacks by clutching its prey in its powerful forearms, then bites and tears at the head/throat area to make the kill.

Heroes Unlimited & After the Bomb/TMNT Data

ORIGINAL INSECT

Size Level: 1

Length: Up to seven inches (177 mm)

Weight: Two ounces (56 grams)

Build: Long

THE COMMON PRAYING MANTIS

Size Level:

Male Mantis: 14 — long; about 9 feet (2.7 m) tall and 400 lbs (180 kg).

Female Mantis: 16 — long; about 10 feet (3 m) tall and 550 lbs (247 kg).

MUTANT COSTS AND CHANGES

Total BIO-E: 155, but 65 must be spent on growth steps to size level 14 (up to 16 for females).

Attribute Bonuses:

I.Q.: +2

P.S.: +4

P.P.: +1

P.E.: +2, but applicable only to duration, stamina, and saves vs poison, saves vs magic are not applicable.

P.B. -2

INSECT FEATURES & POWERS AVAILABLE:

Features: Any, except biped features.

Mouth Powers: Any.

Eye Powers: Any.

Antennae Powers: Must select at least two from each category, all are available; all cost half the listed BIO-E.

Flight Powers: Slow or medium.

Chemical Powers: Chemical love, but exclusive to females.

Animal Powers: None.

Exoskeleton: Medium or heavy only.

SPECIAL FEATURES & POWERS:

Human Looks: None: Very tall and thin. The head is triangular with eyes at the top two points and the mouth at the bottom. Thin curving antennae come from the top of the head. The thorax is thin, widening out into a slightly wider abdomen. The arms are very long and muscular, with rough serrated areas on the underside. Legs are long and thin. The wings are protected by a thick leathery case which hangs behind and below the abdomen like a cloak. The thorax and abdomen are covered in thick chitin, mottled on the underside.

10 BIO-E for Partial: Overall, the body is shorter and wider. The head is more rounded, the eyes are less obvious and the antennae are shorter. The fore-arms are less huge but are still obviously very powerful. The wings and wing-case are shorter and less obvious.

Full: Not available.

Grasping, serrated arms: 5 BIO-E. The powerful serrated arms can be used to grasp and hold/pin opponents. If an opponent is pinned (1-75% chance if the mantis is trying to pin), the mantis will continue to attack by biting. The serrated arms inflict an additional 1D6 damage to all attacks and even being grabbed and held inflicts 1D6 damage (M.D. if in **Rifts**).

Rifts: Common Mutant Mantis

General data, background, and size: Same as After the Bomb.

Alignment: Insect monster, generally considered anarchist or miscreant.

Attributes: I.Q. 1D6 + 2 (insect instinct), M.E. 3D6 + 10, M.A. 1D6

with other insects, P.S. 4D6 + 24, P.P. 3D6 + 10, P.E. 3D6 + 10, P.B. 2D6, Spd. see running feature and flight.

Insect Features & Powers:

All the listed abilities are automatic and common to all in this species. There is no involvement of BIO-E points or purchases (unless the GM opts to utilize or allow them).

Features: Wings, four legs: walking and climbing, forearms remain insect grasping claws, claws (add +1D4 M.D. to attacks — full speed climbing), insect P.S. and insect P.E.

Mouth Powers: Superior taste and small mandibles.

Eye Powers: All, except ultraviolet vision.

Antennae Powers: All.

Flight Powers: Male and female: 60 mph (80 km).

Chemical Powers: The female has chemical love.

Animal Powers: None.

Exoskeleton: Heavy.

Special Powers: Insect grasping arms. Pin victims.

M.D.C. by location — Exoskeleton:

*Antennae (2) — 15 each

Hard Eyes (2) — 30 each

Mandibles (1 pair) — 30

**Head (1) — 130

Forearms (2) — 150 each

Legs (4) — 120 each

Wings (2) — 25 each

**Main Body — 400 (heavy exoskeleton).

* Destroying both antennae will seriously impair the senses of the insect. Penalties: Reduce melee attacks by two, reduce all bonuses to strike, parry, dodge, and initiative by half. Loses all antennae abilities! **Note:** The antennae is a thin and constantly moving target. Thus, it can only be hit when a character makes a *called shot* and even then, the attacker is -3 to strike. The same is true of the eye and mandibles unless at point blank range; 12 feet (3.6 m).

** Destroying the main body or the head kills the insect. Note that when 80% of the main body has been damaged the death alarm chemical is released.

Number of Attacks Per Melee: Six (6), typically by bite or punch. Can also perform a wrestling style pin and crush maneuver. 75% chance of pinning an opponent, which means the victim cannot attack/move. Crush inflicts half the punch/kick damage, but the mantis can also continue to bite. Biting the head and throat area of pinned opponents is the standard tactic.

Damage: Considered to have supernatural strength and endurance. See P.S. damage table.

Bonuses: Includes powers and features, +5 on initiative, +3 to strike, +4 to parry, +1 to dodge, +2 to save vs poison and chemicals. All are in addition to attribute bonuses. Cannot be attacked from behind (360 degree sphere of vision).

Skills of Note: The Mantis has a reasonable insect intelligence, but is a cunning and treacherous hunter. They never use any weapons, attacking hand to hand. Nor do they understand humanoid habits or devices either. They are very primal, compelled only to hunt, reproduce and survive. The best the mantis can do is open doors and start or stop simple machines.

Skills are limited to the following, at fifth level proficiency. No bonuses unless indicated otherwise. Dance, detect ambush, identify plants & fruits, prowl (+10%), acrobatics, swim, wilderness survival (+20%), land navigation (+20%), first aid for insects, and can learn to understand two human languages (spoken). **Note:** Mantises rarely construct anything.

Value: Exoskeleton can be made into body armor. A full suit of plate body armor made from the heavy mantis exoskeleton; has 100 M.D.C., weighs about 50 pounds (22 kg), has poor mobility (-25% prowl penalty) and sells for about 24,000 credits. Large plates of insect exos-

keleton or the entire dead bug, sell to armorers at about 1000 credits per 50 pounds (18 kg). A single mantis has about 200 pounds of armor.

Habitat: Found just about anywhere, but prefer woodlands. Hide and sleep anywhere; above ground, on the ground, in subterranean places, etc.

Enemies: All life forms! Feeds on other living insects and other creatures. Will never eat dead or prepared meat.

Rifts[®] Space

By Kevin Siembieda

What lies beyond the blue skies of **Rifts** Earth remains a mystery for those bound on the planet. No known satellite, space shuttles, or probe has ever been able to penetrate the veil of the atmosphere and enter orbit. All attempts have met with failure.

The two most popular theories are: Pre-Rifts killer satellites, disguised or otherwise beyond normal means of detection, destroy anything that enters orbit. The other theory is a ring of debris, in counter-orbit, shreds any object that tries to pass through it.

Another theory growing in popularity is that a dimensional vortex envelops the planet and anything that enters orbit is sling-shot into another dimension. Some have gone so far as to speculate that the entire planet is contained in a dimensional envelope that enables the Earth to co-exist in several dimensions simultaneously. This allows dimensional travel in and out of the envelope, but prevents leaving the envelope by any means other than a rift.

Regardless of the reason why, those locked on the planet Earth have come to accept the fact that outer space, even the edge of orbit, is denied them and have abandoned the idea of space travel long ago. The last known attempt to breach Earth's atmosphere was a titanic effort waged by the Triax Corporation in which a battery of satellites, missiles, bots, and microscopic probes were launched and lost. That was 38 years ago. When Triax, the recognized leaders in advanced technologies failed, all others gave up. The Coalition's last attempt to enter space was 76 years ago. They too have forsaken space and took great delight in Triax's subsequent failure.

The Eruption of the Rifts

The basic events and space setting described in the **After the Bomb — Mutants in Orbit** section remains fundamentally unchanged, although there are some dramatic differences between it and the megaverse of **Rifts**.

In the world of **Rifts**, "The Flash" was not a massive nuclear exchange, but the coming of the rifts. Instead of missiles, the eruption of the ley lines sent bolts of mystic energy lashing into space, destroying satellites and ravaging the larger space stations. The rifts sent shock waves throughout the solar system, causing a cosmic disturbance. Solar flare activity increased a hundredfold and even Mars Base felt the tremors when the solar system shuddered.

What wasn't destroyed or damaged by the rocketing energy was bombarded by solar flares, radiation, and debris. The most vulnerable



were the dozen space stations and countless unmanned satellites locked in Earth's orbit. To compound the danger, secret military satellites interpreted the activity on the surface of Earth as war and responded, as programmed, by attacking military targets, both on the planet below and in space. One of these attacks led to the creation of a counter-orbit debris ring of tiny particles that still exists today. While a number of killer satellites did exist, most were destroyed in a matter of hours. Their shattered remains have combined with those of other destroyed satellites and platforms, adding to the debris ring that envelops the planet, as well as the zone known as the Graveyard. Yet through it all, four orbital space stations and moon base survived the holocaust, though the nightmare was not yet over.

From their distant vantage point, it was obvious that the Earth was tearing itself apart. Tidal waves, earthquakes, volcanic eruptions, massive storms, and the eruptions of blue energy tore across the planet; no place was left unscathed. Many believed these terrifying events to be the end of the world. 20% of the space colonists who had survived the onslaught in space committed suicide later that night. During the following six months, another 20% would die from injury or radiation poisoning and 10% from apathy — losing the will to live.

The initial frenzy to weather the storm of destruction and hold the space stations together lasted about a week. Afterward, deathly calm followed; a time to bury and mourn for the dead. Little was done by anybody. Apathy reigned and spirits withered. Suicide was a daily occurrence, while everybody else just waited for the end to come. The shock of losing one's homeworld, family and loved ones left them all too drained to consider a future.

Eventually, as the months passed, it became obvious that they had been spared the great destruction, and like Noah after the Biblical Flood, had to look toward rebuilding their world. One by one the stations came to life. First order of the day was to re-establish a sense of control and hope. Second, was to restore the stations and tend to the needy. Repairs and re-organization took nearly a year. All the stations pitched in to help one another creating a sense of international unity, and morale soared.

Probes sent to Earth showed a planet still in the throes of upheaval. Tremendous storms and earthquakes still rocked the land. Strange energy readings, radiation and scores of anomalies were noted everywhere. Even the space-time continuum seemed to be torn apart. The chance of survival on Earth was slim and none. Some elected to try and perished. Melancholy again took a stranglehold on the morale of the colonists. Finally, they came to grips with their situation. If Earth was denied them, so be it, their new life was to be among the stars.

Rifts: Space Stations

The year is A.D. 2387 (101 P.A. by the Coalition's calendar). Nearly 300 years have passed since the eruption of the Rifts (which took place on December 22 in the year 2098 A.D.). The size and prosperity of the orbital community have grown dramatically, but the early unity between the various space colonies has long since vanished. Although they do trade and communicate with each other, and a number of pacts and alliances exist, there is growing discord, great rivalry, fear and even hatred among the occupants in the Zone.

Each of the five space colonies are considered a separate nation. There is the North American Union (America & Canada) at **Freedom Station**, the New Russian Commonwealth of the **Laika Station**, the European Conglomerate of **Yuro Station**, the Nihilist Metas of the

Outcast Station, and the powerful CAN Republic on the moon (originally a multinational cooperative lead by the Americans and since taken over by the American based Cyberworks Aerospace Network).

General modifications to the After the Bomb Space Station descriptions

- Increase the size and population of the various space stations by three (3) times, unless otherwise noted.
- Double the number of available spacecraft.
- In **Rifts**, the population, though mutant, is largely human. Unless otherwise noted, the number of mutant animals is generally 20%, or less, of the overall population.
- 33% of the humans will possess some degree of psionic powers; see the Random Human Mutation Table.
- 33% of the humans will possess unexplained, mutant, superabilities; see the Random Human Mutation Table.
- 10% to 20% will, generally, have some degree of cybernetic improvements, unless otherwise stated.
- 40% of the mutant animals will possess animal psionics (as described in the RPGs **Heroes Unlimited** or **TMNT**).
- 20% of the mutant animals possess unexplained, mutant, superabilities; see the Random Animal Mutation Table.
- The level of technology is generally equal to the Coalition States unless otherwise stated. Only the moon colony is more advanced than the CS and Triax, by about 50 years.
- The large colonies, except the Outcasts, are participants in the containment of the planet Earth and the immediate destruction of aliens and monsters. The Outcast station is one of the few havens for Earthlings and aliens alike.
- Most general **After the Bomb** information and history about the space stations pertains to the **Rifts** environment.

Rifts: Freedom Station

Freedom Station is one of the richest, boldest, and independent of the orbital stations. As described in the **After the Bomb** section, this station is a democracy that generally welcomes and associates with freebooters and other independents. This strong relationship with outsiders and free agents (and some say pirates) makes the other space stations suspicious of their activities and motives. The Freedom Station is also viewed with envy and dislike by the Outcasts and Yuro Station (but these guys don't like anybody), and with some measure of fear and suspicion by Laika and the CAN Republic (moon colony).

The KLS Corporation

The real trouble at Freedom Station lays with the unscrupulous KLS Corporation. This company controls 35% of the Freedom Station's manufacturing and economy, as well as 75% of the defense and weapon systems. The KLS Corp's claim to fame is the creation of the Glitter Boy power armor, but it is also involved in designing and manufacturing all types of weapon systems, computers, electronics and bionic mechanisms.

Back before the days of the rifts, the KLS Corp was the Cyberworks Network's number one competitor, with both holding major military and aerospace contracts with the American government and on the leading edge of technology. Their legendary rivalry continues in space and has grown to dangerous proportions. The KLS Corp has always been run as a predatory business, caring more about profit and power than people and ideals. Its tactics in business are cutthroat and merciless, often, literally, stomping the competition. Two families control and lead KLS, the Longven family and the Sims family. Most of both

families members are egocentric, cruel, ruthless, and power hungry. Perhaps because of their ruthlessness, the KLS Corporation has always existed in the shadow of the more liberal, creative and ethical Cyberworks. A history that has driven the KLS board of directors and controlling family members to the brink of madness. Most of its corporate leaders (dominated by the two families) are obsessed with beating the Cyberworks Network.

At this point, beating Cyberworks means crushing the CAN Republic and taking over the moon. To this end they are continually spreading propaganda against the CAN Republic and have been successful in stirring public sentiment against the Republic within the Zone community, and especially on Freedom Station. The thrust of this smear campaign is the CAN Republic's lack of participation within the orbital community, their isolationist and elitist attitudes, and their dominance of the moon. The control of the moon and its resources are a growing issue. KLS Corp's goal is to incite the other stations to unite against the moon people crippling the CAN Republic, even to the point of war. KLS has increased production of the GB Mark V and other military paraphernalia in anticipation of a war for the moon.

Surprisingly, the two families that control KLS get along famously and think of themselves as one big family. Equally surprising is the fact that the United North American government, basically a well meaning democracy that supports individual freedoms and peace, does not realize what KLS is up to and is playing right into their hands, eating up the propaganda against the CAN Republic. Anti-moon sentiments and hostility are strong and growing among the population of the Union and within the government.

Note: The KLS corporation itself and many of its corporate leaders can be considered to be of aberrant alignment. They have their own twisted code of ethics and morality. For example they are loyal and quite patriotic to the North American Union and will never attempt to usurp control of the government as the Cyberworks Aerospace Network did, nor will they disobey important laws and government decisions. However, they feel that it is okay to manipulate the government and to lie, cheat, and ignore certain laws. Likewise, KLS would never maliciously hurt the citizens of Freedom Station, but inciting a war that will help the corporation, and ultimately, the people, is an entirely different and acceptable situation.

Freedom Station: Rifts modifications to the After the Bomb descriptions.

- All speak American/English. 50% also speak Euro and Techno-can.
- The Freedom Station of Rifts orbit is six times larger. The community is 65% human, 15% mutant dogs, and 20% other. Of the human population, 30% are psychic, 25% have random super abilities, and 20% are enhanced with bioware (cyber rats), 5% are partial reconstruction borgs, 2% are full conversion borgs (via trade with Yuro) and the rest are normal. Most nonprofessionals are considered city rats or vagabond workers.
- Common O.C.C.s: City rats, Glitter Boy pilots, scientist, scholars (None are considered rogues), operators, space wilderness scouts (freebooters and independents), psychics/mind melters, and vagabonds. Other, less common O.C.C.s include body fixer, headhunter, burster, and borg. Juicers or Crazies on the station are freebooters, not citizens. Magic is NOT known.
- Freedom Station is capable of full cybernetic implants and partial bionic reconstruction (the latter is costly and rarely performed).
- Freedom Station is the home of the KLS Corporation, the designer and manufacturer of the original Glitter Boy. The Freedom Station has a full Glitter Boy manufacturing facility and has developed two new models. One is the slightly larger and stronger Glitter Boy Mark IV, which looks very much like the original GB design. The new Glitter Boy Mark V is specifically designed for space combat, with greater maneuverability, speed and firepower (complete stats are presented in the equipment and robot section).

The old-style GBs are being sold to freebooters, independents, and occasionally, pirates and other space stations, with increasing frequency, but only Freedom Station has the GB Mark V. **Note:** Even with increased sales, not more than two old-style GBs are sold a month.

- The current Glitter Boy army at Freedom Station consists of 3000 GB Mark IVs and 1250 GB Mark Vs; full production of the Mark V continues, producing 2D4 × 10 monthly.
- Rivalry and hatred between Freedom Station in general (KLS Corp. in particular) and with the moon colony is ever growing. They view the moon colony with contempt and have become increasingly outspoken about the rights of other nations being able to colonize the moon. Most of the independents share Freedom's opinion and will join with them against the CAN Republic. Already, most boycott trading with the moon people and many small skirmishes have erupted on the moon's surface between Freedom Station supplied independent squatters, freebooters and pirates. Even Laika and the Outcasts are *considering* joining forces with Freedom Station against the CAN Republic. War seems inevitable.

Note: The KLS Corp has been secretly supplying freebooters and pirates with weapons and resources for the express purpose of instigating conflicts on the moon and in the asteroid belt against the CAN Republic.

Rifts: Laika Station

The New Russian Commonwealth of Laika Station is the most peaceful and unassuming of all the stations. Although organized under military order, they live by an isolationist policy and hope for a return of the international unity of the early era. Unfortunately, that is not possible, so they keep to themselves and quietly trade with their orbiting comrades.

The strength of Laika is its massive manufacturing facilities in regard to refining and processing metal ores, ice/water, and building spacecraft. The time needed to build a medium size shuttle is two months, small vessels, 1D4 weeks. They are also masters at repairing spacecraft and manufacturing building materials, particularly large items for space stations. Their weakness is a lack of sufficient power and occasional shortages of food, raw materials and ice/water. This has forced them to trade with moon base for energy and raw materials, in exchange for spaceships, on a regular basis.

Unlike the other stations, the Russians have no quarrel with their moon allies and believe the entire matter has been exploited by self-serving parties (they have never liked nor trusted the KLS Corp). Remember, the Russians are xenophobic and don't trust non-humans or independents. Another reason to side with the more genetically pure, fellow isolationists on the moon. The Russians will try to be the voice of reason and negotiate for discussion and compromise (after all, in their opinion, the CAN Republic is unnecessarily rude and condescending, and too overzealous about their control of the entire moon). However, they will usually back down to adamant opposition, threats and force. But when their back is to the wall they will fight like demons till the end.

Laika Station: Rifts modifications to the After the Bomb descriptions.

- All speak Russian and Euro. 50% also speak American/English and Techno-can.
- The Laika Station of Rifts orbit is three times larger. The community is 90% human and 10% mutant animals. Of the human population, 33% are psychic, 33% have random super abilities, and 20% are enhanced with bioware. Most nonprofessionals are considered vagabond workers or city rats.
- Common O.C.C.s: Operators, city rats, scientists, scholars (neither are considered rogues), soldiers and military workers (roughly equivalent to the CS military O.C.C.s), psychics/mind melters, and

vagabonds. Other less common O.C.C.s include Glitter Boy, headhunter, borg, burster, and body fixer. Juicers and Crazies are not very common on the station, though there are a few thanks to Yuro station. Magic is NOT known.

- Laika Station has only basic cybernetic and medical facilities and trades with Yuro for cybernetics, bionics and medical items and services.
- Three dozen old-style Glitter Boys are included in their defense force.
- Suspicion and fear about Freedom Station is perpetuated by the moon colony, which has an uneasy alliance and regular trade with Laika. If war erupts, the New Russian Commonwealth will try to stay neutral, but if pushed, it may feel obligated to side with the moon colony, which supplies much of their ore, as well as supplemental food and energy.

Furthermore, the Russians are likely to feel that the CAN Republic is the victim of unwarranted aggression, and side with them on the grounds of moral righteousness. They will be further pushed to side with the moon if Yuro Station uses non-mutant outcasts and desperate freebooters to create an army of savage juicers, crazies, borgs, and mutant animals. The inclusion of the Nihilist Metas among the allies against the moon will also play a part in the Russian's decision.

Rifts: Yuro Station

The European Conglomerate controls the Yuro Station colony. Like its **After the Bomb** counterpart, it is a nation divided, only the divisions are more extreme and the various factions more powerful. The only thing they agree on is that the CAN Republic should be destroyed and the moon divided between the rest of the four nations. The Germans, British and French are all secretly preparing for war, but it will be years before they are anywhere near ready for launching an armed assault against anybody. Uniting with the other space nations could dramatically reduce that time.

The advantage that the European Conglomerate has is its advanced medical and science facilities. The Yuro Station could easily serve as a giant hospital during war. They also have a reasonably large fleet that could be converted into assault vessels. They also possess the technology for creating juicers, crazies and borgs. The problem is that while they could create an army of augmented beings, they lack body armor and adequate transport for their troops. The Germans are trying to remedy this by developing full environmental hard suits (body armor), power armor, and better weapons. They have also begun work on developing robots.

A problem with regard to the forms of human augmentation available is that the transformation has negative and permanent side effects. The French and Italians have suggested that creating an army of augmented freebooters and Outcasts (both seen as having little human value) might be an acceptable alternative; noting that the majority are likely to perish in combat. The French are also experimenting on augmenting intelligent mutant animals as possible shock troops.

Advanced Juicers: Live twice as long (three times longer in zero gravity), without suffering from decompression sickness nor the muscle atrophy and molecular alteration from prolonged exposure to zero gravity. However, reduce the juicer's speed and reflex bonuses by half.

Note: Juicer augmentation was once considered a remedy to the effects of zero gravity, but proved to be too dangerous. Still, there are a number of people, particularly those involved in space operations away from the space station and fanatical professionals who want the heightened awareness and energy of a juicer, who are willing to submit themselves to juicer (and crazies) augmentation. Eleven percent of the Yuro population are juicers and an additional 4% are crazies. The two augmentations are infrequently offered to non-Yuros, but when they are, they are not cheap.

Advanced Crazies: Reduce heightened reflex, P.P., and senses bonuses by half, but still keeps the additional melee attack. Physical strength and S.D.C. bonuses are also reduced by half (1D4 instead of 2D4). But the improved crazy is impervious to psionic mental attacks (including empathy, telepathy and even bio-manipulation), mind altering drugs, and magic illusions.

Juicer and Crazies Mutant Animals: There are approximately 300 experimental mutant animal juicers and 96 crazies. Experimental animals are used as a first line defense/army by the Yuro Station.

The mutant animal juicer retains all of its animal senses, teeth, claws, instincts, and abilities, as well as gains the normal juicer abilities and side effects. The only difference is that the animal subjects of juicer experiments become more animalistic and aggressive. **Note:** Reduce the character's I.Q. by 20% — maximum I.Q. is 12, reduce M.A. by 30% — maximum M.A. is 10, and full human looks are impossible (transform animals with full human looks into partial human/animal looks; i.e.: the dog boy's canine appearance in a humanoid body).

Mutant animal crazies are less numerous than juicers and most are under observation by the French. Animal crazies develop psionic abilities (select three animal psionic powers or four physical or sensitive human psionic powers) and all are sensitive to the supernatural identical to the dog pack O.C.C., but mutant dogs are the most sensitive (double range of supernatural sensitivity). Like the animal juicers, these animals are incredibly aggressive, savage and animalistic. Some seem to rely on instinct alone and must be tranquilized when not in combat to keep them calm and under control. Older animals that have been crazies for ten or more years frequently develop a taste for blood and 40% become cannibals. **Note:** Reduce the character's I.Q. by 25% — maximum I.Q. is 9, reduce M.A. by 30% — maximum M.A. is 9, but full human looks are possible. Reduce the animal crazies' bonus to save vs psionic attack by half.

Yuro Station: Rifts modifications to the After the Bomb descriptions.

- All speak Euro and their native tongue. 70% also speak American/English and Techno-can.
- The Yuro Station of Rifts orbit is three times larger than the **After the Bomb** version. The community is 85% human and 15% other, mostly mutant animals. Of the human population, 33% are psychic, 20% have random super abilities, 22% are juicers, 10% crazies and 10% are partially reconstructed borgs and 5% are full conversion borgs. Many of the citizens are also enhanced by bioware (minor cybernetic implants). Most nonprofessionals are considered city rats or vagabond workers.
- The Yuro station of **Rifts** has means of maintaining orbit other than its giant solar sail, nor is it entirely dependent on the solar power it supplies. The station has six fission power plants located in each of the national wings, with the exception of Sweden, who shares emergency power with Denmark, and Italy, who were the strongest proponents for solar power as an exclusive means of providing energy. Even without the nuclear power planets, the solar energy stored enables the entire station to function at 96% capacity for up to 1D6+6 months, or nearly three years at minimum levels of energy consumption.
- Common O.C.C.s: City rats, cyber-docs, scientists, scholars (neither are considered rogues), juicers, crazies, operators, mutant mind melters/psychics, vagabonds, and borgs. Other less common O.C.C.s include headhunter, burster, and wilderness space scout. Magic is NOT known.
- Yuro has full cybernetic and bionic capabilities, as well as advanced juicer and M.O.M. conversion technology. Many of the mutant animals are subjected to new M.O.M. and juicer experimentation.
- Rivalry, envy, and hatred exists toward the moon colony and Freedom Station. They view the moon colonists as arrogant, selfish, imperialistic, and isolationists. But mainly they have something

Yuro wants, the moon and all its resources. They, even more so than Freedom Station, are filled with contempt toward the moon people and have become increasingly outspoken about the rights of other nations to tap moon resources and colonize the satellite. Unfortunately, they can not stop squabbling long enough amongst themselves to take any kind of action. Conflict seems inevitable, both with the moon people and from within.

- **The Divisions of Power:**

The German wing has become the most hostile, secretive, and independent of the Yuro nations. They are the inventors of the Juicer system of enhancement, but have moved on to develop experimental high-tech arms and armor, including heavy rail guns, a particle beam rifle, smart missiles, and a suit of power armor. They are presently working on developing robots and have acquired two suits of old-style Glitter Boys. None of these weapons are being made known nor available to the rest of the Yuro nations.

The Scandinavians are mainly involved with medicine, including cryogenics, cybernetics and bionics. They prefer an unaggressive, isolationist position, although they resent the moon colony and do control the formidable science of bionic augmentation (which they share too freely with their fellow nations in the Yuro community).

The French developed and control the M.O.M. conversion and continue to experiment with the human mind and do research in psychic phenomena. They are also involved with computers, micro-circuitry, and nano-technology. The French wing currently handles much of the diplomatic and economic negotiations for the station and controls the space fleet. They have made secret arrangements with freebooters to acquire three armed, mid-sized transports, a killer satellite, and a Glitter Boy. Like the Germans, they are becoming more withdrawn from the rest of the community and believe that one government should direct the entire station, that governing body headed by the French (after all, they practically run Yuro Station now; or so they believe).

The Italians and British dominate the solar energy/power aspect of the space station, as well as computers and the production and sale of such items. It is their control over the solar sail and excess solar energy that gives them great clout within the community.

The British wing is also rumored to have begun dealings with the Outcast Station and some say freebooters and pirates, but nobody can prove it. They have secretly acquired a mint condition CAN Republic Mikado robot vehicle captured by pirates raiding the moon colony. They have great suspicions about the Germans and are preparing themselves for trouble.

Spain concentrates on hydroponics, satellites and communications. In many respects they are the eyes and heart of the Yuro community. At present they are on very favorable terms with the British and Scandinavian wings.

All the wings have shared their technology with the others in the past, but are becoming increasingly hesitant to do so. Secrecy and apprehension are becoming prevalent within the community. If it continues, internal unrest could turn into armed conflict and tear the Yuro station apart from within.

Rifts:[®] Outcast Station

The Nihilist Metas are still the most impoverished, unwanted, and frightening collection of mutants and refugees in the Zone. They sell their services mostly as, and to, freebooters. The space station remains a haven for individuals, rebels, political outcasts, the deformed, inhuman, and extraterrestrial. Although a place of near total anarchy, filled with cutthroats and embittered mutants it is a place where everyone is accepted, has value (even if it's the value of his boots), and is allowed

to visit or stay. This includes occasional visitors from dimensional rifts and could be a good starting off place for **Rifts** Earth characters who have made it into orbit via magic or dimensional travel.

The Outcasts dislike everybody, generally because they are treated like monsters or garbage by the rest of the inhabitants in the Zone. The CAN Republic has treated the Nihilist Metas especially badly, refusing to trade, and treating them with disgust and disdain. There is further resentment toward the "loonies," lunar colonists, because they are physically attractive, rich, and arrogant. The Nihilist Metas will agree to join in battle against the CAN Republic in a heartbeat, although the loose government will not force its citizens to participate; volunteers only. The chance for a good rumble with the loonies will garner a strong response among the Outcasts.

The one true resource the mutants of Outcast Station have to offer is their superhuman powers. Over 90% of this nation's population possess some sort of extraordinary power or ability. Education and skills are terrible, illiteracy pervasive, and O.C.C.s limited.

Outcast Station: Rifts modifications to the After the Bomb descriptions.

- Most speak American/English or Euro. Other languages include Techno-can, Spanish, and Gobblely.
- The Outcast Station of Rifts orbit is three times larger. The community is 60% mutant humans, 20% mutant animals, 10% are non-mutants, but social outcasts like juicers, crazies, and borgs, 10% are others (the outcasts accept anybody who is ugly, strange, or alone, including aliens and supernatural creatures from the rifts).
- Of the human population, 33% are psychic, 33% have random super abilities, and 33% are hideously deformed, mutant geniuses (half of which are insane). 20% of the overall population are enhanced with bioware. Most are considered vagabonds, city rats, and headhunters.
- Common O.C.C.s: Vagabonds, city rats, psychics/mind melters, bursters, and wilderness space scouts. Other less common O.C.C.s include the headhunter, borg, operator, scientist, scholar, soldiers, and body fixer. Magic is NOT generally known.
- Outcast Station has only a few crude manufacturing facilities and repair shops, a second-rate hydroponics farm, and a horrible hospital. They rely heavily on trade with, and the kindness of, freebooters, as well as piracy. Their only semi-ally is the Freedom Station.
- One old-style Glitter Boy and two mysterious robot vehicles are included in their national defense force. The two strange bot vehicles can be any of the more powerful robot vehicles from **Rifts** or destroids.
- A few supernatural creatures and an occasional D-Bee are among the inhabitants of the Outcasts (GM's choice). Creatures that use magic are seen as creatures with super abilities, not magic. These beings have arrived in space via dimensional rifts.
- Suspicion and fear about Outcast Station is perpetuated by the moon colony and Yuro Station. Laika avoids contact with them, Freedom Station doesn't believe the hype but is wary of them and keeps contact to a minimum, as does Yuro Station.
- The Outcasts are the only large space colony that do not participate in the confinement of Earth.

Rifts:[®] The Graveyard

- The rumors about the infamous Graveyard being haunted and inhabited by monsters is true in **Rifts**, as well as containing active killer satellites. A variety of entities have been attracted to the strong emotions and deaths of the Graveyard's victims. Likewise, the occasional alien visitor and supernatural menace takes refuge among the debris.

- Desperate space pirates, criminals on the run, and foolhardy freebooters will also hide among the dead bodies of ancient spacecraft or scavenge for items of value.
- The location of the graveyard is a ley line nexus, allowing things to rift in on a regular basis. Cyberworks and Yuro realize this and have launched a number of killer satellites into this dead zone to destroy anything they encounter, adding to the deadliness of the area.

Rifts: Independents

The number of independents is greatly increased in the **Rifts** setting. Some also own and operate large companies and settlements with as many as 1D4 × 100 + 100 workers or citizens. None are considered a nation nor a power to be reckoned with. Still, united they can be a powerful force. Only the North American Union seems to realize this and have long and friendly diplomatic and trade relations with hundreds of independents. In fact, at any given time there will be a transient population of independent people equal to 10% of Freedom Station's permanent population.

Independents: Rifts modifications to the After the Bomb descriptions.

- Quadruple the number of independent companies, scavengers, miners and freebooters in the zone and in the asteroid belt.
- Also quadruple the sizes of the largest and most successful independent businesses and outposts, but the Belt Way Station is unchanged (a small business).
- Double the number of pirate freebooters and scoundrels.
- Rifts freebooters and independents are a bit more self-sufficient, capable and equipped than **After the Bomb** mutants, but they are still, generally, comprised of vagabonds and poor.

The Containment of Earth

Centuries ago, the inhabitants of the space colonies realized that their homeworld had become a threat to them. The Earth had been transformed into an alien world. Horrific beings that one can only call monsters fight for domination of the planet, as do mutants, aliens, and the last vestiges of the human race. Worse yet, the Earth has seemed to become a dimensional doorway to alien worlds and dimensions. New menaces and monsters are regularly unleashed into the world by this means. Thus, to preserve their own fragile existence, the space nations agreed to contain Earth as best they could.

To achieve this, the counter-orbit debris ring is constantly maintained. 90 percent of anything that enters the area of affect is destroyed. As further safeguards, scores of killer satellites have been launched into orbit. These satellites destroy anything they do not recognize. Some destroy anything that comes within a particular area or range. A quarter of these satellites are disguised as chunks of debris or meteors.

Finally, all, except the Nihilist Metas, contribute time, money, and resources to this project and are quite active in its maintenance. The CAN Republic and New Russian Commonwealth are particularly involved, voluntarily contributing more than the others. A formal pact outlines all of their responsibilities, which includes armed patrols to dispatch hostile entities. To this function, the CAN Republic has dozens of ships, satellites and robots on patrol. When an alien vessel or being is discovered, they immediately attack, with hopes to destroy them or force a hasty retreat (extermination is preferred). Except for dimensional

travelers, nothing has been able to slip through the containment network in centuries. **Note:** The enemy includes anything alien, monstrous, and supernatural, including vehicles, missiles, satellites, bots, and people from the Coalition States and Triax, and even humans originating from Earth.

Rifts: Moon Colony

The CAN Republic (Cyberworks Aerospace Network)

The Mare Imbrium colony in the **Rifts** world is a very different place than the one in the **After the Bomb** universe. It is a giant, sprawling, underground metropolis that houses nearly 100,000 inhabitants and is the home of the *Cyberworks Aerospace Network*. The level of technology is unsurpassed by any in the Zone or on Earth and the efficiency of the colony is unbelievable. This is due largely to the installation of the super computer A.R.C.H.I.E. Seven and the organization and technology of the Cyberworks Aerospace Network (CAN).

The Cyberworks Network was one of the very first commercial businesses to join the space race. Their entry into the program was made easier with their vast wealth and connections to the United States' military. While others were establishing orbital satellite stations, Cyberworks went straight to the moon. The company's goal, to establish a totally self-sufficient, research and robot manufacturing facility. Here they could install the, then experimental, A.R.C.H.I.E. Four artificial intelligence and put it through its paces. To move things along quicker, Cyberworks agreed to become a USA sponsored participant in a multinational moon colonization effort. The other countries involved included Mexico, Brazil, Canada, Australia, Belgium and Russia.

When the ley lines erupted, the moon was bombarded by solar storms and radiation. The moon shuddered and quaked, but the subterranean colony survived, with fewer than 5% casualties and most of those involved people on the moon's surface when the holocaust struck. The half dozen lunar mining stations and observation outposts on the surface was all that were severely damaged. And even when the A.R.C.H.I.E. Four system fell, they had sufficient back-up measures to prevent serious mishap.

Consequently, the moon colony was the first to recover and was instrumental in helping the orbital space stations to do the same. Being the least damaged, best equipped and most populated of the stations gave the moon colony a distinct advantage. Mining the moon and manufacturing became an essential part of the reconstruction of life in orbit. As the decades passed, the moon colony continued to grow and the Cyberworks Aerospace Network with it. It was CAN who provided much of the manufacturing and organizational skills that kept the colony operating smoothly.

With time, the people of the colony lost their individual national identity and became the first of the space stations to claim independence as a separate nation. The Cyberworks Aerospace Network had become so much more than a commercial company and had become such an important part of the people's daily lives that they elected to name their nation the CAN Republic.

The declaration of independent nations swept the Zone, with other stations declaring themselves separate and distinct orbital nations. The action bolstered morale and helped to give the people a sense of purpose

and destiny. And so, for the next hundred years, life in space was happy and peaceful. It was only after the growing orbital community began to expand did rivalry between stations and national identities begin to clash.

The first hint of trouble started with the CAN Republic's declaration that the entire moon was its territory and its sole property. Settlement of the moon became off limits and, for a brief decade, off limits as a mineral resource to the other orbital nations. A new CAN Republic administration corrected this tumultuous policy when it passed a resolution designating a small portion of the moon, on the far side, and a great distance away from the moon colony, as a neutral territory that all nations and the ever increasing number of independents could mine for its natural resources. The only condition was that no permanent settlements of any kind be established. Nor could people settle any portion of the surface.

At first, this quieted most complaints, but, again as the decades have passed, this inequity between the moon and the orbital nations has become a monumental issue of consternation. The matter is compounded by the vast number of independent families/squatters, miners, and businesses who keep trying to settle their own little piece of the moon. Over the last fifty years, the schism between the moon nation and the rest of the orbital community has widened dramatically.

Cyberworks & Bots

The CAN Republic is a government that grew out of the old Cyberworks Aerospace Network. Virtually all of the existing technology is the product of Cyberworks. As a nation, the CAN Republic is a democracy with elected representatives and all the freedoms usually attributed to a democracy. Being an American based company, much of the government and social values have their roots in the American way of life. Likewise, everybody speaks American (English). The entire colony is self sufficient, with complete processing, manufacturing, health, medical, farming, and distribution facilities, among others. Everything from the distribution of energy to productivity is controlled by A.R.C.H.I.E. Seven.

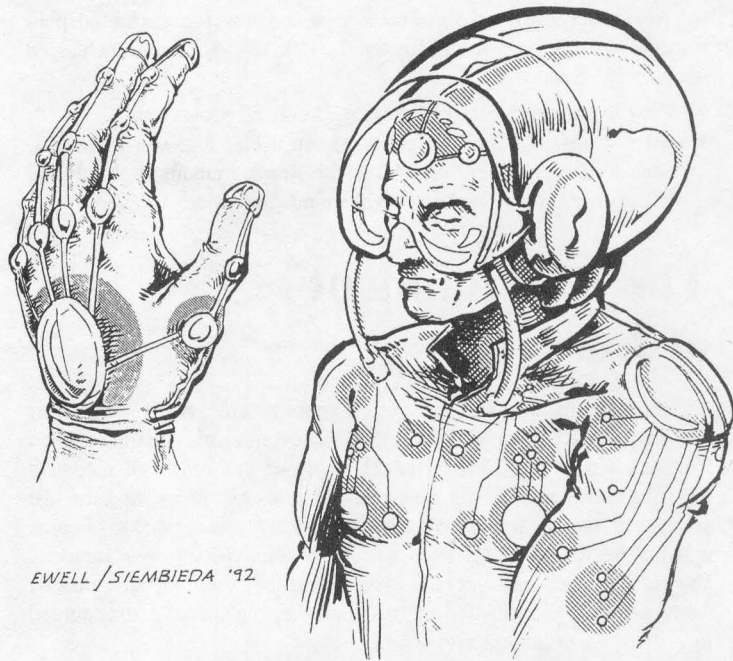
A.R.C.H.I.E. Seven is a more sophisticated version of Archie Three, although it is completely machine; an artificial intelligence, a super-computer (not a living entity) that completely dominates and controls every aspect of the CAN Republic. Remember, the A.R.C.H.I.E. system (Artificial, Robot, Cerebellum, Housing, Intellect, Experiment) design is based on the workings of a human brain. Its design parameters are to function as the brain of a gigantic environmental complex that it sees as its physical body. Like a real human body, the computer brain controls and operates every aspect of its body. Thus, the super-computer controls and maintains all the "bodily" functions of the massive moon complex and the secondary bases and outposts on the moon's surface (seen as its appendages). Life support, air manufacturing, purification and circulation, temperature regulation, lighting, energy control and distribution, sewage, manufacturing, production, communications, defense, and more, are all managed quickly and efficiently by A.R.C.H.I.E. Seven. The people within its body are seen as vital biological systems which it is designed to protect. But they too are part of its body and double as bacteria fighting antibodies who will join in the defense of the body to fight intruders. **Note:** There are several back-up and emergency systems in place should A.R.C.H.I.E. Seven fail. These back-up measures do require human supervisors, who have had little experience and will reduce the nation's efficiency by 28%.

Unlike Archie Three, the A.R.C.H.I.E. Seven intelligence is a complete artificial intelligence, devoid of emotion, but is capable of analyzing data in a subjective way and can act on subjective logic: hunches and speculation. This is particularly important in devising strategies and tactics against an enemy. Like Archie Three, the super-computer is the size of a bread box and is hidden in a fortified and heavily defended, underground bunker.

The computer has complete freedom to make any reasonable adjustments within its body or in defense of the biological systems within its body, without outside authorization. A.R.C.H.I.E. Seven answers only to a tiny handful of corporate and government superiors, including the President, Vice President, Chief of Defense, and CAN Systems Coordinator and CAN Chairman of the Board. Only these five have the power to give the artificial intelligence direct commands which it is compelled to obey. Commands that endanger the body activate a delay and confirmation program, requiring at least three of the five to approve and authorize the command. Likewise, only these five have the knowledge to override the super-computer and place the colony on manual operation. **Note:** Remember, A.R.C.H.I.E. Seven's prime directive is the protection, survival and maintenance of the entire body of the CAN Republic and the people within it.

Virtual Reality Robot Defense System (VRRDS)

The main defense of the CAN Republic is Cyberworks' revolutionary Virtual Reality Robot Defense System (VRRDS), also known as "Verds." This ingenious melding of virtual reality with robots is similar to concepts first under development in the early 1990's of pre-rifts Earth. Its research and development for military and space exploration was one of the Cyberworks Aerospace Network's missions and one of the reasons for the massive robotics factory, and research and development laboratories originally built on the moon. It has been only forty years ago that the Verds system was perfected.



The *Virtual Reality Robot Defense System (VRRDS)* enables a human pilot to control and direct a robot counterpart without being inside of it or using conventional remote control. The human operator pilots the robot by donning a Verds control suit. The lightweight combat suit is an exoskeleton composed of thousands of micro-circuits and electrodes. Every portion of the human body is covered; gloves cover the hands, a helmet, the head; the legs, arm, neck and torso are all sheathed in the elaborate electrode suit. Once the suit is engaged, the robot and operator are linked.

The robot functions much like a marionette in that its every action is controlled by the pilot. Through the eyes and sensors of the bot, the pilot sees, hears and experiences everything the robot experiences. The virtual reality helmet and suit creates an artificial environment that seems completely real. In this way, the pilot is effectively transformed into a robot warrior, while he is actually nestled safely away in a fortified bunker hundreds or even thousands of miles away. He can see

and feel everything through virtual reality. His "image self," which controls the robot, responds to the environment with enhanced speed, strength and power. The pilot reacts as he would as if he was the robot and was actually there, living the experiences of his surrogate body.

The need for physical controls, verbal commands and the reaction time required to work those controls is eliminated. If the operator/robot must leap out the way, or fire eye beams, it happens as quickly as the operator thinks it.

The robot responds to every movement of the operator's virtual reality image self; movements supplemented by the robot's mechanical prowess and weapons.

Two of the great advantages of the VRRDS is that, one, no human life is put in danger, and, two, the robot is controlled by a human brain. The robot exhibits the subjective decision making power and intuition of a human being, because it is a human guiding its every move. Operator orientation is accentuated by giving the robots human looking bodies and equipping them with hand-held weapons as if they were a human soldier garbed in battle armor and armed with field weapons. Thus, the number of internal weapon systems, such as shoulder-mounted weapons, belly guns, etc., are kept to a minimum.

Range of operation for the remote controlled robots is most effective under 1000 miles (1600 km — half that in an atmosphere), preventing any delay in the transmission of operating signals or hesitation in the movement of the robot. Satellites can be utilized to bounce and relay communication signals, extending the range thousands of miles, but there is a one second delay for each additional thousand miles (1600 km), causing the robot to respond more slowly and in a herky-jerky motion. Furthermore, the defense of the satellite becomes a dangerous issue. If the satellite(s) are destroyed, the link to the robots are severed, cutting them off from their human operators.

As a safety feature, the robots are programmed with a fundamental combat drone program, but are severely limited in their combat capabilities: Three attacks per melee, no initiative, bonuses are half, and they have no subjective reasoning or elaborate battle tactics (typically programmed with the General Military Program and W.P. program as described on page 97 of the **Rifts Sourcebook: One**). They can also be programmed to retreat if the VRRDS link is lost, or programmed to follow a human commander.

Finding and killing the VRRDS operator will also send the robots into combat drone mode, but only operators away from the moon, operating from a surface outpost or command vessel, are at risk. Those located at various locations in the CAN Republic are secured safely in bunkers underground, deep within the city complex. Even if the enemy breaks into the underground complex, the VRRDS defense bunkers would be the last to fall.

To confuse and frustrate the enemy, Cyberworks has created two sets of robot warriors, the Verds model, which are completely automated, and identical looking robot vehicles or power armor with a pilot inside. As a result, the enemy doesn't know whether he is fighting the Verds marionettes or a fellow living being inside a robot. It also makes production of the robots much faster and easier because of the similar construction and same body design and parts.

Note: A Verds operator can pilot only one robot at a time.

The Dangers of VRRDS

There are some psychological repercussions from using the Verds which may create **Verds Junkies**. The virtual reality system distorts reality and occasionally causes two common mental traumas.

The first is called Verds rush. The Verds operator experiences the same adrenal rush and emotional excitement from his Verds experiences as if he was physically present. The fact that his Verds robot extension

effectively instills his image self with superhuman power only adds to the "rush." Limited exposure to Verds, drug therapy and psychiatric counselling can reduce the effects, but it occurs in some subjects.

In the worst cases of Verds Rush, the operator becomes an "adventure junkie," hooked on thrills. The victims of Verds Rush crave action and adventure regardless of the consequences. If allowed to do so, junkies will spend most of their waking hours in virtual reality and request the most dangerous assignments. If Verds is denied, the adventure junkie will seek his thrills elsewhere, usually putting himself and/or those around him in danger. These activities can include dangerous sports, death-defying feats, brawls and duels (increased aggression), and needless risk taking. Inevitably, an adventure junkie will either commit suicide in a spectacular, sometimes heroic, way, or leave the CAN Republic in search of real adventures in space. Often these thrill seekers (66%) will submit to juicer or crazies augmentation to simulate and maintain the old Verds high and to give them some of the super-power associated with their image self. **Note:** An alarming 15% of all Verds operators will become adventure junkies, sometimes with minimal exposure.

The other malady caused by the virtual reality system is Verds schizophrenia. Victims are commonly called "Verds Schizoids" or simply "schizoids." Fortunately, this extreme mental trauma is much less common than the adventure junky, with fewer than 4% becoming schizoids.

The Verds schizoid, like the adventure junkie, is hooked on excitement and adventure, but also suffers from delusions and can not distinguish between reality and fantasy. The schizoid will typically hear voices encouraging dangerous action and will slip from one reality into another, reliving past Verds experiences. In the last decade, four mass shootings and one serial killer have been attributed to Verds Schizophrenia. Of course, drugs can be used to control and pacify the schizoids, but they remain a walking time bomb that could explode at any time.

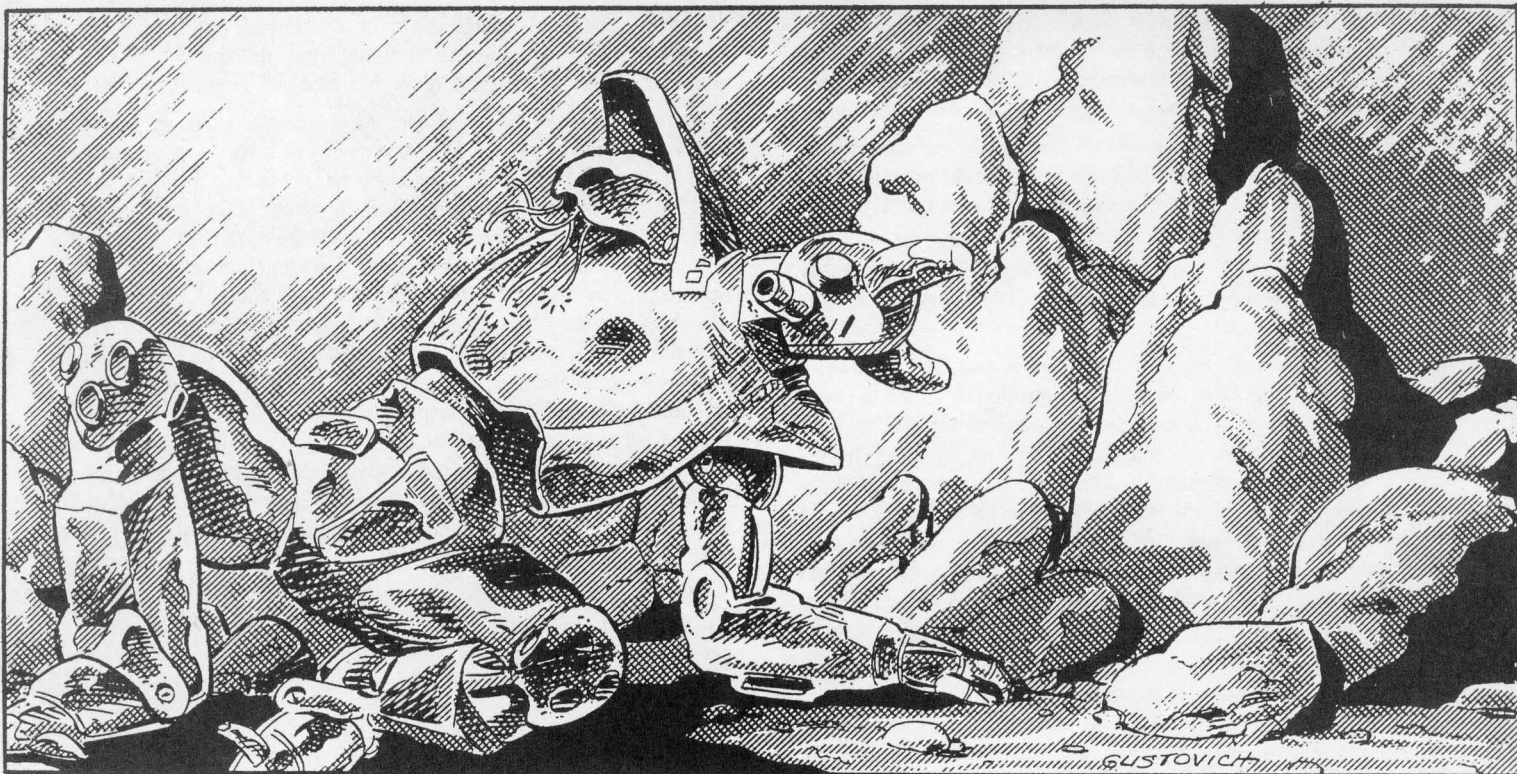
Note: Verds adventure junkies have the following symptoms and bonuses. Manic depression: Quiet, grumpy, lethargic, listless and depressed when not active, but instantly energetic, excited, alert and happy (manic) when involved in action; the more dangerous the better. When manic, the individual is hyper, charismatic, daring, very alert and requires a third of the time to rest or sleep and still functions at high levels of efficiency.

The same symptoms are common to Verds Schizoids, except they hear voices when they are depressed, urging them to initiate some sort of action, usually aggressive action against somebody. They also slip into different realities, especially when excited, and may see an ordinary person (people) as an old enemy or monster or robot; typically responding with deadly intent. The schizoid is far more likely to hurt others, use deadly force, take unbelievable chances and be totally crazy, particularly during manic episodes.

Both the junkie and schizoid experience the following bonuses when excited/manic: +3 on initiative, +3 to strike and parry, +2 to dodge, +4 to save vs psionic attack, +3 on all other saving throws, +2D6 to speed (roll for each exciting event because this ability does vary from episode to episode), +20 to physical S.D.C., and +5% on all skills (-20% when depressed). The schizoid tends to be more reckless and uncontrollable, and may slip into a berserker killing spree (48% chance), fighting until his opponents are dead, surrender or until he is rendered unconscious or killed. Some schizoids also become paranoid.

War for the Moon

Should some of the other orbital nations wage battle against the CAN Republic, it will be a long, hard-fought battle. The CAN Republic, right or wrong, will not give up its possession of the moon, which it now considers its homeworld. However, polite and tactful negotiations could lead to the following compromise: The CAN Republic agrees to



opening moderate trade with the other nations and becoming less aggressive and violent about squatters and minor mining infringements; namely, tiny excavations beyond the neutral zone. They may even agree to expanding the neutral zone by 10% and allow for the establishment of small, permanent outposts and mining operations owned and operated by the other four orbital nations, but only under the watchful supervision of the CAN Republic. Advanced robotics, advanced computer technology, weapons and the virtual reality system will NOT be part of any trade agreements, even under the threat of war.

Any ultimatums or minor acts of aggression, especially on the moon, will destroy negotiations and place everybody one step closer to war. The CAN Republic will not be affected by embargo and boycotts, unless they are cut off from their water supply, and even this will be of minor consequence for the first several months. Remember, they have their own ice mining operation on the Martian moon of Deimos.

Considerations for War

The CAN Republic's weakest link is its supply line of ice from Deimos. Likewise, the mining operation on Deimos has minimal defenses and is vulnerable to attack. However, attackers should keep in mind that 95% of the workers on Deimos are unarmed civilians. A senseless slaughter could change the course of the war. Certainly the North American Union (even if the strike was directed by their own KLS Corp), the New Russian Commonwealth and many independents would reconsider the validity of this war and their part in it. Still, under the right conditions, anything can be made to seem just and appropriate.

A factor in any conflicts between the space nations is the psionic, super abilities, and augmentation of the parties involved. A war between supermen can be a very different and ugly animal. The majority of moon people, compared to the other nations, possess few super-powered warriors, but do possess technological superiority and an army of powerful robots. They are far more prepared for war than anyone suspects.

The European Conglomerate, Nihilist Metas, and forces influenced by the KLS Corporation of the North American Union are likely to be the most ruthless and evil in this conflict. If any are capable of committing atrocities it is these three.

Also note that members of the Conglomerate and the Nihilist Metas would consider an allegiance with supernatural forces, demons, and aliens to win the war. The CAN Republic will never consider such an option no matter how desperate things become. Nor would the New Russian Commonwealth or the North American Union. Such an arrangement would force the Russians to give their complete support to the moon. Likewise, many independents would step out of the conflict or join with the moon people. Even the KLS Corp would be shocked and appalled by such a turn of events.

Without hesitation, the North American Union would insist on an immediate cease-fire and demand its allies immediately dissolve all allegiances with alien powers. Failure to do so would see the Union quickly join with the CAN Republic and Laika to crush the unholy alliance. Leaders responsible for such a pact would be placed on trial for crimes against humanity. The KLS Corp would support the decision of its government wholeheartedly, as they are loyal to the Union and to the protection of the Zone from alien and hostile invaders. Most of Freedom Station's independent allies would follow the Union's lead.

Statistical Moon Data of Note

Name: The CAN Republic (Cyberworks Aerospace Network)

The population is entirely human, with just over 96,000 people. Despite their advanced technology, the people on the moon have no means of creating an artificial gravity field and have lived in zero gravity for centuries. Their bodies have adapted well, but have undergone irreversible muscular and cellular alteration which prevents them from returning to earth without experiencing immense muscle weakness, cardiovascular problems and probable death. Healing is reduced and injury can result in the loss of limbs and organs (see the section on *Adapting to life in Space* for full details). Only 20% have psionic powers and about 10% have super abilities.

Adaptation Penalties: Reduce the attributes of characters living in, and adapted to, zero gravity as follows: P.S. -3, P.P. -1, P.E. -2, Spd -2. Everything else is basically unchanged. Also see mutation tables.

Power: The CAN Republic utilizes both solar energy and nuclear power plants to generate power for their underground kingdom. Some of the

surface buildings and mining operations use a hydrogen based energy system. There is talk of attempting to tap into the moon's molten core for a new geothermal energy system. This experimental system will be tried at the site of a proposed new city about 600 miles to the west. Construction could begin in a year.

Cybernetics: In a high-tech world such as **Rifts**, the loss of limbs can be compensated for by cybernetic replacements. This is the path the moon colonists have taken, avoiding chemical (Juicer) or neurological (Crazies) alteration. 40% of the moon colonists have had 1D4 injured limbs or other appendages (fingers, toes, ears, etc.) and 1D4 internal organs replaced with cybernetic ones. Another 20% are partial reconstruction borgs, although cosmetically pleasing cybernetics and artificial bio-systems are generally preferred over bionics. Less than 2% of the population are full conversion borgs.

Juicer and M.O.M augmentation: The processes involved in the juicer and crazies augmentation negate many of the effects of zero gravity, but have their own drawbacks and side effects. The moon colony has rejected juicer and crazies technology as a solution to life in zero gravity. There are no native colonists who are Juicers or Crazies. **Note:** The life span of a juicer is increased by three times; also see the juicer comments under the Rifts: Yuro Station description.

Earth Containment: The front line measure of containment is the maintenance of the counter-orbit debris field. Next are the killer satellites: automated dreadnoughts programmed to destroy everything they encounter within a particular zone. Third is the discriminating satellites, killing machines that can discern between friend and foe. Fourth is the VRRDS defense system. The moon people are fastidious about Earth containment.

Defenses: VRRDS, power armor, robot vehicles and spaceships. The current VRRDS robot stockpile includes 9000 Samurai, 7200 Mikado, and 2248 Steel Dragons. Other defenses include killer satellites, smart missiles, lasers and rail cannons.

Weaknesses: The CAN Republic has only three environmental shortcomings. 1) Has to acquire water from off-world, having to rely on outside sources (operates an ice mine on the Martian moon Deimos and occasionally mine the asteroid belt and Mars' polar cap). 2) Has an inferior manufacturing facility for building spacecraft (trades with Laika Station who has fabulous shipbuilding facilities). 3) Its people can never return to Earth because their bodies have permanently adapted to zero gravity.

Of course, the colonists' arrogant and exclusionary attitude is another feature that sometimes impedes the colony's progress.

Mars Operation: The CAN Republic mines ice and other elements not found on the moon on Mars and the Martian moon, Deimos.

Ley Lines on the Moon

When the Earth erupted with ley line energy it had a profound affect on the entire solar system. Ley lines are found on most planets throughout the universe and exist even in space. This is why planetary alignments increase the power of ley lines and nexus centers. Black holes are ley line nexuses on a cosmic scale. They are so powerful that they distort gravity, light and the fabric of time and space, drawing everything near them into their hungry dimensional maws.

Typically, planetary ley lines are at low ebb/dormant for millions of years at a time, sometimes trillions of years. The level of activity and available energy may be so minuscule that they are barely perceptible, as was the case on Earth for thousands of years. Only psychics and sorcerers could tap the mystic energy and even then the amount of available energy was insignificant. The eruption of ley lines that create dimensional epicenters like Earth is quite rare, but when it happens, the entire solar system is affected to some degree.

What this means is that there are a score of ley lines crisscrossing the moon, creating nine ley line nexuses, two of fairly large magnitude. The CAN Republic has manned and unmanned monitoring stations

watching each location. One of the large nexuses is located about 520 miles (832 km) southeast of the colony, in the crater, Archimedes. A complete scientific research and observation post has been established at the location. The goal is to unravel the secrets of these dimensional doorways. At this point the scientists don't have a clue.

Note: Approximately 96 people are stationed at the Archimedes Rift at all times. The defense and containment force (to kill or chase away monsters from the rift) includes 24 Steel Dragons, 48 Mikado and 48 Samurai robots. A killer satellite is also stationed overhead, armed with an experimental particle beam cannon (can inflict 1D6 × 100 M.D. once every melee; payload: 30 blasts, +4 to strike. Range: The satellite is trained exclusively on the rift area). The other big nexus is located at the south pole, near the crater Demonax. Three satellites like the one described are poised over this rift and strike anything that steps out of it.

Rifts®: Mars

The basic origin of Mars' colonization and the creation of the insane Doctor Walter's mutant insects is fundamentally the same as described in the **After the Bomb** section. However, the shape of Mars is dramatically different after that point.

The Canals of Mars

When the ley lines erupted on Earth, they sent a shock wave of P.P.E. energy throughout the solar system. Even Mars base felt the tremor of the eruptions before word had reached them of the holocaust on Earth.

Shortly after the ley line eruption on Earth, scientists on Mars discovered the presence of a previously unrecorded form of energy radiating in straight lines at various locations across the planet. Several intersect in a giant triangular pattern around the colony site. The level of energy fluctuates depending on the position of Mars with the sun and other planets, particularly when aligned with Earth. At night, the energy can be seen as a faint blue mist climbing two hundred feet into the sky.

Following a wild hunch, the scientists checked their lines' locations against old maps of the so-called Canals of Mars. They matched almost perfectly.

In 1877, renowned astronomer G.V. Schiaparelli of Milan, studied the Red Planet with a state-of-the-art telescope and reported a number of "straight, artificial-looking lines." He called them "canali," the word being translated to "canals" in English. The existence of the canals was confirmed in 1886 by Perrotin and Thollon of Nice using a superior telescope, and again by a few other notable scientists. The belief and speculation about the canals of Mars would span 80 decades. Yet, to the world's disappointment, the Mariner probes of the 1960's showed no canals. They had simply vanished; presumably an optical illusion that fooled several authorities of the day. Little did anyone know that the deserts of Mars had crackled with ley line energy. Not to the magnitude of Earth, but enough to be seen from Earth when conditions were just right. Just as the people in the Zone can again see the canals of Mars on special nights.

The presence of the active ley lines on Mars may have also accounted for reports of green areas (suspected to be vegetation) and other anomalies reported in the 20th Century before the unmanned probes landed on the planet. Ancient dimensional travelers used the Martian rifts to visit our solar system, some of whom periodically came to Earth, creating the stories of silver cigar shaped aircraft at the turn of the Century and the flying saucers of the 1940's.

The ley line activity on Mars had begun around 1851 and came to an end in 1956, Earth time. Consequently, when the Mars probes arrived there was nothing unusual to see.

The ley lines of Mars would have stayed dormant for eons, but have been ignited again by the events on Earth. Their affect on Mars is impressive, although of little benefit to the humans slain by the mutant insects.

The Ley Lines of Mars

Mars has been a location of dimensional ley line activity on a planetary scale several times in its long history. Now the ley lines again breathe new life into the dead planet. As fate would have it, the old human colony is located in the epicenter of a Martian Bermuda triangle (one of two). The area within the triangle is subject to influences by other dimensions and distortions in the space-time continuum. This, combining with the terraforming efforts started by the colonists, has spawned a lush tropical forest and rolling grasslands that cover thousands of square miles inside the triangle that stretches 430 miles (688 km) east and west and to a point 320 miles (512 km) to the north. These same forces also maintain a consistent tropical temperature and keep sand storms out of the triangle. There are a dozen other, smaller pockets of vegetation at different locations on the planet, as well. Within these areas are clouds, rain, water, and a breathable, Earth-like atmosphere. If these conditions remain for over a thousand years, they may have long-term effects in terraforming the planet.

In many ways the ley lines have made Mars a stranger and more dangerous place. First of all, the pockets of life and breathable air are deceptive, for much of the planet is still a frozen desert with the same range of changing temperatures, carbon dioxide atmosphere and other conditions normal to Mars. Thanks to the mad Doctor Walters, giant, semi-intelligent insects rule the planet. They number into the hundreds of thousands, with ants and beetles found everywhere except the most inhospitable areas, like the poles. The other insects are found mostly in and around pockets of vegetation.

The presence of ley lines also means that dimensional travelers and supernatural creatures have easy access to Mars, including ley line walkers and shifters on Earth; not that there is much reason to visit or stay. **Note:** If the ley line nexuses allow people to travel to Mars it also means that a dimensional portal can be created to let the mutant insects onto the Earth (and other worlds). This could have dangerous consequences if the giants ever proliferated on Earth. The only good thing about the mutant bugs is that they will instinctively see the Xiticix as a rival insect predator and attack them. The Xiticix will harbor similar feelings about the mutant insects.

Robot Vehicles & Power Armor

All Robot Vehicles have the following features.

1. **Nuclear Powered:** Which means they have an effectively unlimited fuel capacity and power source. Average life: 8 to 12 years.
2. **Satellite Link:** The robot vehicle can tie into a sensor station, surveillance or defense satellite. Satellite links enable the robot to access the data and systems of the satellite, thus it can effectively increase its sensor/radar range, targeting and identification abilities and communication range.

Note that not all satellites have this feature and others, especially defense and many surveillance, will allow only preprogrammed units near it and will require an access code. Failure to provide proper access requirements will result in the satellite's noncompliance to the link or, more likely, cause the satellite to consider the robot an enemy and attack.

3. **Radar:** Can identify and track up to 48 targets simultaneously, at a range of 30 miles (48 km).
4. **Combat Computer:** Calculates, stores, and transmits data onto the head up display (H.U.D.) of the pilot's helmet. It is tied to the targeting computer.
5. **Targeting Computer:** Assists in tracking and identification of enemy targets. 30 mile range (48 km); can be expanded by satellite link.
6. **Laser Targeting System:** Assists in the selection and focusing of specific targets and adds a bonus of +1 to strike when using long range weapons. Does not apply to hand to hand combat.
7. **Thermo-imaging and infrared optics.**
8. **Radio Communication:** Long range, directional communication system with an effective range of about 500 miles (800 km). As well as a directional, short range radio. Range is 5 miles (8 km). Plus a built-in loudspeaker; 80 decibels. Range is double in space.
9. **External Audio Pickup:** A sound amplification listening system that can pick up a whisper 300 feet (91.5 m) away.
10. **Spotlights:** Most will have at least one or two spotlights. Typical range is 600 feet (182 m).
11. **Ejector Seat:** In case of an emergency, the pilot and crew can be instantly ejected (about 1000 feet) and parachute to safety.
12. **Self-Destruct:** A last resort measure to prevent one's robot from being captured by the enemy. The explosive damage is fairly self contained, destroying most of the internal systems with 2D6 x 10 M.D. However, it is very likely, 1-89% chance, that the nuclear power system is spewing forth deadly levels of radiation!
13. **Voice Actuated Locking System:** The robot's access hatch is sealed by an automatic locking system. A six digit spoken code programmed to a specific voice(s) pattern (six voice memory) is standard operating procedure. A manual key-pad is provided in case of system failure/override.
14. **Complete environmental pilot and crew compartment:** The compartment holds one pilot in robot power armor, while robot vehicles can usually seat two to six people and are reinforced to protect the people from mega-damage. It is airtight, pressurized and suitable for use in space and all hostile environments, including under water (500 foot max. depth). The following features are included.
 - Computer controlled life support system.
 - Internal cooling and temperature control.
 - Air purification and circulation systems, gas filtration, and humidifier/dehumidifier which automatically engages when needed. Can recirculate breathable air for up to ten weeks before it becomes too stale to breathe.
 - Computer controlled, independent oxygen supply and purge system that automatically engages in low oxygen or contaminated air environments. Twelve hour oxygen supply in power armor, 72 hour in robot vehicles.
 - Insulated, high temperature resistant shielding for up to 400 degrees centigrade. Normal fires do no damage. Nuclear, plasma, and magic fires do full damage.
 - Radiation shielded.
 - Polarized and light sensitive/adjusting, tinted visor.

NOTE: Conversion to S.D.C. systems: All the bots and vehicles are presented in M.D.C. and mega-damage terms. To convert to S.D.C., simply change the M.D./M.D.C. to S.D.C.; Game Masters may want to adjust some of the M.D.C. to 10% or 20% lower when converting to S.D.C. systems.

KLS Glitter Boys

Although the Glitter Boy is generally considered a power armor suit, it is so heavily armored and powerful that it is frequently listed under the robot category. Another robot consideration is its more developed environmental aspects. Power armor or robot, the Glitter Boy armor is a force to be reckoned with.

The KLS Corporation, the original designer of the GB, was among the space survivors on Freedom Station. They had gone into space to develop a zero gravity (or low gravity) manufacturing plant for the production of Glitter Boys and military weapon systems. The original design for the GB was as an all-purpose, all-environment, one-man tank that could function in zero gravity, as well as under moon, Mars, Earth and other gravities (deep space exploration was very much a consideration). Over the last hundred and fifty years they have made some significant changes to the original USA-G10 (Mark 01 prototype) Glitter Boy so famous back on Earth. All retain their light/laser reflective armor and heavy combat features.

Old-Style Glitter Boy — Mark III

This reliable unit has been in production for over a hundred years and looks nearly identical to the old-style GB still used on Earth. The chief difference is the reduction of the body armor and weight, greater speed and agility, the inclusion of hidden maneuvering jets and optional use of a variable frequency laser cannon in place of the rail gun.

Model Type: USA-G13: GB-Mark III

Class: Laser Resistant Armored Infantry Personnel Assault Unit

Crew: One pilot.

M.D.C. by Location:

Right Forearm Rail gun (or laser cannon) — 175

Head — 150

Hands (2) — 75 each

Arms (2) — 190 each

Legs (2) — 290 each

Rear Recoil Thrusters (1 unit) — 200

*Main Body — 590

Reinforced Pilot's Compartment — 100

Note: The head and hands are small and difficult targets to hit. Thus, they can only be hit when a character makes a *called shot*, and even then the attacker is -3 to strike.

*Depleting the M.D.C. of the main body will shut the robot down completely, rendering it useless. **Note:** Laser weapons do half damage!

Speed

Running: 120 mph (192 km) maximum.

Leaping: The powerful robot legs can leap up to 20 feet (6 m) high or across. Add 20 feet (6 m) with a running start. Jet thruster assisted leaps can hurl the power armor 120 feet (36.6 m) up or across. If necessary, the thrusters and hidden maneuvering jets can momentarily hold the GB aloft as high as 50 feet (15.2 m) off the ground, but only for 1D6 minutes. The thrusters are not made for flying in an atmosphere but offer very good mobility in light or zero gravity. Note that leaping height and distance on the moon and in zero gravity are doubled.

Space Flight: In zero gravity the GB has fair maneuverability and speed, rocketing as fast as 150 mph (240 km).

Statistical Data

Height: 10 feet (3 m)

Width: 4 feet (1.2 m)

Length: 4 feet (1.2 m)

Weight: 1600 pounds (720 kg); under one ton, fully loaded.

Physical Attributes of Note: Equal to a P.S. 30, P.P. 23, Spd. 110

Cargo: Minimal storage space, about a foot compartment, and storage for a rifle, handgun, survival knife and first-aid kit.

Power System: Nuclear; average energy life is 25 years.

Cost: IOU 15 million, but sold on a very limited basis and never to the CAN Republic, Outcast Station or suspected pirates. Not presently available on Earth (developed in space a hundred years after the holocaust on Earth).

Weapon Systems

1. RG-14 Rapid Acceleration Electro-Magnetic Rail Gun (1): Identical to the famous "Boom Gun" of the GB on Earth. The rail gun fires its flechette style rounds to a speed of Mach 2 and actually creates a sonic boom when fired in an atmosphere. The automatic stabilization system is a synchronized system of jet thrusters and retractable reinforcement pylons in the legs. The jets enable the GB to maintain its position when floating in zero gravity, while the pylons, acting with the jets, hold the armor steady on a surface and can even attach themselves to spaceships (inflict one M.D. and rarely punch all the way through the hull). The pylons and jets fly into action the moment the Boom Gun is fired.

Primary Purpose: Assault and anti-armor.

Secondary Purpose: Defense

Weight: Rail Gun: 867 lbs (390 kg).

Mega-Damage: One Boom Gun Flechette round holds 200 slugs that inflict $3D6 \times 10$ M.D.

Effects of the Sonic Boom: Obviously, sound is not a problem or a factor in space. In an atmosphere, the usual sound and shock wave considerations and penalties apply. The GB suit is specially insulated from the shock waves of the Boom Gun.

Rate of Fire: Equal to number of combined hand to hand attacks of the pilot and his power armor (usually 4-6, see Power Armor Training). Bursts and sprays are not possible!

Maximum Effective Range: 11,000 feet (about two miles/3.2 km), double in space.

Payload: 100 rounds. Unlike some of the other power armor suits, the Glitter Boy's Boom Gun can be reloaded by hand, one round at a time, by the pilot. It will take about 15 minutes to load approximately 40 rounds. A carrying drum of 40 rounds is sometimes used to carry extra rounds. The drum has 30 M.D.C. and can attach to the hip/waist or left forearm.

2. Optional: VL-07 Variable Frequency Laser Cannon: The standard rail gun can be replaced with the VL-07 laser cannon. This is a high-powered laser weapon that can be adjusted to vary the light frequency of the laser to blast through reflective and laser resistant armor. The first two (2) blasts do half damage, but the weapon computer automatically adjusts the light frequency to compensate for the laser resistant surface, so all subsequent attacks do full damage, even to GBs. The weapon is hooked directly to the armor's nuclear power supply eliminating the need of an external power pack.

Primary Purpose: Assault

Secondary Purpose: Defense

Weight: Laser Cannon: 670 lbs. (121.5 kg)

Mega-Damage: Two damage settings: $6D6$ or $2D6 \times 10$ M.D. per blast.

Rate of Fire: Equal to number of combined hand to hand attacks (usually 4-6).

Maximum Effective Range: 4000 feet (1200 m) in an atmosphere, triple in space.

Payload: Effectively unlimited.

3. Hand to Hand Combat: Rather than use a weapon, the pilot can engage in mega-damage hand to hand combat. See *Power Armor Combat Training* in the Robot Combat section for specifics.

Combat Bonuses: +2 on initiative and +2 to roll with punch, fall, or impact (fairly shock resistant). Also has the attribute bonuses of P.S. 30: +15 S.D.C. damage, and P.P. 23: +4 to strike, parry and dodge. All bonuses are in addition to the normal Power Armor Training Bonuses.

4. **Sensor System:** The Glitter Boy has some special features.

1. **Thermo-Imager:** A special optical heat sensor that allows the infrared radiation of warm objects to be converted into a visible image. Enables the pilot to see in the dark, in shadows, and through smoke. Range: 2000 feet (610 m).

2. **Infrared and Ultraviolet Optics:** This optical system projects a beam of infrared light that is invisible to the normal eye. The infrared beam enables the pilot to see in the dark and to see other infrared beams. The ultraviolet system enables the pilot to see into the ultraviolet spectrum of light and is mostly used to detect the light beams of ultraviolet detection systems. **Note:** The infrared light beam can be seen by anybody who also has infrared optics, and the beam can be traced back to its source. Smoke impairs the infrared beam, making it impossible to see.

3. **Advanced Laser Targeting** as well as the usual *robot* standard features. The boom gun and laser cannon are +2 to strike. See *Power Armor Combat Training* in **Rifts** for other bonuses and data.

Old-Style Glitter Boy — Mark IV

This is another reliable unit that has been in service for 75 years. Like the original GB, the Mark IV returns to the powerful, heavily armored, but slower design. The concerns for enhanced speed and agility were deemed secondary for an assault unit whose primary environment was the vacuum of space. In the zero gravity environment, the robot power armor could weigh tons and use massive weapons without losing significant mobility, however, in keeping with the all environment parameters, the design was not substantially altered and functions well under most conditions.

The GB Mark IV looks nearly identical to the old style GB still used on Earth. The notable difference is slight changes in the armor styling and the use of a particle beam cannon. The cannon is not interchangeable with the other GB models. **Note:** The GB Mark IV is depicted on the cover.

Model Type: USA-G14: GB-Mark IV

Class: Laser Resistant Armored Infantry Personnel Assault Unit

Crew: One pilot.

M.D.C. by Location:

Right Forearm Particle Beam Cannon — 175

Head — 200

Hands (2) — 100 each

Arms (2) — 270 each

Legs (2) — 450 each

Rear Jets (1 unit) — 300

*Main Body — 800

Reinforced Pilot's Compartment — 100

Note: The head and hands are small and difficult targets to hit. Thus, they can only be hit when a character makes a *called shots* and even then the attacker is -3 to strike.

*Depleting the M.D.C. of the main body will shut the robot down completely, rendering it useless. **Note:** Laser weapons do half damage!

Speed

Running: 60 mph (96 km) maximum.

Leaping: The powerful robot legs can leap up to 12 feet (3.6 m) high or across. Add 12 feet (3.6 m) with a running start. Jet thruster assisted leaps can hurl the power armor 60 feet (18 m) up or across. If necessary, the thruster and hidden maneuvering jets can momentarily hold the GB aloft as high as 20 feet (6 m) off the ground, but only for 1D6 × 10 seconds. The thrusters are not made for flying in an atmosphere but offer good mobility in light or zero gravity. Note that leaping height and distance on the moon and in zero gravity is doubled.

Space Flight: In zero gravity the GB has fair maneuverability and speed, rocketing as fast as 150 mph (240 km).

Statistical Data

Height: 11 feet (3.35 m)

Width: 4 feet, 4 inches (1.3 m)

Length: 4 feet (1.2 m)

Weight: 2 tons, fully loaded.

Physical Attributes of Note: Equal to a P.S. 40.

Cargo: Minimal storage space, about a foot compartment, and storage for a rifle, handgun, survival knife and first-aid kit.

Power System: Nuclear; average energy life is 25 years.

Cost: IOU 25 million, but sold on an extremely limited basis and never to the CAN Republic, Outcast Station, or suspected pirates. Not presently available on Earth (developed in space a hundred years after the holocaust on Earth).

Weapon Systems

1. **PB-20 Rapid Acceleration Particle Beam Cannon (1):** This big gun is mounted and used much like the shoulder-mounted boom gun. However, unlike the Mark III, this weapon cannot be exchanged for a rail gun or laser cannon. The uniqueness and incredible power needed for the particle beam cannon requires a very specific energy system that does not allow modification for other weapons. One of the other limitations is that the payload is not unlimited and there are dangerous periods of time when the weapon maybe unable to fire. To compensate for the possible lapse in heavy firepower, the cannon is also fitted with a light laser as a means of defense. However, when the cannon is fully charged, nothing is more deadly. Illustrated on the cover.

Primary Purpose: Assault and anti-armor.

Secondary Purpose: Defense

Weight: Particle Beam Cannon: 660 lbs (117 kg).

Mega-Damage: 4D6 × 10 M.D. per particle beam blast, or 4D6 M.D. per laser blast.

Rate of Fire: Equal to number of combined hand to hand attacks of the pilot and his power armor (usually 4-6, see *Power Armor Training*). Bursts and sprays are not possible!

Maximum Effective Range: 11,000 feet (about two miles/3.2 km), double in space.

Payload: Effectively unlimited but restricted. Fully charged, the cannon has 20 blasts. The cannon recharges at a rate of one energy blast per minute; that's equal to four melee rounds. To compensate for the possible lapse in particle beam firing power, the cannon is also fitted with a light laser as a means of defense. The laser's payload is unlimited.

2. **Hand to Hand Combat:** Rather than use a weapon, the pilot can engage in mega-damage hand to hand combat. See *Power Armor Combat Training* in the Robot Combat section for specifics.

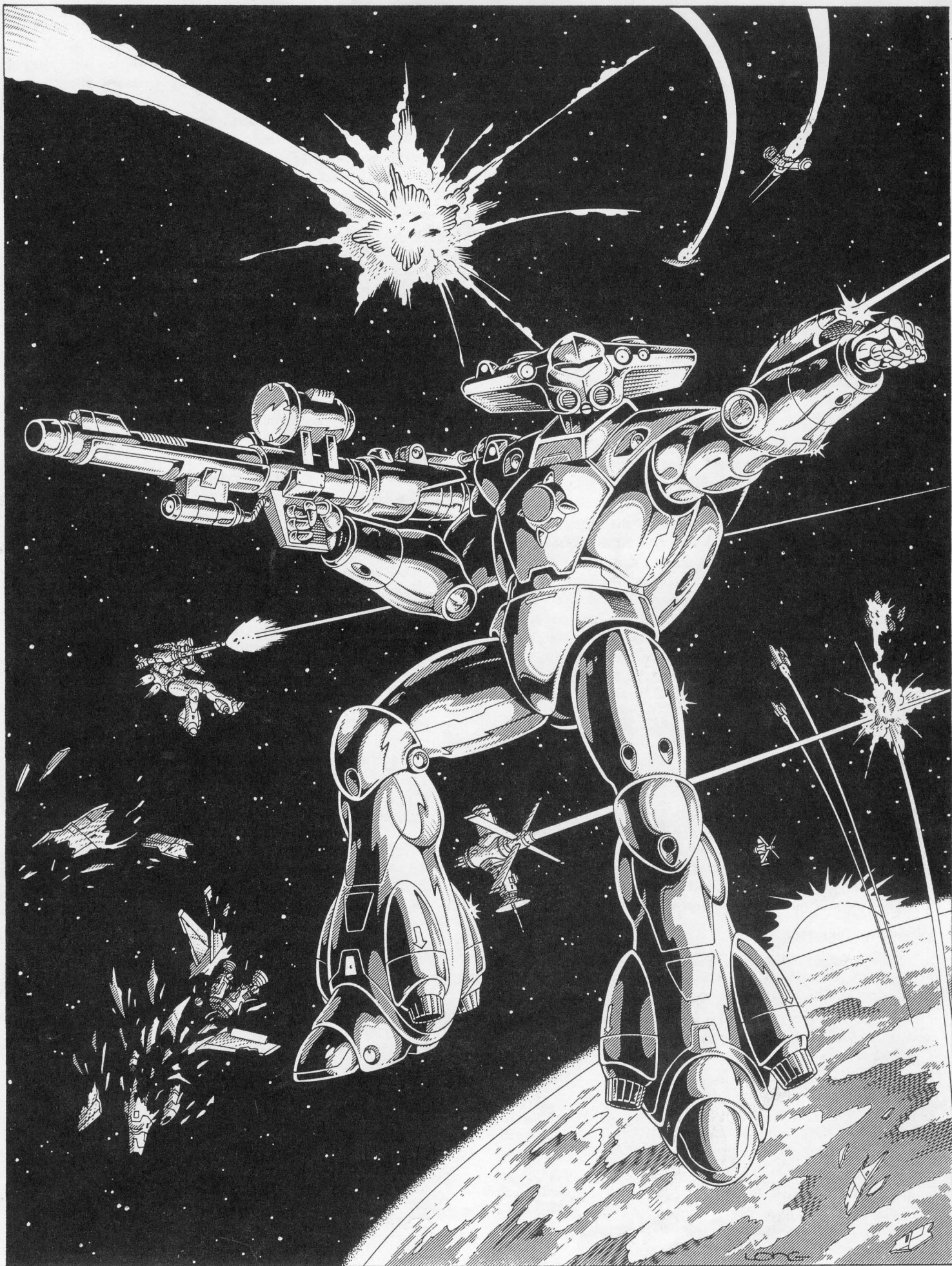
Combat Bonuses: +1 on initiative, +1 to strike, parry and dodge, and +4 to roll with punch, fall, or impact (very shock resistant). All bonuses are in addition to the normal *Power Armor Training* Bonuses.

3. **Sensor System:** Standard Glitter Boy features.

New Style Glitter Boy — Mark V

The latest Glitter Boy design is a dramatic departure from its predecessors. The Mark V is designed with an emphasis on zero gravity and low gravity combat. It is a more flexible fighting machine, with a greater selection of weapons, secondary weapons, and enhanced mobility. The robot power armor is covered in tiny directional jets, plus benefit of the main rear thrusters and lower leg thrusters (three on each leg). Consequently, it is extremely quick and agile in zero gravity and has limited flight capabilities in Earth type conditions of atmosphere and gravity.

Another new feature is the forearm laser and the tiny head laser, both providing additional avenues of attack. The head laser is also designed to function as a welding tool and the fingers are rounded and



better articulated, allowing for better hand control; vital in performing repairs on the outside of a spacecraft or station. The styling is different too; sleeker, without sacrificing armor. The Mark V has only been in production for the last three years.

Model Type: USA-G15: GB-Mark V

Class: Laser Resistant Armored Infantry Personnel Assault Unit

Crew: One pilot.

M.D.C. by Location:

Particle Beam Mini-Cannon — 100

Tactical Laser (1; left arm) — 75

Head — 200

Hands (2) — 90 each

Arms (2) — 250 each

Legs (2) — 400 each

Lower Leg Thrusters (6) — 50 each

Rear Jets (1 unit) — 250

*Main Body — 700

Reinforced Pilot's Compartment — 100

Note: The head and hands are small and difficult targets to hit. Thus, they can only be hit when a character makes a *called shot*, and even then the attacker is -3 to strike.

*Depleting the M.D.C. of the main body will shut the robot down completely, rendering it useless. **Note:** Laser weapons do half damage!

Speed

Running: 70 mph (112 km) maximum.

Leaping: The powerful robot legs, assisted by the leg thrusters, can leap up to 60 feet (18.3 m) high or across, or 20 feet (6 m) without thrusters. Add 12 feet (3.6 m) with a running start. Note that leaping height and distance on the moon and in zero gravity is doubled.

Flight: The enhanced rear jets and leg thrusters provide limited flight in an atmosphere and greater speed and mobility in zero gravity. The Mark V can hover up to 200 feet (61 m) above ground and fly at a speed of 45 mph (72 km) in an atmosphere and Earth gravity.

Space Flight: In zero gravity the GB has superior maneuverability and speed, rocketing as fast as 300 mph (482.7 km), and is +4 to dodge.

Statistical Data

Height: 11 feet (3.35 m)

Width: 4 feet, 4 inches (1.3 m)

Length: 4 feet (1.2 m)

Weight: 1.8 tons, fully loaded.

Physical Attributes of Note: Equal to a P.S. 40.

Cargo: Minimal storage space, about a foot compartment, and storage for a rifle, handgun, survival knife and first-aid kit.

Power System: Nuclear; average energy life is 25 years.

Cost: IOU 45 million, but NOT sold to anybody. This unit is the foundation of Freedom Station's defense troops.

Weapon Systems

1. PBM-15 Rapid Acceleration Particle Beam Mini-Cannon (1):

The mini-cannon is basically a big rifle with an energy clip/canister that fits into a rear housing in the gun. When all the energy has been expended from the E-clip, it is ejected and a new one slapped in place. The disadvantage of this weapon is the lower fire power and limited payload. Illustrated in the full page illustration in this section.

Primary Purpose: Assault and anti-armor.

Secondary Purpose: Defense

Weight: Particle Beam Mini-gun: 300 lbs (135 kg).

Mega-Damage: 1D6 × 10 M.D. per particle beam blast.

Rate of Fire: Standard: same as an energy rifle, see modern weapon proficiencies.

Maximum Effective Range: 3000 feet (914 m), double in space.

Payload: 15 per E-clip.

2. **TL-90 Arm-Mounted Tactical Laser.** A small but powerful laser is mounted on the left arm as an additional means of attack. The weapon is hooked directly to the armor's nuclear power supply eliminating the need of an external power pack or E-clips. See the full page illustration in this section.

Primary Purpose: Assault and anti-armor.

Secondary Purpose: Defense

Mega-Damage: 6D6 M.D. per laser blast.

Rate of Fire: Equal to number of combined hand to hand attacks of the pilot and his power armor (usually 4-6, see Power Armor Training).

Bursts and sprays are not possible!

Maximum Effective Range: 4000 feet (1200 m), triple in space.

Payload: Effectively unlimited.

3. **Mini-Head Laser:** Built into the top of the right, head fin is a small laser that can be used for close combat, warning shots, and welding.

Primary Purpose: Defense

Secondary Purpose: Welding

Mega-Damage: Three settings: 1D6, 2D6, or 3D6 M.D. per laser blast.

Rate of Fire: Equal to the number of combined hand to hand attacks of the pilot and his power armor (usually 4-6, see Power Armor Training). Bursts and sprays are not possible!

Maximum Effective Range: 4000 feet (1200 m), triple in space.

Payload: Effectively unlimited.

4. **Optional: RG-14 Rapid Acceleration Electro-Magnetic Rail**

Gun: The standard GB rail gun can be used in place of the mini-cannon.

5. **Optional: Variable Frequency Laser Cannon:** The standard laser cannon as issued to the Mark IV can be substituted in place of the mini-cannon or rail gun.

6. **Hand to Hand Combat:** Rather than use a weapon, the pilot can engage in mega-damage hand to hand combat. See *Power Armor Combat Training* in **Rifts** for specifics.

Combat Bonuses: +1 on initiative, +1 to strike, parry and dodge, and +4 to roll with punch, fall, or impact (very shock resistant). All bonuses are in addition to the normal Power Armor Training Bonuses.

7. **Sensor System:** Standard Glitter Boy features, but with secondary back-up systems.

Cyberworks

Robots of the CAN Republic

The aerospace division of Cyberworks survived in space and has since become an independent nation, the CAN Republic. The Cyberworks Network continues to develop artificial intelligences, super computers, satellites, robots, and experimental virtual reality systems. It is Cyberworks who has designed the CAN Republic's entire defense program and combat units, including robot vehicles, VRRDS robots, and power armor.

CAN Hard Suit Power Armor

Cyberworks has perfected a flexible hard suit that is an armored vacuum suit, specifically with mining and deep space operations in mind. The suit is basically a simple power armor exoskeleton that enhances the wearer's physical attributes and offers greater protection. The suit comes standard with built-in headlight, maneuvering jets and a detachable jet pack.

Model Type: CAN-7V

Class: Armor Environmental Vacuum Suit with Robot Enhancements

Crew: One

M.D.C. by Location:

Main Rear Jets (1) — 50

*Headlight (1) — 2

*Head — 60

**Main Body — 125

* Destroying the head of the power armor will rupture the suit, making the head of the wearer vulnerable to further attack and destroying all forms of optical enhancement and sensory systems. The wearer of the hard suit has a secondary vacuum suit and helmet in case of a rupture, so he does not die from loss of oxygen or decompression, but is very vulnerable and must now rely on his own human vision and senses. **Note:** The head and headlight are small and difficult targets to hit. Thus, they can only be hit when a character makes a *called shot*, and even then the attacker is -4 to strike.

**Depleting the M.D.C. of the main body will shut the armor down completely, making it useless. It will take the wearer 1D4 minutes to shed the exoskeleton.

Enhanced Attributes

Physical Strength: The P.S. of the wearer is increased by 10 points.

Physical Prowess: The P.P. of the wearer is increased by 4 points.

Speed: The wearer's speed is doubled and the usual rate of fatigue is reduced by half, thanks to the robot exoskeleton.

Leaping: The robot enhanced legs can leap up to 15 feet (4.6 m) high or across unassisted by the thrusters. A *jet thruster assisted leap* can propel the person up to 100 feet (30.5 m) high and 200 feet (61 m) across.

Space Flight: In zero or moon gravity the power armor offers fair maneuverability and speed, rocketing as fast as 50 mph (80 km).

Flying: The hard suit does not have flight capabilities under atmospheric conditions or high gravity.

Statistical Data

Weapons: None

Size: One size fits all: about six feet, four inches (2.8 m) from head to toe is the standard size, but suits can be custom made to accommodate any size or shape at a cost of about 20% more. Customizing for additional limbs will cost 150 to 200% more.

Weight: 200 lbs (90 kg); remember, weight is not a problem is zero gravity nor in the moon's light gravity.

Power System: Nuclear, with an average energy life of five years. But a standard, rechargeable, six hour battery pack comes with the suit.

Cost: IOU 35,000 but is sold only within the CAN Republic and on a limited basis to the New Russian Commonwealth (Laika Station), not to any other stations or independents. Freedom and Yuro stations have stolen the basic design and sell their own versions of the hard suit power armor. Unfortunately, their versions have only half the M.D.C. and weigh just as much, because they lack the capabilities of making the ceramic and alloy material used by the CAN Republic, but these suits cost only IOU 20,000. Pirates and the Network sometimes sell black market CAN power armor for about IOU 50,000.

VRRDS Samurai

The Samurai is part of the Virtual Reality Robot Defense System. As such, the robot is humanoid in appearance and operates hand-held weapons. A medium-size directional thruster unit is housed in the back, another thruster is located under the armored skirt and two others are hidden in the feet. Tiny directional jets are located in the chest, back, at the waist and at the side of the knees.

The name, Samurai, and its vaguely oriental appearance, were selected because they gave the VRRDS operator a psychological edge in that he or she would effectively become/control a recognizable heroic figure, famous for their combat skill, valor, and discipline. The psych-techs all felt that the VRRDS operators exhibit increased levels of performance when they identify with a heroic image and subconsciously

try to live up to the standards that image represents. They were right.

Note: Like all VRRDS robots, there is also a version that is a vehicle to be operated by a pilot inside the robot. Both have identical features, except the manned version has half the combat bonuses. See the VRRDS description under the CAN Republic.

Cyberworks VRRDS Samurai

Model Type: VRRDS 100 or MR-100 (manned version)

Class: Virtual Reality Robot Defense System (Light Assault)

Crew: VRRDS operator or one pilot.

M.D.C. by Location:

Rear Jets (1 unit) — 100

Vibro-sword (1) — 70

Rifle Cannon (1) — 100

Chest Headlight (1) — 2

Plated Forearms (2) — 130

Upper Arms (2) — 110

Plated Shoulders (2) — 200 each

Legs (2) — 250 each

Feet (with maneuvering jets) (2) — 50 each

Protective Armored Shirt (1) — 150

Reinforced Pilot's Compartment — 75

*Head — 90

**Main Body — 350

* Destroying the head of the robot will eliminate the eye lasers and reduce sensory capabilities by half (half combat bonuses too). There is also a 1-59% chance the VRRDS operator will suffer from reality shock, seeing his image self as having been killed! If this happens the robot falls over dead and the VRRDS operator is temporarily dazed (1D4 + 1 minutes) and unable to pilot a new robot. **Note:** The head is a small and difficult target to hit and can only be hit when a character makes a *called shot*, and even then the attacker is -3 to strike.

**Depleting the M.D.C. of the main body makes the robot completely inoperable.

Speed

Running: 120 mph (96 km) maximum.

Leaping: The powerful robot legs, assisted by the leg thrusters, can leap up to 60 feet (18.3 m) high or across, or 20 feet (6 m) without thrusters. Add 12 feet (3.6 m) with a running start. Note that leaping height and distance on the moon and in zero gravity is doubled.

Flight: The rear jets and leg thrusters provide limited flight in an atmosphere, and greater speed and mobility in zero gravity. The Samurai can hover up to 200 feet (61 m) above ground and fly at a speed of 25 mph (40 km) in an atmosphere and Earth-like gravity.

Space Flight: In zero gravity the robot has good maneuverability and speed, rocketing as fast as 150 mph (240 km).

Statistical Data

Height: 20 feet (6 m)

Width: 7 feet, 4 inches (2.2 m)

Length: 5 feet (1.5 m)

Weight: 18 tons, fully loaded.

Physical Attributes of Note: Equal to a P.S. 40.

Cargo: Minimal storage space, about a foot compartment, and storage for a rifle, handgun, survival knife and first-aid kit.

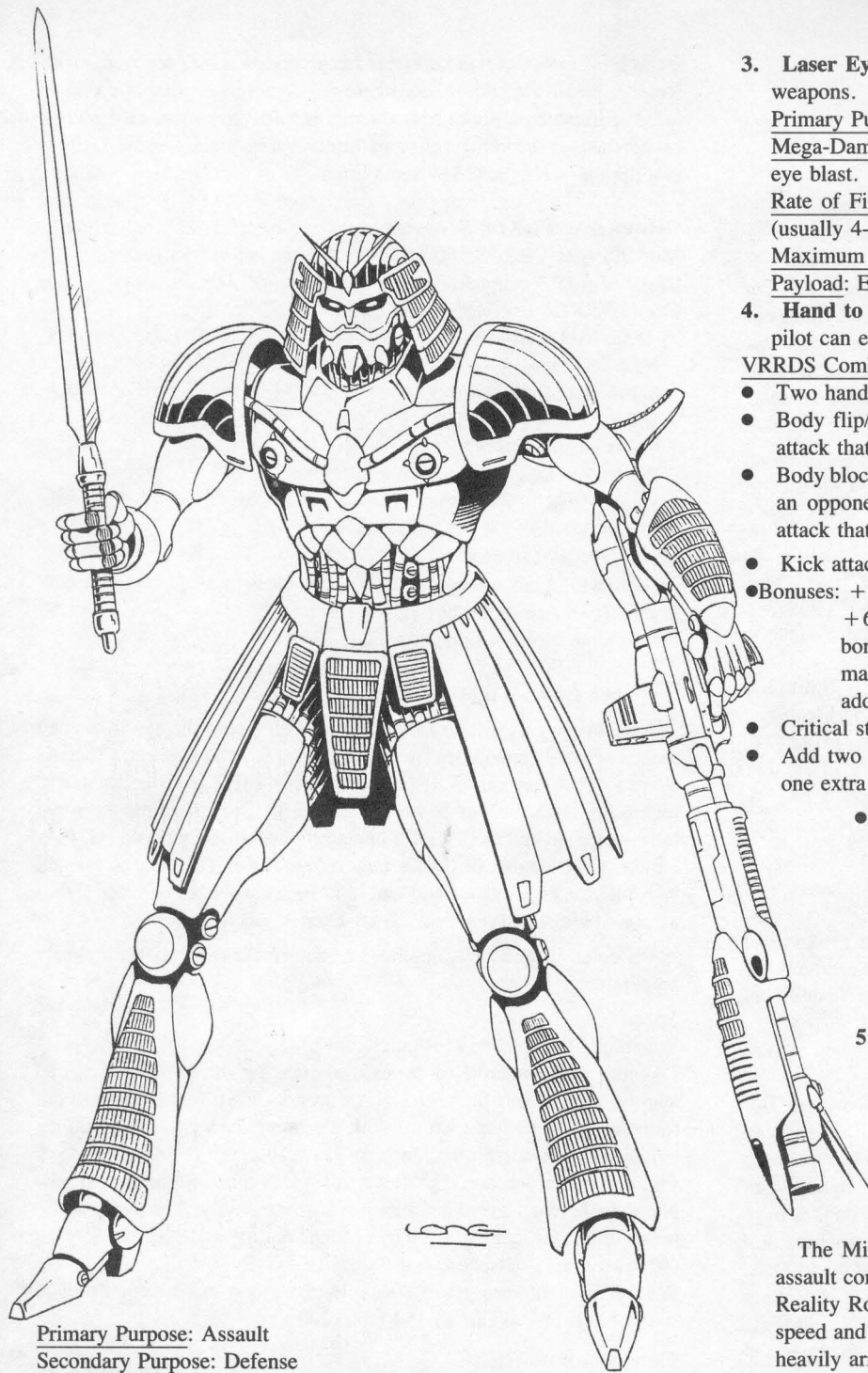
Power System: Nuclear; average energy life is 15 years.

Cost: IOU 45 million, but NOT sold to anybody. This unit is a crucial part of the CAN Republic's defenses.

Weapon Systems

1. V-10 Variable Frequency Laser Pulse Cannon (standard issue):

This is a high-powered laser pulse cannon with unparalleled range and power for a weapon its size. The weapon is hooked directly to the armor's nuclear power supply eliminating the need of an external power pack.



Primary Purpose: Assault

Secondary Purpose: Defense

Weight: Cannon: 620 lbs (279 kg).

Mega-Damage: 1D6 × 10 + 20 M.D. per multiple blast of three simultaneous energy pulses or 4D6 M.D. per single pulse.

Rate of Fire: Equal to the number of combined hand to hand attacks (usually 4-8).

Maximum Effective Range: 6000 feet (1830 m), triple in space.

Payload: Effectively unlimited.

2. Giant Vibro-sword: A giant 14 foot (4.2 m) version of this favorite mega-damage blade.

Primary Purpose: Assault

Secondary Purpose: Defense

Weight: 200 lbs (90 kg).

Mega-Damage: 1D6 × 10 M.D.

Rate of Fire: Equal to number of combined hand to hand attacks (usually 4-6).

Maximum Effective Range: 6000 feet (1830 m), triple in space.

Payload: Effectively unlimited.

3. Laser Eyes. The eyes of the Samurai are really short-range laser weapons.

Primary Purpose: Defense

Mega-Damage: 6D6 M.D. per double blast or 3D6 M.D. per single eye blast.

Rate of Fire: Equal to number of combined hand to hand attacks (usually 4-6).

Maximum Effective Range: 2000 feet (610 m), triple in space.

Payload: Effectively unlimited.

4. Hand to Hand Combat: Rather than use an energy weapon, the pilot can engage in mega-damage hand to hand combat.

VRRDS Combat Training & Bonuses

- Two hand to hand attacks per melee (plus those of the pilot).
- Body flip/throw — 1D6 M.D. plus victim loses initiative and one attack that melee.
- Body block/tackle/ram — 2D6 M.D. plus a 70% chance of knocking an opponent down, causing the victim to lose initiative and one attack that melee. Counts as TWO attacks.
- Kick attack — 2D6 M.D.
- Bonuses: +4 on initiative, +6 to strike, +8 to parry and dodge, and +6 to roll with punch, fall, or impact. Do NOT include the bonuses of the VRRDS pilot. **Note:** Bonuses are half if a manned robot vehicle, but the pilot's attribute bonuses are added to the vehicle's bonuses.
- Critical strike on the roll of a natural 19 or 20.
- Add two attacks per melee at level six and twelve (VRRDS only; one extra attack if a manned unit).
- Damage:
 - Restrained Punch: 1D4 M.D.
 - Full Strength Punch: 2D6 M.D.
 - Power Punch: 4D6 M.D. (counts as two attacks)
 - Tear or Pry with Hands: 1D4 M.D.
 - Kick: 2D6 M.D.
 - Leap Kick: 3D6 M.D.
 - Stomp: 1D4 M.D.
- 5. Sensor System:** Standard robot.

VRRDS Mikado

The Mikado, also known as the "Little Emperor," is the heavy assault companion robot to the Samurai. It too is part of the Virtual Reality Robot Defense System. It is a bit slower in regard to land speed and reaction time, but quicker in space. The Mikado is more heavily armored and carries the infamous VX-20 Super Cannon as standard issue. **Note:** Like all VRRDS robots, there is also a version that is a vehicle to be operated by a pilot inside the robot. Both have identical features, except the manned version has half the combat bonuses. See the VRRDS description under the CAN Republic.

Cyberworks VRRDS Mikado

Model Type: VRRDS 200 or MR-200 (manned version)

Class: Virtual Reality Robot Defense System (Heavy Assault)

Crew: VRRDS operator or one pilot.

M.D.C. by Location:

Vibro-sword (1) — 70

Super Cannon (1) — 250

Chest Headlight (1) — 4

Plated Forearms (2) — 150

Upper Arms (2) — 120

Plated Shoulders (2) — 250 each

Legs (2) — 350 each
 Rear Shoulder Jets (4) — 75 each
 Rear Hip Jets (2) — 50 each
 Lower Leg Jets (1 per leg) — 25 each
 Feet (with maneuvering jets) (2) — 80 each
 Protective Armored Skirt (1) — 150
 Reinforced Pilot's Compartment — 75
 *Head — 100
 **Main Body — 600

* Destroying the head of the robot will eliminate the eye lasers and reduce sensory capabilities by half (half combat bonuses too). There is also a 1-59% chance the VRRDS operator will suffer from reality shock, seeing his image self as having been killed! If this happens the robot falls over dead and the VRRDS operator is temporarily dazed (1D4 + 1 minutes) and unable to pilot a new robot. **Note:** The head is a small and difficult target to hit and can only be hit when a character makes a *called shot*, and even then the attacker is -3 to strike.

**Depleting the M.D.C. of the main body makes the robot completely inoperable.

Speed

Running: 70 mph (112 km) maximum.

Leaping: The powerful robot legs, assisted by the leg thrusters, can leap up to 60 feet (18.3 m) high or across, or 20 feet (6 m) without thrusters. Add 12 feet (3.6 m) with a running start. Note that leaping height and distance on the moon and in zero gravity is doubled.

Flight: The large enhanced rear jets and leg thrusters provide limited flight in an atmosphere and greater speed and mobility in zero gravity. The Mikado can hover up to 200 feet (61 m) above ground and fly at a speed of 150 mph (240 km) in an atmosphere and Earth-like gravity.

Space Flight: In zero gravity the robot has good maneuverability and speed, rocketing as fast as 500 mph (804 km).

Statistical Data

Height: 25 feet (7.6 m)

Width: 9 feet, 4 inches (2.8 m)

Length: 9 feet (2.7 m)

Weight: 28 tons, fully loaded (the super cannon is two tons).

Physical Attributes of Note: Equal to a P.S. 50.

Cargo: Minimal storage space, about a foot compartment, and storage for a rifle, handgun, survival knife and first-aid kit.

Power System: Nuclear; average energy life is 15 years.

Cost: IOU 50 million (the super cannon is an additional 9 million), but NOT sold to anybody. This unit is a critical part of the CAN Republic's defenses.

Weapon Systems

1. **VX-20 Super Cannon (standard issue):** The cannon is a high-powered magnetic rail gun that fires missile-like projectiles with equal range and greater power than a boom gun. The weapon is hooked directly to the armor's nuclear power supply eliminating the need of an external power pack.

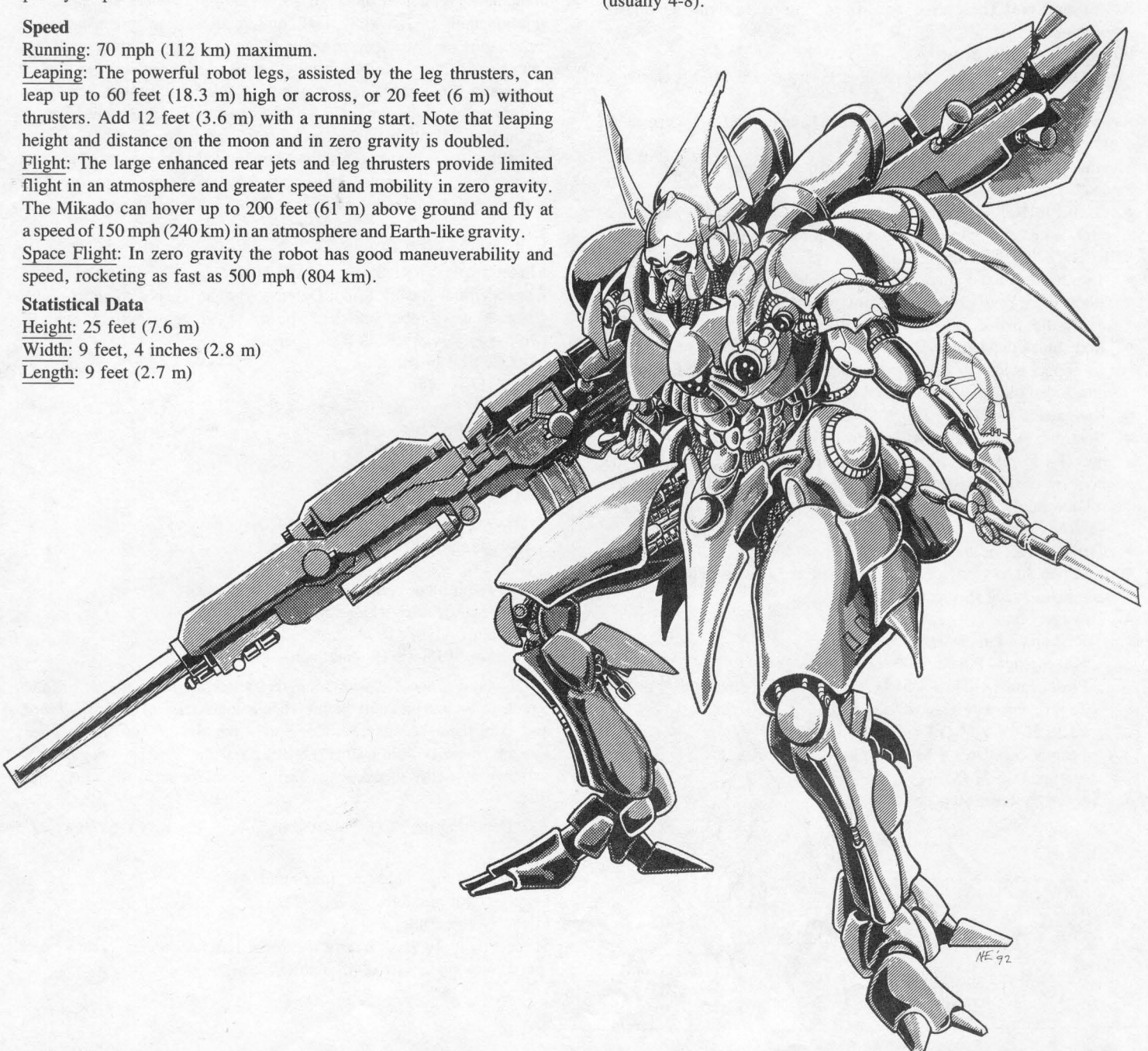
Primary Purpose: Assault and anti-armor

Secondary Purpose: Defense

Weight: Super Cannon: two tons

Mega-Damage: $3D6 \times 10 + 10$ M.D. per explosive blast.

Rate of Fire: Equal to the number of combined hand to hand attacks (usually 4-8).



Maximum Effective Range: 11,000 feet (about two miles/3.2 km), double in space.

Payload: 12 rounds standard, but a huge ammo-drum can be attached (weighs three tons), with 36 additional rounds. The super cannon can also be reloaded by hand, one round at a time, but takes about 12 minutes to load approximately 12 rounds. The drum has 50 M.D.C. and attaches to the cannon.

Special VX-20 Features: 1) The cannon has its own laser targeting and radar tracking system built into the weapon itself. Range: 6000 feet (1828 m). Bonuses: +1 to strike.

2. **Giant Vibro-sword:** A giant 14 foot (4.2 m) version of this favorite mega-damage blade.

Primary Purpose: Assault

Secondary Purpose: Defense

Weight: 200 lbs (90 kg).

Mega-Damage: 1D6 × 10, M.D.

Rate of Fire: Equal to number of combined hand to hand attacks (usually 4-6).

Maximum Effective Range: 6000 feet (1830 m), triple in space.

Payload: Effectively unlimited.

3. **Laser Eyes.** The eyes of the Mikado are really short-range laser weapons.

Primary Purpose: Defense

Mega-Damage: 6D6 M.D. per double blast or 3D6 M.D. per single eye blast.

Rate of Fire: Equal to number of combined hand to hand attacks (usually 4-6).

Maximum Effective Range: 2000 feet (610 m), triple in space.

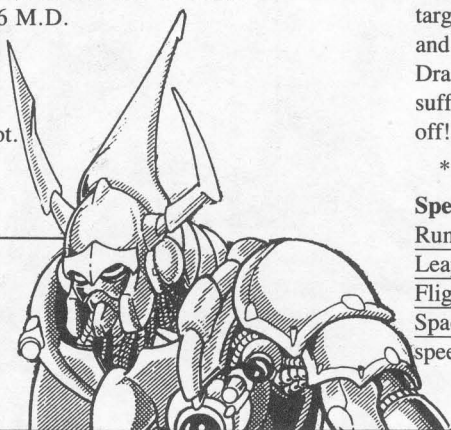
Payload: Effectively unlimited.

4. **Hand to Hand Combat:** Rather than use an energy weapon, the pilot can engage in mega-damage hand to hand combat.

VRRDS Combat Training & Bonuses

- Two hand to hand attacks per melee (plus those of the pilot).
- Body flip/throw —1D6 M.D. plus victim loses initiative and one attack that melee.
- Body block/tackle/ram —3D6 M.D. plus a 75% chance of knocking an opponent down, causing the victim to lose initiative and one attack that melee. Counts as TWO attacks.
- Kick attack — 2D6 M.D.
- Bonuses: +2 on initiative, +6 to strike, +6 to parry and dodge, and +4 to roll with punch, fall, or impact. Do NOT include the bonuses of the VRRDS pilot. **Note:** Bonuses are half if a manned robot vehicle, but the pilot's attribute bonuses are added to the vehicle's bonuses.
- Critical strike on the roll of a natural 19 or 20.
- Add two attacks per melee at level six and twelve (VRRDS only; one extra attack if a manned unit).
- Damage:
 - Restrained Punch: 1D4 M.D.
 - Full Strength Punch: 2D6 + 2 M.D.
 - Power Punch: 4D6 + 4 M.D. (counts as two attacks)
 - Tear or Pry with Hands: 1D6 M.D.
 - Kick: 2D6 + 2 M.D.
 - Leap Kick: 3D6 + 4 M.D.
 - Stomp: 1D6 M.D.

5. **Sensor System:** Standard robot.



The Steel Dragon

The Steel Dragon is the latest creation of Cyberworks, having only been in production for about a year. It is a giant, all-terrain, all-environment, super tank with a large array of devastating weapons. The huge robot vehicle is operated by a crew of three, a pilot and two gunners, one for each weapon arm. This gives each gunner six (6) attacks per each arm; that's twelve (12) attacks between the two. Plus, the pilot controls the weapons in the head and the tail and, although short-range weapons, adds another four attacks per melee, for a total of 16 possible melee attacks (Note: The combined attacks between the head and tail is four).

The Steel Dragon has fair mobility in space, with concealed thrusters in each foot, and underbelly, and smaller maneuvering jets scattered over the body. However, it is slow and ponderous compared to most assault robots.

The Steel Dragon has been added to VRRDS as an experiment. The immediate problem is the VRRDS operator's mentally adjusting to a non-humanoid body with several non-human weapon appendages. The results thus far have been surprisingly good, with only two problems. One, the operator can only handle a total of eight attacks per melee, so the unit is really functioning at half its full capacity, but then again, no human life is in danger. Two, the operator is 15% more likely to become an adventure junkie or schizoid and becomes afflicted twice as quickly, so exposure time should be limited. Another wrinkle about the schizoid in particular, is that the VRRDS Steel Dragon operator will begin to think of himself as not being human, but a dragon.

Cyberworks Steel Dragon

Model Type: VRRDS 1000 or MR-1000 (manned version)

Class: Virtual Reality Robot Defense System (Heavy Assault)

Crew: Manned robot vehicle: 3, pilot and two gunners, with room for two passengers. VRRDS: One operator.

M.D.C. by Location:

Tail (1) — 300

Weapon Forearm (2) — 300

Upper Arm (2) — 200

*Head (1) — 100

*Head Searchlight (1) — 4

*Head Lasers (2) — 20 each

*Forward Lasers (2) — 40 each

Neck (1) — 120

Legs (4) — 400 each

Feet (with maneuvering jets) (4) — 120 each

*Top sensor turret (1) — 50

**Main Body — 1000

Reinforced Pilot's Compartment — 200

* Locations denoted with a single asterisk are small and/or difficult targets to hit and can only be hit when a character makes a *called shot*, and even then the attacker is -3 to strike. In the case of the Steel Dragon, there is little chance (1-10%) that the VRRDS operator will suffer from reality shock, when seeing his image self get his head shot off!

**Depleting the M.D.C. of the main body destroys the robot.

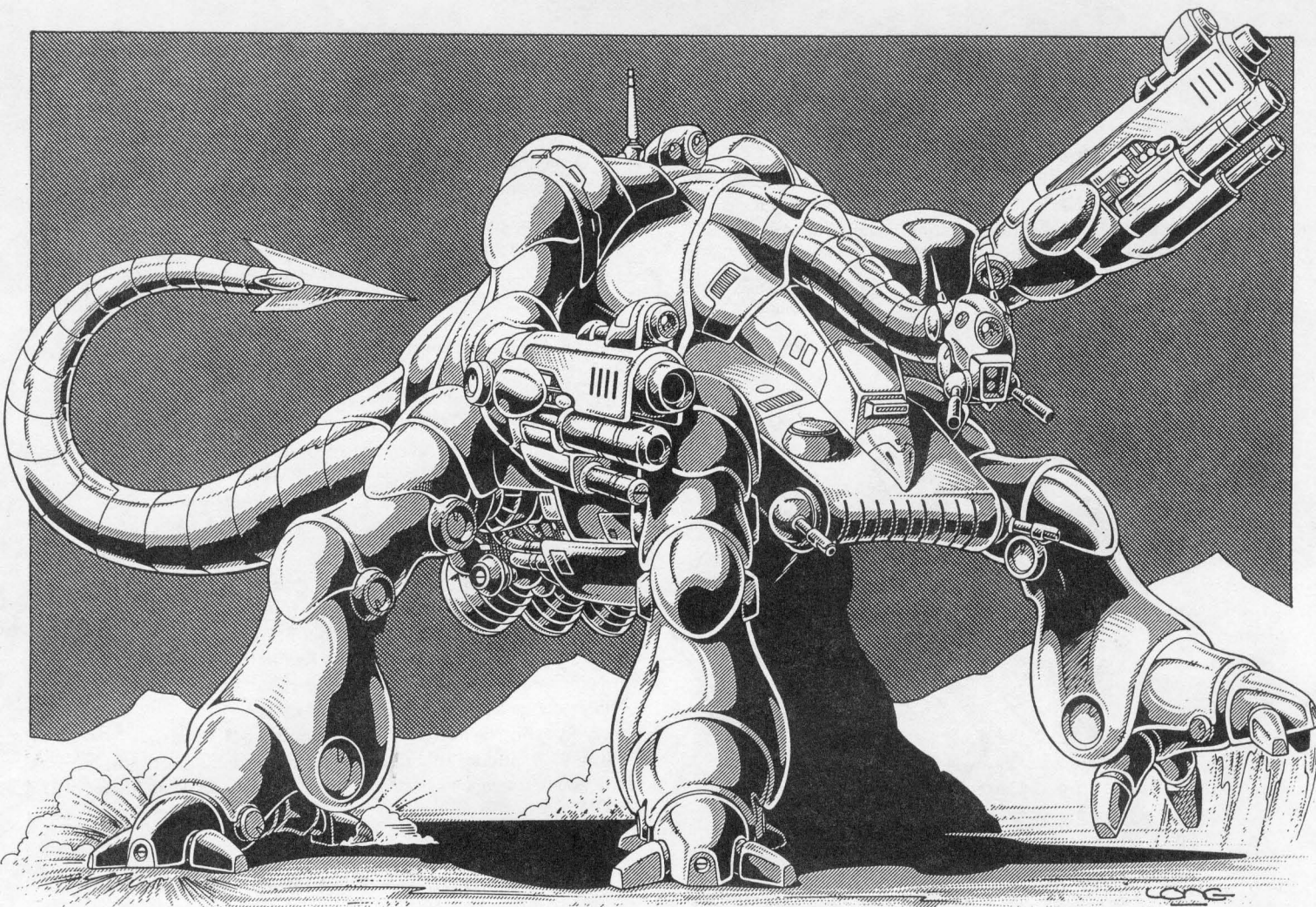
Speed

Running: 70 mph (112 km) maximum.

Leaping: Not possible.

Flight: Not possible.

Space Flight: In zero gravity the robot has fair maneuverability and speed, moving as fast as 40 mph (64 km).



Statistical Data

Height: 25 feet (7.6 m)

Width: 15 feet (4.6 m)

Length: 30 feet (9 m)

Weight: 32 tons, fully loaded.

Physical Attributes of Note: Equal to a P.S. 50.

Cargo: Minimal storage space, about a foot compartment, and storage for a rifle, handgun, survival knife and first-aid kit.

Power System: Nuclear; average energy life is 15 years.

Cost: IOU 100 million, but NOT sold to anybody. This unit is a critical part of the CAN Republic's defenses.

Weapon Systems

1. **The Weapon Arms (2) contain a VEX-1000 Pulse Cannon and Mini-Missile Launcher:** This high-powered laser cannon is the second barrel on the weapon arm, while the rocket launcher is the larger, top barrel. The weapon arms can also be used as bludgeons to hammer opponents into submission. The weapon arms are hooked directly to the armor's nuclear power supply.

Primary Purpose: Assault and Anti-spacecraft

Secondary Purpose: Anti-armor

Mega-Damage: Laser Cannon: $2D6 \times 10$ M.D.

Mini-missiles: Any can be used, but typically armor piercing ($1D4 \times 10$ M.D.) or plasma ($1D6 \times 10$ M.D.) are used.

Rate of Fire: Total of six (6) attacks per each arm in any combination of attacks (laser, missile, bludgeon — in addition to head and tail attacks). Note that the missiles can be fired one at a time or in volleys of two or four. Remember, a volley counts as one attack.

Maximum Effective Range: Laser Cannon: 6000 feet (1830 m), triple in space. Mini-missiles: 1 mile (1.6 km).

Payload: Laser is effectively unlimited. Mini-missiles have a payload of 40 in each arm; total: 80!

2. **Dual Head Lasers and Searchlight:** The head contains back-up sensors (a second, full, sensor system is mounted on the back), a searchlight (in the center of the head), and a pair of medium-range lasers.

Primary Purpose: Assault and Anti-spacecraft

Secondary Purpose: Anti-armor

Mega-Damage: $4D6$ M.D.

Rate of Fire: As many as four (4) melee attacks, but must be coordinated with the tail. The pilot operates both and can only perform a total of four attacks between the two and still drive the vehicle.

Maximum Effective Range: 2000 feet (610 m), triple in space. Payload: Effectively unlimited.

3. **Dual Forward Lasers:** This is a secondary weapon system that is engaged only when one of the other three systems (either weapon arm or head & tail) are destroyed, or if the pilot or one of the gunners elects to use it instead of his standard weapon. Both lasers move in conjunction with each other and fire simultaneously. Both are forward mounted, with a 90 degree angle of rotation and arc of fire.

Primary Purpose: Assault and Anti-spacecraft

Secondary Purpose: Anti-armor

Mega-Damage: $6D6$ M.D. from dual blasts, $3D6$ from a single turret.

Rate of Fire: Equal to the number of hand to hand attacks of the gunner (limited to four if the pilot).

Maximum Effective Range: 4000 feet (1200 m), triple in space. Payload: Effectively unlimited.

4. **Spear Tail:** The tail is incredibly agile and flexible. It is used for hand to hand combat, to anchor the robot to a surface and to puncture

the armor of spacecraft and space stations. Once punctured, the tail can be used to carve the Steel Dragon an opening, much like a can opener.

Primary Purpose: Assault and Anti-armor

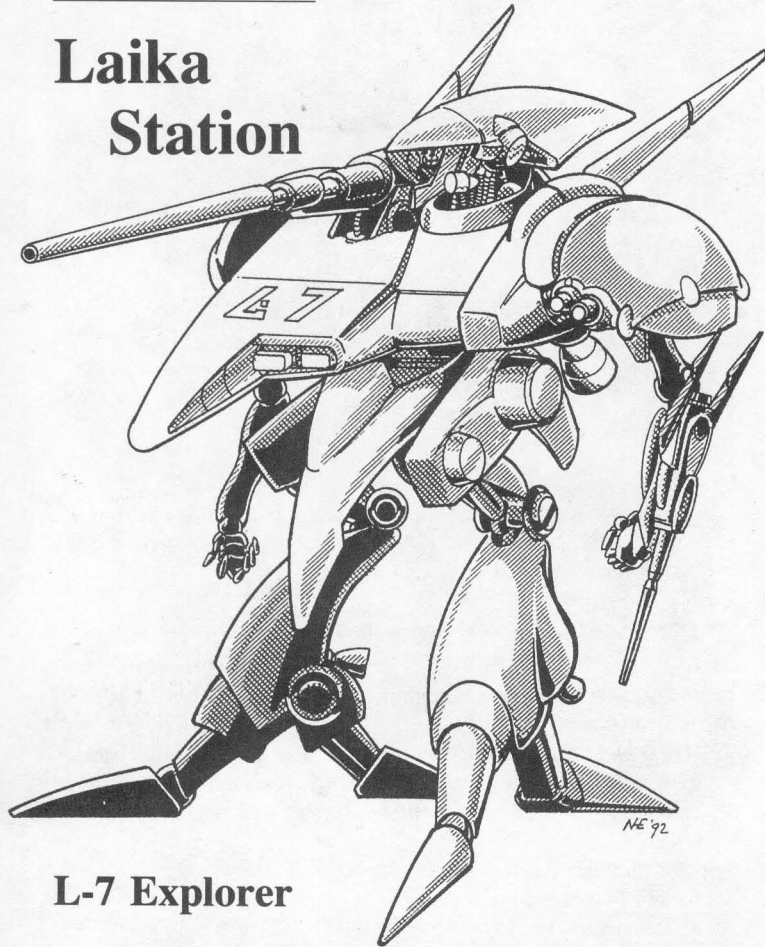
Secondary Purpose: Defense

Mega-Damage: Puncture/stab: 6D6+6 M.D.; Cut/tear: Six feet (1.8 m) per melee (15 seconds), inflicting about 70 M.D. per full melee of cutting and must spend the entire melee cutting; no tail or head attacks.

Rate of Attack: As many as four (4) melee attacks, but must be coordinated with the head. The pilot operates both and can only perform a total of four attacks between the two and still drive the vehicle.

Maximum Effective Range: 36 feet (11 m)

Laika Station



L-7 Explorer

The L-7 Explorer is not a deep space shuttle but a small, three-man vehicle that can be dispatched from a larger spacecraft to retrieve satellites and space junk, pick up and deliver small packages, make repairs on ships and space stations, move in close to investigate or place something, and similar duties. The L-7 also has reasonably good combat capabilities and is often used to defend mining operations and larger vessels.

L-7 Explorer (Laika Station)

Model Type: L-7

Class: Exploration Shuttle (Light Assault)

Crew: 3, one pilot and two passengers.

M.D.C. by Location:

Rear Jets (3) — 90 each

Laser Cannon (1) — 100

Forward Headlights (2) — 2

Retractable Arms (2) — 75

Arm Mounted Weapon (2, optional) — 60 each

Plated Shoulder Housings (2) — 150 each

Shoulder Directional Jets (8) — 10 each

Legs (2) — 250 each

Feet (with maneuvering jets) (2) — 50 each

Top Hatch — 100

Reinforced Pilot's Compartment — 75

****Main Body — 350**

****Depleting the M.D.C. of the main body makes the robot completely inoperable; worthless except as slag.**

Speed

Running: 40 mph (64 km) maximum.

Leaping: The robot can leap up to 60 feet (18.3 m) high or 20 feet (6 m) across assisted by the leg/foot thrusters. Note that leaping height and distance on the moon and in zero gravity is doubled.

Flight: The legs fold beneath the undercarriage of the vehicle when in flight. Both the rear jets and leg/foot thrusters provide thrust. The L-7 Explorer can hover up to 500 feet (152 m) above ground and fly at a speed of 100 mph (160 km) in an atmosphere and Earth like gravity.

Space Flight: In zero gravity the robot has good maneuverability and reasonable speed, rocketing as fast as 300 mph (482 km).

Statistical Data

Height: 22 feet (6.6 m) standing, 12 feet (3.6 m) with legs folded.

Width: 17 feet, 5 inches (5.2 m)

Length: 17 feet (5 m)

Weight: 12 tons fully loaded.

Physical Attributes of Note: Equal to a P.S. 30.

Cargo: Minimal storage space, four by four by three foot (1.2 x 1.2 x 0.9 m) compartment and storage for three rifles, handguns, first aid kit, portable computer, and small personal items.

Power System: Nuclear, average energy life is 10 years.

Cost: IOU 8 million, sold to everybody, especially independents.

Arm mounted weapon systems are optional and cost an additional IOU 350,000 each.

Weapon Systems

1. **L-7 Variable Frequency Laser Pulse Cannon (standard):** This is a medium range laser of reasonable power for a weapon its size. The weapon is hooked directly to the armor's nuclear power supply eliminating the need for an external power pack.

Primary Purpose: Defense

Secondary Purpose: Assault

Mega-Damage: 1D6 x 10 M.D. per single blast.

Rate of Fire: Equal to the number of combined hand to hand attacks (usually 4-6).

Maximum Effective Range: 4000 feet (1200 m), triple in space.

Payload: Effectively unlimited.

2. **Arm Mounted Weapon System (optional):** One or both of the retractable arms can be fitted with a second weapon system; either a light laser or a mini-missile launcher.

Primary Purpose: Defense

Secondary Purpose: Laser for welding and repair.

Weight: 600 lbs (270 kg).

Mega-Damage: Laser: 4D6 M.D. per single blast. Mini-missiles' damage varies with missile type, all types can be used.

Rate of Fire: Equal to the number of combined hand to hand attacks (usually 4-6). Adds one melee attack per weapon arm when used in conjunction with the main gun. Mini-missiles can be fired individually or in pairs.

Maximum Effective Range: 2000 feet (610 m), triple in space. Missiles' range varies with type.

Payload: Lasers: effectively unlimited. Mini-missiles: 8 per arm. Missiles must be manually reloaded which requires 1D4+1 minutes.

3. **Hand to Hand Combat:** Rather than use an energy weapon, the pilot can engage in mega-damage hand to hand combat. Damage is minimal:

Restrained Punch: 1D6 x 10 S.D.C.

Full Strength Punch: 1D6 M.D.

Power Punch: 2D6 M.D., but counts as two attacks

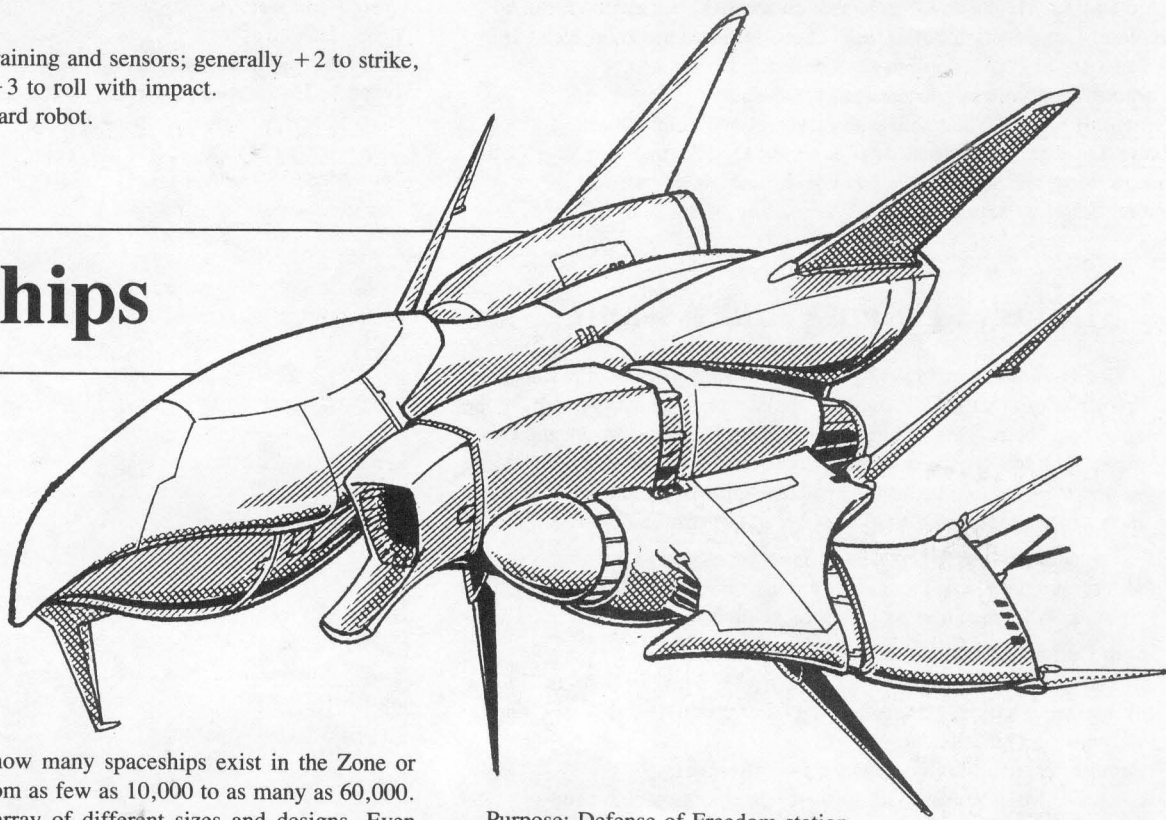
Kick: 1D6 + 2 M.D.

Ram: 4D6 M.D.

Bonuses as per Robot training and sensors; generally +2 to strike, parry and dodge, and +3 to roll with impact.

4. **Sensor System:** Standard robot.

Spaceships



Nobody knows exactly how many spaceships exist in the Zone or beyond. Estimates range from as few as 10,000 to as many as 60,000. They come in a dazzling array of different sizes and designs. Even identical vessels are often so dramatically customized or so often repaired that they are almost unrecognizable as the same design. Even so, all the ships in orbit can be broken down into five basic groups, depending on their design and function. There are shuttles, cargo transports, yachts, self sustaining ships, and combat ships. In many cases, the basic body designs are similar and it is really only the vessel's features (speed, size, armor, weapons, etc.) and purpose that make a difference.

Note: The terms T.M.F., speed class and A.R. (armor rating) are for **After the Bomb** and **Heroes Unlimited** settings.

Shuttles

Most of the old style shuttles were built before the Flash and are still fairly popular (but about 50% slower than later models). They were designed to be launched from Earth into orbit where they would deliver supplies or personnel to an orbital station, and would then return to Earth. All shuttles look like futuristic jet aircraft, with stubby wings and a tail section. All are heavily shielded against heat, the friction of the Earth's atmosphere, and radiation. All are theoretically capable of returning safely to Earth, but none can return to orbit under their own power. However, most, particularly the new, small and medium size shuttles can safely come and go from the Moon and Mars.

New shuttles come in the widest range of different designs and sizes. They can be very small and very maneuverable one to six man racers or junkers (some don't even have pressurized cabins, requiring travelers to wear a vacuum suit) to luxury taxi or pleasure ships. Some are powered by solar sails, others are ramjets or nuclear. Most rescue, freebooter, passenger, and personal vessels are shuttles **Note:** Any shuttle larger than 250 feet (76 m) is considered a small cargo ship or yacht.

A Typical Shuttle

Ship Design: Shuttle, for personnel and cargo transport.

Builder: 85% are built by Laika Station, 7% by Yuro station, and 8% by the Moon colony. Pre-Flash designs include American, Japanese, French, and Russian vessels.

Purpose: Defense of Freedom station

Length: Small speedsters: 90 feet (27 m), average and old-style shuttles: 130 feet (40 m), medium size: 200 feet (61 m) and large shuttles (passenger and cargo): 300 feet (91.5 m).

Mass: 60 to 200 tons

Drive type: Varies; chemical, ion and nuclear are most popular.

Range: Varies with drive system. The best have life span of 1D6 years.

Speed: Typically MACH 2 (about 1320 mph/2112 km), but the newest and most expensive can attain MACH 4 (about 2640 mph/4224 km). Twice as fast in space.

Speed Class: 30, some as high as 33.

T.M.F.: 6

A.R.: 11

Armor (average): S.D.C: 650, M.D.C. 450

Crew (average): 4

Weapons: Design option. Most common are lasers and missiles. Weapons are not included in the cost.

Defenses: Hardened circuits, reflective armor, escape capsule (1) and optional weapon systems.

Extras: Landing gear, targeting computer, sensor cluster.

Cargo Space: Average 40 tons, large 60 tons, or the average size shuttle's cargo area can be converted to accommodate passengers and cargo or passengers only (up to 60 comfortably, with minimal cargo space — enough for luggage).

Cost: IOU 300,000 to 900,000. Good availability.

Solar Yachts

The final class of luxury vessels are built by the rich and extroverted. Solar yachts, much smaller than most of the other spacecraft, are about the size of a small or medium shuttle, and are more prominent because of their immense, reflective solar sail. They are propelled not by the solar wind but by the force of reflected sunlight against this sail. This force is not powerful but it is constant, giving the yacht a continual acceleration which, over time, can build up to impressive speeds.

Ship Design: Mostly small and medium shuttles, but can be larger.
Builder: Laika Station builds 30%, Yuro 20%, Moon Base 25%, and the rest are built by Freedom Station and independents.
Purpose: Pleasure craft, occasionally S-S ships.
Length & Mass: Varies with type of vessel and combat needs.
Drive Type: Solar, but may have a secondary system.
Speed: Most are MACH 1 or MACH 2.
Speed Class: 28 to 30

T.M.F.: Most are 4

A.R.: 12 to 16

Armor (average): Light or medium.

Weapons: Half have at least one or two means of defense.

Cargo Space: Varies, usually very little.

Cost (average): Five to ten times the cost of the conventional spacecraft.

Note: Also see the information and features offered in the designing spaceships section that follows.

Military: Defense and Assault

Combat vessels are typically versions of shuttles and cargo transports dramatically modified for military application, combat. They have the same basic body features but have far greater armor, sensors and armaments. The larger vessels will be troop, satellite, and cargo transports, while the largest are battleships with the greatest number of troops and carry other attack vehicles like an ocean-going aircraft carrier.

The smallest and fastest vessels function as one to three man ship to ship assault craft. The medium as bombers and support craft, launching missiles, killer satellites and long range attacks.

Ship Design: Shuttle or interstellar cargo transport

Builder: 85% are built by Laika Station, 7% by Yuro Station, and 8% by the Moon colony. Then the purchaser modifies the vessel, adding weapons and other features.

Purpose: Combat; both defensive and offensive.

Length & Mass: Varies with type of vessel and combat needs.

Drive Type: Typically ion, plasma and traction drives.

Speed: MACH 2 to MACH 4 (double in space).

Speed Class: 28 to 33

T.M.F.: 4 to 7

A.R.: 12 to 16

Armor (average): Medium or heavy.

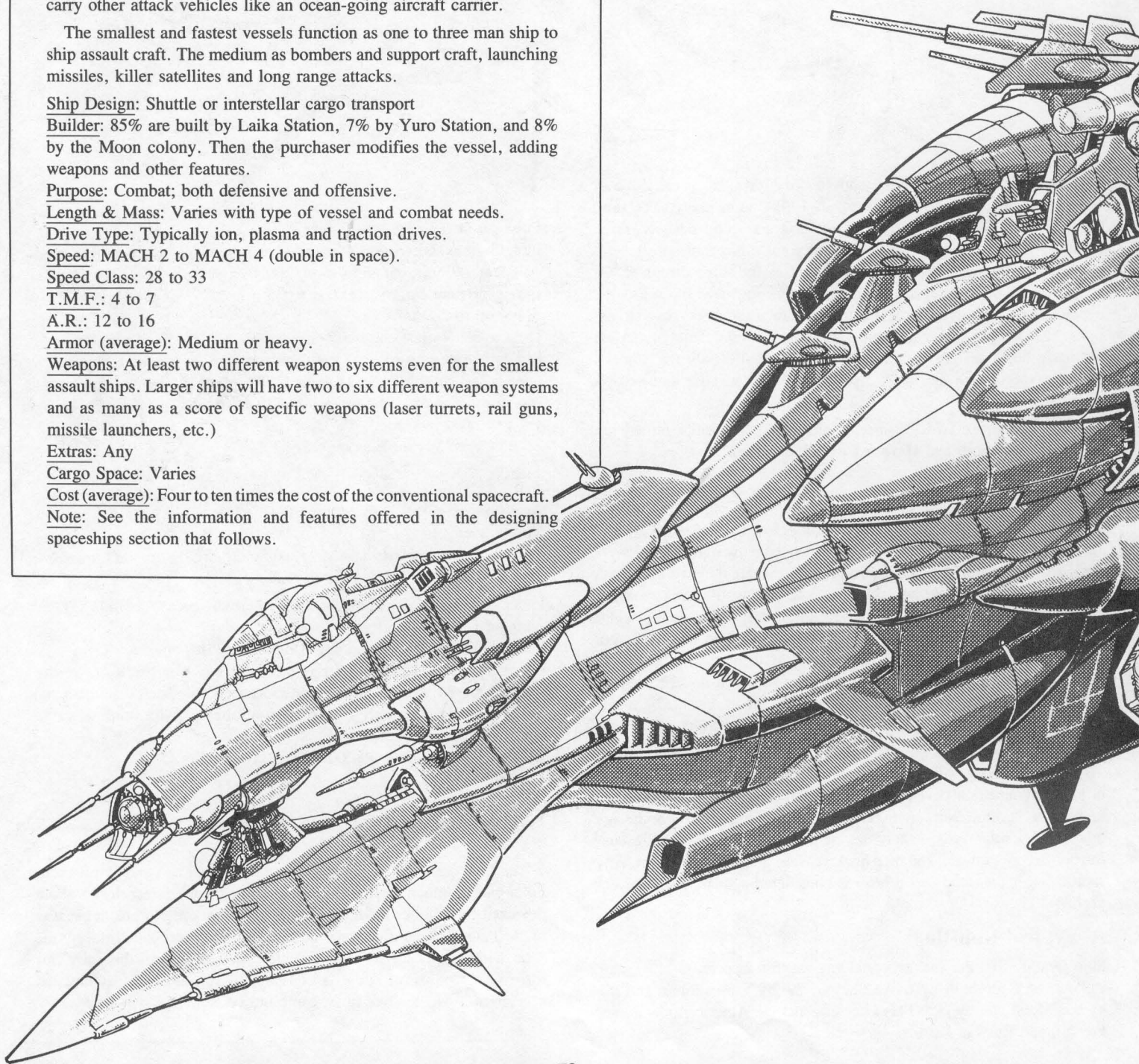
Weapons: At least two different weapon systems even for the smallest assault ships. Larger ships will have two to six different weapon systems and as many as a score of specific weapons (laser turrets, rail guns, missile launchers, etc.)

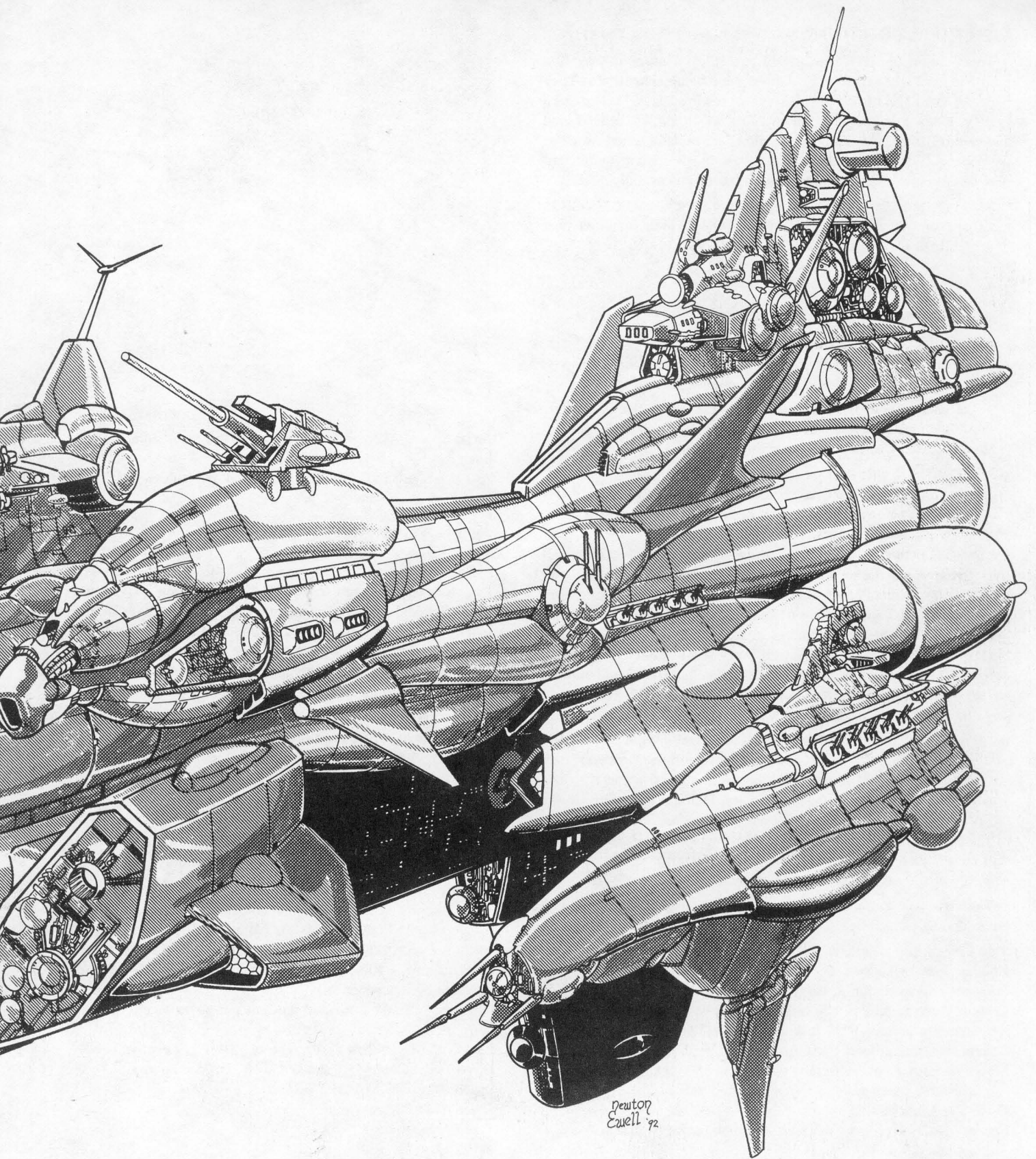
Extras: Any

Cargo Space: Varies

Cost (average): Four to ten times the cost of the conventional spacecraft.

Note: See the information and features offered in the designing spaceships section that follows.

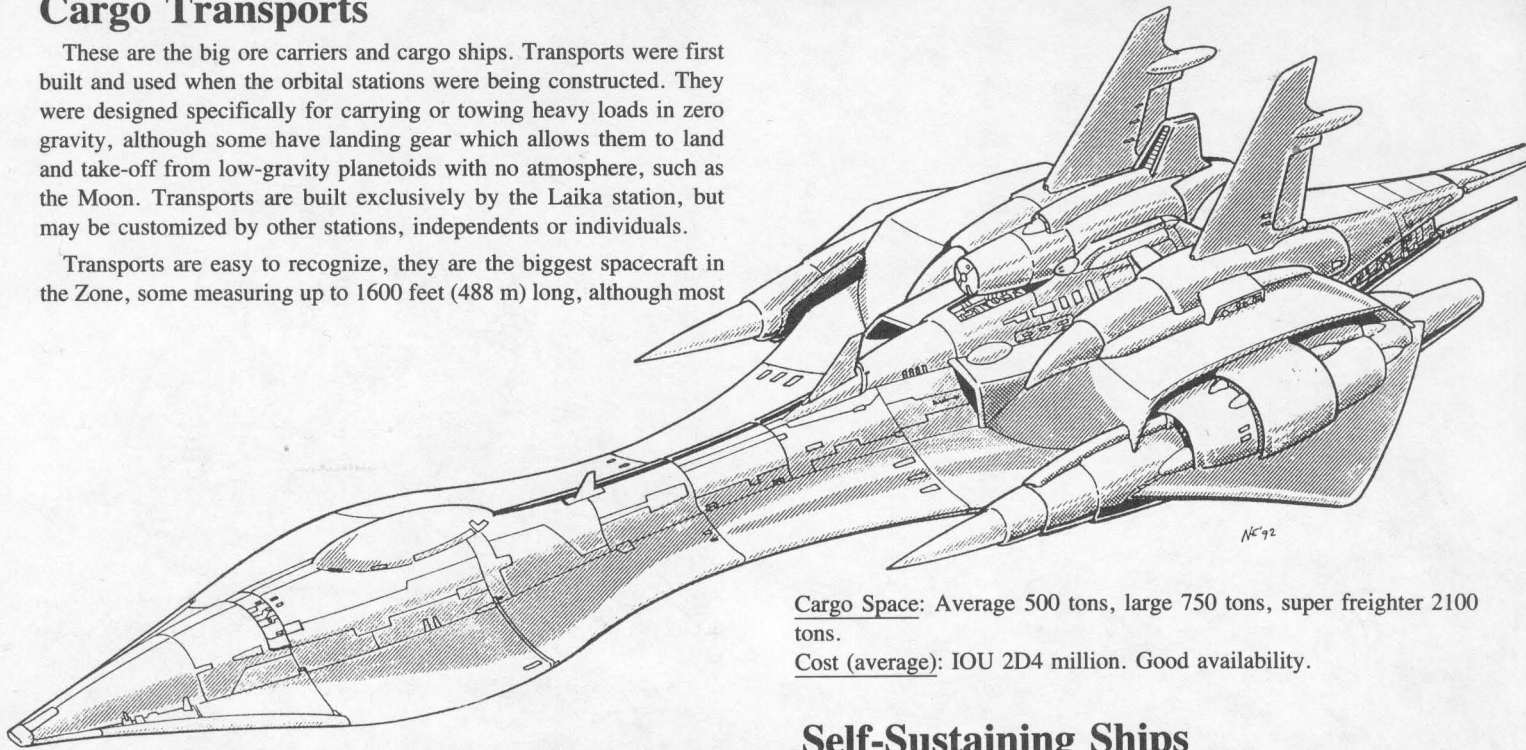




Cargo Transports

These are the big ore carriers and cargo ships. Transports were first built and used when the orbital stations were being constructed. They were designed specifically for carrying or towing heavy loads in zero gravity, although some have landing gear which allows them to land and take-off from low-gravity planetoids with no atmosphere, such as the Moon. Transports are built exclusively by the Laika station, but may be customized by other stations, independents or individuals.

Transports are easy to recognize, they are the biggest spacecraft in the Zone, some measuring up to 1600 feet (488 m) long, although most



are about half that size. Typically, these space freighters have small living quarters for the crew, near the pilot compartment, tacked onto a skeletal superstructure; huge cargo bays, and a very large space-drive, usually an ion drive, at the back. The space for the crew is typically Spartan-like, with minimal features in regard to comfort and luxury, but some are like mobile homes with every comfort one can think of. A few of the newest are entirely automated and have no crew, but these are unpopular and expensive.

Transports are frequently deceptively maneuverable and can be positioned in orbit with incredible accuracy and stability, the superstructure bristling with retro-rockets and position stabilizers. However, they are not speedsters nor super nimble and most shuttles can fly rings around a transport without much difficulty. Half are built without any weapons, a third with only a couple basic weapons, and a small 20% of the transports, owned by the wealthiest companies and/or stations, will be bristling with armaments and safety features. Cargo transport ships are also used to tow or guide asteroids and other vessels.

The stats below are for a typical mid-range orbital transport with lunar landing capabilities.

Ship Design: Large, interstellar, cargo transport

Builder: 99% Laika Station

Purpose: Transportation of cargo, people and equipment.

Length: Average size is 500 to 800 feet (152 to 244 m) long, large freighters are around 1000 feet (350 m) and the very largest, super tankers, measure around 1600 feet (488 m) in length.

Mass: Varies with size. Average size 300 to 500 tons, super freighters can haul three times more.

Drive Type: Ion drive.

Speed: MACH 1 or 2 are the most common, twice as fast in space.

Speed Class: 28 to 33

T.M.F.: 4

A.R.: 13

Armor (average): S.D.C: 2500, M.D.C. 2000

Piloting Crew (average): 3

Work Crew: Varies with size and cargo; 6D6.

Weapons: Optional feature, typically 1D4 lasers, missiles, chaff throwers, or any combination of weapon systems.

Extras: Alarm, landing gear, targeting computer, sensor cluster, escape capsules, etc.

Cargo Space: Average 500 tons, large 750 tons, super freighter 2100 tons.

Cost (average): IOU 2D4 million. Good availability.

Self-Sustaining Ships

Self-sustaining ships, or S-S ships as they are otherwise known, are large shuttles or cargo transports that have been converted into tiny space stations. Most are completely self-sufficient, with air purification and circulatory systems, oxygen production and emergency air storage tanks, small hydroponic garden, waste disposal system, recycling system, short-range radio, storage areas for supplies, and power plant, usually tied into the drive system.

Some retain their full drive/space flight capabilities while others have been modified, with additional living quarters, scaffolding and awkward additions of the scavenged remains of other vessels (the maximum speed is reduced by half).

These S-S ships may serve as work stations for businesses, full scale businesses, trading posts, hotels, and mobile homes for families of independents, groups of freebooters, and criminals. Only a small percentage are the luxury estates of the very wealthy.

Ship Design: Large shuttles or interstellar cargo transports.

Builder: Laika Station builds the majority of the basic ships, but they customize only 10% of the finished self-sufficient ships. Freedom Station customizes 40%, Yuro and Outcast Stations 10% each, and 30% are done by independents.

Purpose: Self contained and independent environment/home/mini-station

Length & Mass: Varies with type of vessel and combat needs.

Drive Type: Commonly ion and solar, but can be any.

Speed: Most are MACH 1 or less.

Speed Class: 28 maximum

T.M.F.: Most are 3

A.R.: 12 to 16

Armor (average): Light or medium.

Weapons: Half have at least one means of defense. Larger ships and places of business will have two to six different weapon systems.

Cargo Space: Varies

Cost (average): Three to six times the cost of the conventional spacecraft (can be kept to two times by using salvaged goods and doing much of the work by oneself).

Note: Also see the information and features offered in the designing spaceships section that follows.

Designing Spaceships

This section is provided for both the GM and players to design their own ships. GMs can do it whenever they like; players can do it if they can amass enough cash to pay the Laika Station to build them one, or they can get somebody else to add new features and modifications.

A **basic spacecraft** consists of a hull and a drive; everything else is optional. Once you have chosen and paid for the hull type and drive system you can work out all the other features.

The Hull

This is the basic shell. All hulls come complete with walls, radiation shielding, piloting computers, power plants or solar panels, docking gear, airlocks, automatic pressure doors, acceleration couches, radar, basic repair systems, distress beacons, two-way radio with a range of 2000 miles (3200 km — double in space), reserve batteries, furry dice, go-faster stripes and everything else that a ship will need except for a drive unit, fuel, armor, weapons, recycling plant and a crew. Basic Hull Armor: A.R. 6 and 200 S.D.C. (90 M.D.C.).

Cost: 25% less than the average, finished cost as previously listed.

Drive Type

There are five different types of drive systems available for spacecraft, each with advantages and disadvantages. Three of the five use some kind of non-renewable fuel, which can be a disadvantage. Fuel tanks are automatically included in the cost of the drive.

The mass of a drive is automatically included in the mass of the ship's hull. This does not mean that all drives are the same; it is not possible to take a drive from a small shuttle and fit it in a large transport, expecting to have the same speed class and T.M.F. However, it is possible to strip down a drive system and use the parts to repair larger or smaller systems of a similar type in other ships.

Cost: All drives have a base installation and parts cost, plus one must pay an additional IOU 1000 per ton of the spacecraft. For example: a ship that weighs 150 tons is valued at the base cost plus IOU 150,000.

Speed Classes:

Speed Class 28: MACH 1 (approx. 660 mph/1056 km)

Speed Class 29: MACH 1.5

Speed Class 30: MACH 2

Speed Class 31: MACH 2.5

Speed Class 32: MACH 3

Speed Class 33: MACH 4

Speed Class 34: MACH 5

1. Chemical Drive

The chemical drive is the most basic space drive, the most expensive to run and the least efficient. It burns a mixture of hydrogen and oxygen to provide propulsion and therefore needs a lot of room for fuel. It is also prone to leaks and even explosions.

It has some advantages over other drives; it responds more quickly to controls (+1 on initiative) and adds to a craft's maneuverability (+2% on piloting skill). Chemical drives are common.

Base cost: IOU 10,000 plus IOU 1000 per ton.

Fuel: Hydrogen/oxygen mix

Effective Range: 300,000 miles (fuel cost is IOU 20,000).

Effective Speed Class: 28-30

T.M.F. Changes: +1 to T.M.F.

Optional Bigger Fuel Tank: An additional 50 tons for a double size fuel tank, doubles the range.

2. Ion Drive

An ion drive uses electrical power to convert its hydrogen fuel into a stream of ions which propel the spacecraft. It is not as responsive as a chemical drive but it provides more thrust and the fuel is less expensive. Some stations see hydrogen as a waste product, coming from the production of oxygen, and sell it reasonably cheaply.

Ion drives are the most common of the drive systems in orbit. Although they are more expensive than chemical drives, they are cheaper to run and less prone to accidents. The Laika station sells reconditioned pre-Flash ion drives as well as the ones it builds itself.

Base cost: IOU 150,000 plus IOU 1000 per ton.

Fuel: Hydrogen/electricity

Effective Range: 600,000 miles (fuel cost is IOU 20,000 per).

Effective Speed Class: 28-33

T.M.F. Changes: None.

Optional Bigger Fuel Tank: An additional 50 tons for a double size fuel tank, doubles the range and adds 100 mph (160 km) to the speed.

3. Plasma Drive

The plasma drive uses a controlled nuclear fusion reaction between deuterium (heavy hydrogen) and helium-3 to produce plasma, which is then forced backwards by a magnetic field to provide thrust. Plasma drives are rare, and are still regarded as experimental. The fuel is very expensive and difficult to obtain but the drives are highly efficient, able to sustain acceleration for some time.

Plasma drives are large, bulky devices. They need heavy shielding for the reactor chamber and a large source of electrical power; often a second nuclear reactor. They are too large to be fitted to personnel carriers, small shuttles or small transports.

Base cost: 500,000 plus IOU 1000 per ton.

Fuel: Deuterium/helium-3/electricity

Effective Range: 750,000 miles (fuel cost is IOU 20,000 per).

Effective Speed Class: 28-33

T.M.F. Changes: -1 to T.M.F.

Optional Bigger Fuel Tank: An additional 75 tons for a double size fuel tank, doubles the range and adds 300 mph (482 km) to speed.

4. Traction Drive

The traction drive generates a very powerful and specialized pseudo-magnetic field which attaches itself to the fabric of the space-time continuum and pulls the spacecraft along after it. It is like lying on the floor and pulling yourself along by your fingertips.

The traction drive is not powerful by the standards of the other drives but it has the advantage that its only fuel is electricity, which can be generated by solar or nuclear power. Therefore it can have a constant acceleration. If anyone should ever want to explore far beyond the asteroid belt, they would almost certainly do it in a ship with a traction drive.

The other major advantage of the traction drive is that it has absolute braking. By applying full reverse power to the drive, it is possible to slow down the ship quickly. Traction drives are currently only fitted to a handful of very large transports and to the ships of the wealthy. They are too large to be used for small and medium-size shuttles.

Base cost: IOU 20 million plus IOU 1000 per ton.

Fuel: Deuterium/helium-3/electricity

Effective Range: Effectively unlimited, estimated 500 million miles. Theoretically this drive system could reach the speed of light, but it would take a year of constant acceleration.

Effective Speed Class: 28-30

T.M.F. Changes: -2 to T.M.F.

Optional back-up chemical fuel system: A cost of an additional IOU 1000 per ton of the ship.

5. Solar Drive

This drive system relies on sunlight, electricity and batteries. It is cheap, clean and efficient to run. The only problem is that the solar sails may need repair and replacements on a regular basis (costs about IOU 100,000 every six months).

Base cost: IOU one million plus IOU 1000 per ton.

Fuel: Solar electricity

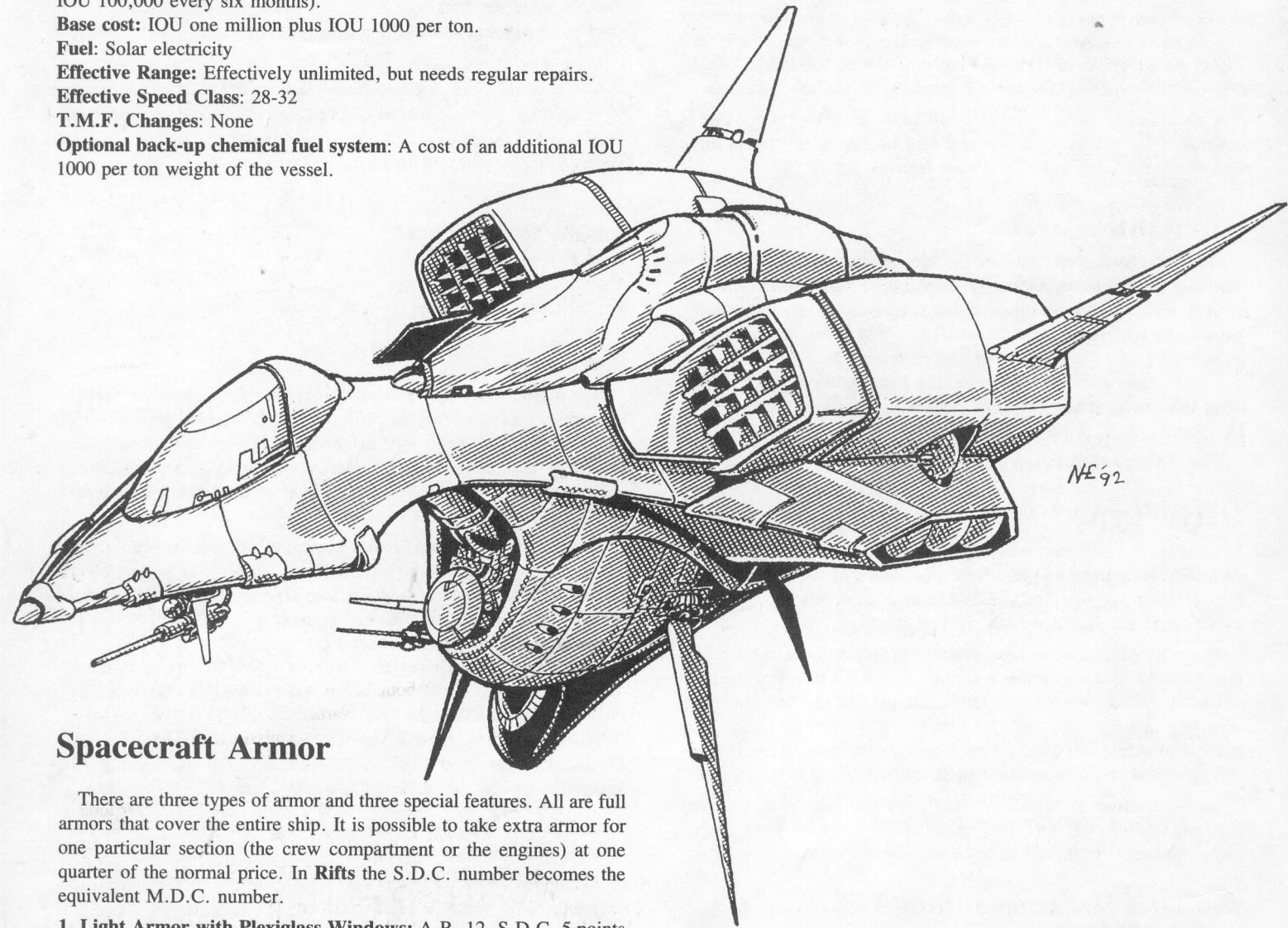
Effective Range: Effectively unlimited, but needs regular repairs.

Effective Speed Class: 28-32

T.M.F. Changes: None

Optional back-up chemical fuel system: A cost of an additional IOU 1000 per ton weight of the vessel.

reflective and radar-invisible armor on the same ship. Nor is it possible to take a combination of light, medium and heavy armor on top of each other since their effects are not cumulative.



Spacecraft Armor

There are three types of armor and three special features. All are full armors that cover the entire ship. It is possible to take extra armor for one particular section (the crew compartment or the engines) at one quarter of the normal price. In **Rifts** the S.D.C. number becomes the equivalent M.D.C. number.

1. Light Armor with Plexiglass Windows: A.R. 12, S.D.C. 5 points per ton of spacecraft. **Weight:** Increases overall weight by 10%. **Cost:** IOU 60 per ton of spacecraft.

2. Medium Armor with Plexiglass Windows: A.R. 14, S.D.C. 8 points per ton of spacecraft. **Weight:** Increases overall weight by 20%. **Cost:** IOU 100 per ton of spacecraft.

3. Heavy Armor with Plexiglass Windows: A.R. 16, S.D.C. 10 points per ton of spacecraft. **Weight:** Increases overall weight by 25%. **Cost:** IOU 150 per ton of spacecraft.

Special Feature: Radar-Invisible Armor: The ship is coated with a special non-reflective covering which makes it invisible to normal radar systems; only an 11% chance of showing up on long-range radar systems. It does not adjust a ship's A.R. but adds 50 points of S.D.C. **Weight:** Increased by 1%. **Cost:** IOU 600 per ton of spacecraft.

Special Feature: Reflective Armor: The entire ship is covered in a high-gloss silver coating which reflects light and makes the vessel laser resistant (half damage), only variable light frequency lasers do full damage. It also adds one point to the ship's armor rating (A.R.) and 200 S.D.C. points. **Weight:** Increased by 4%. **Cost:** IOU 60 per ton of spacecraft.

Note: It is possible to put reflective or radar-invisible armor on top of light, medium or heavy armor, but it is not possible to have both

Special Feature: Reinforced Pilot's Compartment: This is additional S.D.C. shielding only around the cockpit of the vessel. The largest pilot compartment will seat 10 people. **Weight:** Negligible. **Cost:** IOU 2000 for 50 S.D.C., 4000 for 100 S.D.C., 8000 for 200 S.D.C. (or equivalent M.D.C.).

Recycling Plants

A ship does not need to have a recycling plant. It is possible to survive on stored air and food, but few pilots will risk it. Plants come in two types.

Type one plants which just recycle oxygen and purify the air, and **type two** plants which can recycle everything. Most new ships have recycling plants designed to cope with the maximum number of crew plus 50%. **Cost:** Type One plants cost IOU 2000 per crew member, and type two cost IOU 3500 per crew member. All recycling plants weigh 1660 lbs (750 kg).

Weapon Systems

Most ships in space have some kind of basic weaponry for defense if nothing else. Space can be a dangerous place. In addition to built-in weapons, some vessels will have one-man combat units/robot vehicles or power armor troops, and may deploy killer satellites.

Weapon limitations by spacecraft size (maximum number):

Small shuttles: Two weapon systems.

Medium shuttles: Three weapon systems.

Large shuttles: Four weapon systems.

Small cargo ships: Five

Medium cargo ships: Seven weapon systems.

Large cargo ships: Twelve*

Super freighters: Twenty-four*

*In most cases, ships with more than six weapon systems can not use more than half of those weapons in a single combat melee round.

Rifts Note: All weapons do an equivalent amount of M.D.C. damage unless indicated otherwise.

Offensive Weapons

Standard Ion Weapon (large)

Damage: 5D6 S.D.C. single gun, 1D6 × 10 double barrel (two blasts).

Rate of Fire: Equal to the number of melee attacks of the gunner.

Effective Range: 4000 feet (1200 m), triple in space.

Payload: Effectively unlimited.

Value: IOU 20,000

Standard Laser (small)

Damage: 4D6 S.D.C. single gun, 1D4 × 10 double barrel (two blasts).

Rate of Fire: Equal to the number of melee attacks of the gunner.

Effective Range: 4000 feet (1200 m), triple in space.

Payload: Effectively unlimited.

Cost: IOU 15,000

Standard Laser (large)

Damage: 6D6 S.D.C. single gun, 1D6 × 10 double barrel (two blasts).

Rate of Fire: Equal to the number of melee attacks of the gunner.

Effective Range: 6000 feet (1830 m), triple in space.

Payload: Effectively unlimited.

Value: IOU 25,000

Standard Laser Cannon (large)

Damage: 2D6 × 10 S.D.C. single cannon.

Rate of Fire: Equal to the number of melee attacks of the gunner.

Effective Range: 6000 feet (1830 m), triple in space.

Payload: Effectively unlimited.

Value: IOU 100,000

Rail Gun (small)

Damage: 1D6 × 10 S.D.C. per blast

Rate of Fire: Four per melee.

Effective Range: 6000 feet (1830 m), double in space.

Payload: 80 shots then empty; takes 1D4 minutes to reload.

Cost: IOU 25,000

Rail Gun Cannon (large)

Damage: 2D6 × 10 S.D.C. per blast

Rate of Fire: Four per melee.

Effective Range: 6000 feet (1830 m), double in space.

Payload: 100 shots then empty; takes 1D4 minutes to reload.

Cost: IOU 45,000

Particle Beam Cannon (large)

Damage: 4D6 × 10 S.D.C. (or 2D6 × 10 M.D.)

Rate of Fire: Five attacks per melee.

Effective Range: 4000 feet (1200 m), triple in space.

Payload: 30 shots before requiring a recharge period of 1D6 minutes.

Cost: IOU 500,000.

Mini-Missile Launcher

Damage: Varies with missile type; can use any.

Rate of Fire: One at a time, in pairs, or volley of four.

Effective Range: One mile (1.6 km), double in space.

Payload: 24 mini-missiles; reloading takes 1D4 melees.

Cost: IOU 20,000

Missiles & Smart Bombs

Full size short, medium, and long range missile launchers can be built into the medium to large cargo transports.

Damage: Varies with missile type; can use any.

Rate of Fire: One at a time, in pairs, or volley of four.

Effective Range: Varies with missile type; double in space.

Payload: Medium size ship: six, large ship: 12, super freighter: 24.

Additional missiles may be available for reloading if there is enough cargo space.

Cost: The launch system: IOU 50,000. Per missile cost is approximately: IOU 200 for short range, 500 for medium range, and 1000 for long range (add 500 for smart bombs).

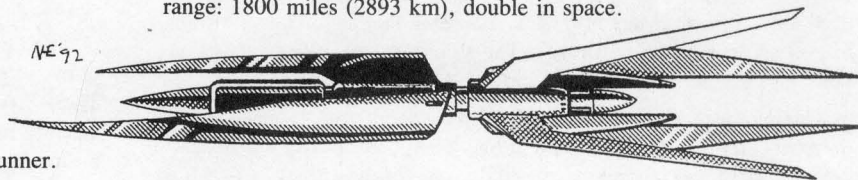
Smart Bomb Type One: These are launched missiles that can identify and pursue enemy targets. They are +5 to strike and +4 to dodge attacks directed at them.

Smart Bomb Type Two: These are drop and wait missiles that are released into space where they float around, waiting for an enemy target. When an enemy is identified, a missile is launched. These smart bombs can identify and pursue enemy targets at +5 to strike and +4 to dodge attacks directed at them.

Damage: All type two smart bomb systems have two missiles pointed in opposite directions (but both can strike the same target). One is typically a long range nuclear, multi-warhead missile (4D6 × 10 S.D.C./M.D.) and the other, a medium range plasma missile (2D6 × 10 S.D.C./M.D.).

Sensor Range: 500 miles (804 km).

Missile Range: Plasma medium range: 40 miles (64 km), nuclear long range: 1800 miles (2893 km), double in space.



Defensive Weapons

Anti-missile

Each anti-missile is actually a volley of ten fragmentation mini-missiles, which automatically deploy to intercept any incoming missiles. Make one strike roll to see if any of the mini-missiles impact with the incoming enemy missile or missile volley. A hit automatically destroys the enemy missile or volley. See the missile combat rules in the various RPGs. The anti-missile system is not designed to be used as an offensive weapon. **Cost:** IOU 30,000. **Payload:** 40 missiles (four shots), but can be reloaded at a rate of ten mini-missiles per 1D4 melees.

Chaff Thrower

Consists of a cylinder containing thousands of small streamers made of highly reflective aluminum, which are released when fired. It serves three purposes: 1) To decoy and confuse incoming missiles; 50% chance of deflecting ordinary missiles. 2) To disguise a vessel's radar signature. 3) To diffuse and reflect incoming laser beams for five full melee rounds (75 seconds); all lasers do half damage. Also any ship flying through the cloud of chaff at high speed will take 2D6 damage. **Cost:** IOU 10,000 for the launch system and IOU 500 per cylinder of chaff.

Sand-caster

Sand-casters throw a field of ordinary sand, or highly reflective, fine grains of matter, into space in a sphere 660 feet (200 m) across. Its primary effect is to scatter laser beams, reducing the laser damage by one third. It also causes 4D6 damage to any craft which flies through the field of sand at a high speed. The sand lasts for five melee rounds (75 seconds), until it becomes too dispersed to do anything. **Cost:** IOU 10,000 for the launch system and IOU 100 per cylinder of sand.

Hardened Circuits

The ship's electrical and computer circuits have been hardened to withstand the effects of scramblers and EMPs. **Cost:** IOU 5000

Magnetic Shield

Magnetic shields disperse the ions fired by particle beam weapons, halving their effective damage. The magnetic field also has a 35% chance of confusing and deflecting ordinary missiles. **Cost:** IOU 10,000

Scrambler

Scramblers confuse all unshielded electronic signals around them for a range of 80 miles (96 km). All radio transmissions are garbled and there is a 45% chance of confusing and deflecting ordinary missiles. **Cost:** IOU 12,500

Scrambler Shield

Protects all electronic circuits and negates the effect of a scrambler. **Cost:** IOU 15,000

Turret

A turret mounting for any laser or weapon system provides 360 degrees of rotation and an 180 degree arc of fire, and has armored protection (50 S.D.C. for small and 100 S.D.C. for large). **Cost:** IOU 2000 each turret.

Other Spacecraft Features

Aerobrakes. Aerobrakes work like a parachute, using the top of a planet's atmosphere to slow a spacecraft's speed. They can only be used around Earth, Mars or Venus, assuming that anyone would want to go to Venus in the first place. The ship will lose 10% of its speed per hour that the aerobrake is deployed. **Cost:** IOU 50,000

Alarm: Basic. This will signal loudly if anyone tries to make unauthorized entry into the spacecraft. It may seem unnecessary but spacecraft are large and few pilots constantly monitor the airlock. **Cost:** IOU 100 per hatch

Alarm: Advanced. This alarm system has motion detectors strategically located to cover the entire hull. An alarm sounds when any object with a mass of more than 100 pounds (45 kg) comes within 300 feet (91 m), as well as when an outer hatch has been opened. **Cost:** 10,000 for small ships, 22,000 for large ships.

Rescue Sphere: A rescue sphere is about four feet (1.2 m) in diameter, and made of vacuum-proof, flexible fabric with a sealable entry. It holds one average size human and will have enough air to survive for ten minutes, although an auxiliary oxygen pack can be fixed to the outside for a much longer period of air. It takes a minute to enter a rescue sphere. **Cost:** IOU 250

Escape capsule. A bigger, better version of the rescue sphere, with a long-range distress beacon (1000 miles/1600 km), food and water rations for two (lasts one month), waste disposal system and an air recycling system that will provide breathable air for up to six months. Designed for two people, it can hold up to four, but conditions are cramped. It has no propulsion system and does not launch automatically. A.R. 10, S.D.C. 100. **Cost:** IOU 20,500

Ejection gear. This is a system linked into the ship's computer. The computer constantly monitors the position and velocity of the ship and all objects around it. If it senses that the ship is in an unavoidable fast collision course with an object massing more than 20 kg (in other words, a collision likely to destroy the ship), it will automatically seal and eject the entire crew's quarters two seconds before the collision. These devices are not popular with skillful pilots since they have a tendency to go off during stunts or clever flying. The crew compartment is designed as a contained enclosure, like a big escape capsule (same basic features, more food and water); S.D.C. 200. **Cost:** IOU 120,000

Grapples. Grapples are used for docking with objects that do not have the normal universal docking bays. This includes snowballs, asteroids, wrecked ships and the Outcast station. A grapple is fired at the object to be docked, and will (75% chance) attach itself with claw grips. The grapple is attached to a winch and 1640 feet (500 m) of cable, with a breaking strain of 100 tons. **Cost:** IOU 10,000 for complete system.

Landing gear. Allows a craft to make a landing on any low-gravity planet, planetoid, or the deck of a larger ship. **Cost:** IOU 50,000.

Special Sensors: Same as robot systems, only six times the range and three times the cost.

The spacecraft may also deploy satellites for communications, surveillance and combat. This is especially true of the large battle cruisers. See the satellite section.

Also see features and items in *Heroes Unlimited* and *TMNT Guide to the Universe*, and can include other, reasonable items from other role-playing games.

Satellites

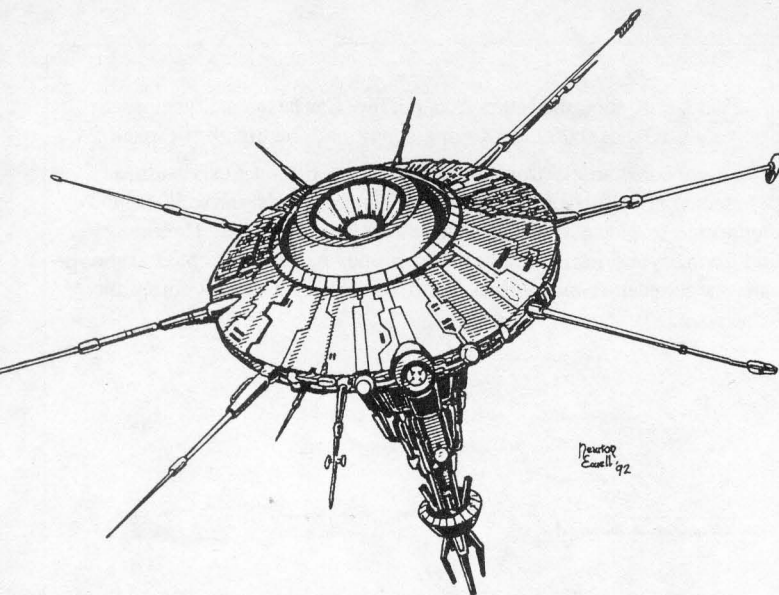
At the time of the Flash, the number of operational satellites circling the Earth was around a hundred thousand. They shared space with thousands of spent or damaged satellites, wreckage, lost or discarded equipment and other space junk. Since the Flash, many of the objects in low orbit have fallen to Earth and burned up in the atmosphere or have been snatched up by scavengers. Still, many others have stabilizers or small propulsion systems designed to keep them at a stable height, or even to change their position regularly to avoid detection or capture. These have survived the decades as mindless drones still trying to perform their jobs. They are a scavenger's delight and thousands have been captured, cannibalized, or sold for parts.

Since the days of the Flash, the space stations have added their own satellites to the spaceways. Most are harmless communications, beacon and surveillance devices, but some have a more sinister purpose, combat. A variety of killer satellites exist in the Zone. In the **After the Bomb** setting they are typically spy and defense mechanisms, while in **Rifts**, most are part of the Earth Containment System, a comparatively small percent defend space stations.

There are five basic types of satellites: communication, navigational beacons, sensor stations, surveillance, and defense.

Communications. Old communication satellites were put in orbit to bounce signals from one part of the Earth's surface to another, and therefore are now mostly useless. They can be found in one of three orbits: geosynchronous (around 36,000 km above the Earth), in long elliptical orbits which range between 281 and 25,000 miles (450 to 40,000 km) from the Earth, or in lower orbits around 940 miles (1500 km) above the Earth. Many of the satellites in geosynchronous orbit are drifting, or have drifted, towards the geosynchronous graveyard.

A typical communications satellite will weigh between 225 and 900 pounds (500 to 2000 kg) and will measure as much as 12 by 5 feet (4 x 1.5 m). Most have solar panels, radio receivers, sensors, antennae,



a small chemical drive, a large on-board computer and sometimes jamming, anti-jamming and defense mechanisms. A communications satellite is worth its weight in IOUs if in working condition, or half its weight if disabled. So a satellite weighing 600 pounds would be worth IOU 600 (IOU 300 if not working).

New communication satellites are often tethered to space stations and spacecraft, or have a propulsion system and guidance program to keep them in one location. They help link the different stations together in a communication web and are critical in maintaining contact with remote outposts and mining operations beyond Mars.

Navigation Satellites. These satellites broadcast a continuous signal which allows space travelers to fix their position. Because they are much simpler than communications satellites, they tend to be about half the size, with less complex equipment. Most have a small propulsion system to maintain an accurate orbit/position. Because they are essentially beacons, working navigation satellites are easy to locate in orbit. They have little salvage value, especially if disabled, and even old, large, working satellites weighing 500 pounds or more will not fetch more than IOU 100.

Sensor Station Satellites. Sensor satellites contain a vast range of sensors and instruments and can weigh up to 25 tons. Around Earth they are found in two main orbits: smaller models weighing two tons are in geostationary orbits, while the larger satellites are much closer to the Earth in fast orbits ranging from 375 to 940 miles (600 to 1500 km) and include meteorological satellites. The sensor stations monitor solar flare activity, solar winds and storms, radiation levels, energy levels and activity in a particular zone. All the stations have scores of these scattered throughout the zone. In the **Rifts** setting they also closely monitor almost every inch of Earth.

Old pre-Flash meteorological satellites are highly prized, worth IOU one per pound (IOU 1 per two pounds if the satellite is disabled or damaged). Freebooters dream of finding a large meteorological satellite so that they will be able to live in luxury for the rest of their lives.

Surveillance Satellites. Old surveillance satellites were put in orbit by military or governmental organizations. Most were part of the Strategic Defense Initiative (S.D.I.) system and all are armed with a chemical laser or a self-destruct mechanism (often nuclear) to defend themselves. Old surveillance satellites will be found either in low orbits, some as low as 155 miles (250 km), while others follow an elliptical or sun-synchronous path of orbit. They range in weight from three to twelve tons and are very valuable (IOU 2 per pound/0.45 kg) if found in working condition. But because they tend to center around just one surveillance system, they are worth much less (IOU 1 per four pounds/1.8 kg) if damaged. The remains of one that has self-destructed may be worth a handful of IOUs if a sympathetic or stupid buyer can be found.

The new surveillance satellites are about half as big and heavy as the old satellites. They are used to monitor the Earth, other stations, competitors, and activity in certain areas of space. Some have computers that recognize thousands of specific targets and propulsion systems enabling it to follow a target, all the while sending coded data or even video transmissions back to a space station or monitoring vessel. The newest also have defense mechanisms, such as lasers or missiles.

Defense Satellites. Although hundreds of defense satellites were destroyed in the Flash, enough of these killer satellites have survived to make life in orbit interesting. Most of the ancient survivors were part of the Strategic Defense Initiative (S.D.I.) system, orbiting at various points around the Earth from low orbits around 312 miles (500 km) to geostationary orbits and long ellipses. There are several different types, but they all have two things in common. They are all built around a computer with artificial intelligence programs and they can all defend themselves.

The killer satellites are designed to search for military activity (rockets, missiles, spacecraft, nuclear explosions, etc.), locate the source, determine its status (friendly or hostile, all the designs of the future spacecraft and satellites are unrecognizable and therefore hostile), and destroy it. All S.D.I. defense satellites have the ability to self-destruct and some are little more than floating space mines. The most advanced of these ancient systems can communicate in a simple programming language similar to English and are equipped with lasers, missiles or other means of defense. They can make basic data based decisions, and if given the proper commands, or presented with a convincing, factual argument, can be persuaded not to attack.

One type of the old kinetic kill weapons is the brilliant pebbles. Both kinetic kill weapons and brilliant pebbles are satellites with powerful drive systems. On a command they will head towards a hostile object at full speed (Mach 1D4 + 1) with the intention of smashing into it and destroying it. Kinetic kill weapons are very small, only a few feet long, and use their impact velocity to destroy the hostile target; some deploy blades or fins to increase the chance of a successful hit. Brilliant pebbles also contain a nuclear warhead.

New killer satellites are smaller, smarter and deadlier, but still basically the same toys. The following are the most common types of deadly satellites.

Satellites as Weapons

Old Kinetic Kill Rocket

Size: 2D4 × 10 pounds

Damage: 5D6 S.D.C. (or 3D6 M.D.)

Rate of Fire: One

Effective Range: Two miles (3.2 km)

Value: IOU 3D6 × 10 in working condition.

Notes: An old kinetic kill weapon with a powerful drive system. It will zoom towards a hostile object at full speed (Mach 1D4 + 1) and impale itself into the target, rupturing hulls and exploding active warheads. Some deploy blades or fins to increase the chance of a successful hit and to do more damage (add 1D6).

Old Brilliant Pebbles Missile

Size: 1D4 tons

Damage: 2D6 × 100 S.D.C. (or 4D6 × 10 M.D.)

Rate of Fire: One

Effective Range: Two miles (3.2 km)

Value: IOU 3D6 × 10 in working condition.

Notes: Brilliant pebbles are semi-smart nuclear missiles that activate and launch when a target is recognized (speed: Mach 1D4 +). The warhead explodes on contact. There are around 1000 kinetic kill weapons and 500 Brilliant Pebbles still in Earth orbit.

Rail Gun (New)

Size: 1D6 + 1 tons

Damage: 2D6 × 10 S.D.C. (or 1D6 × 10 M.D.)

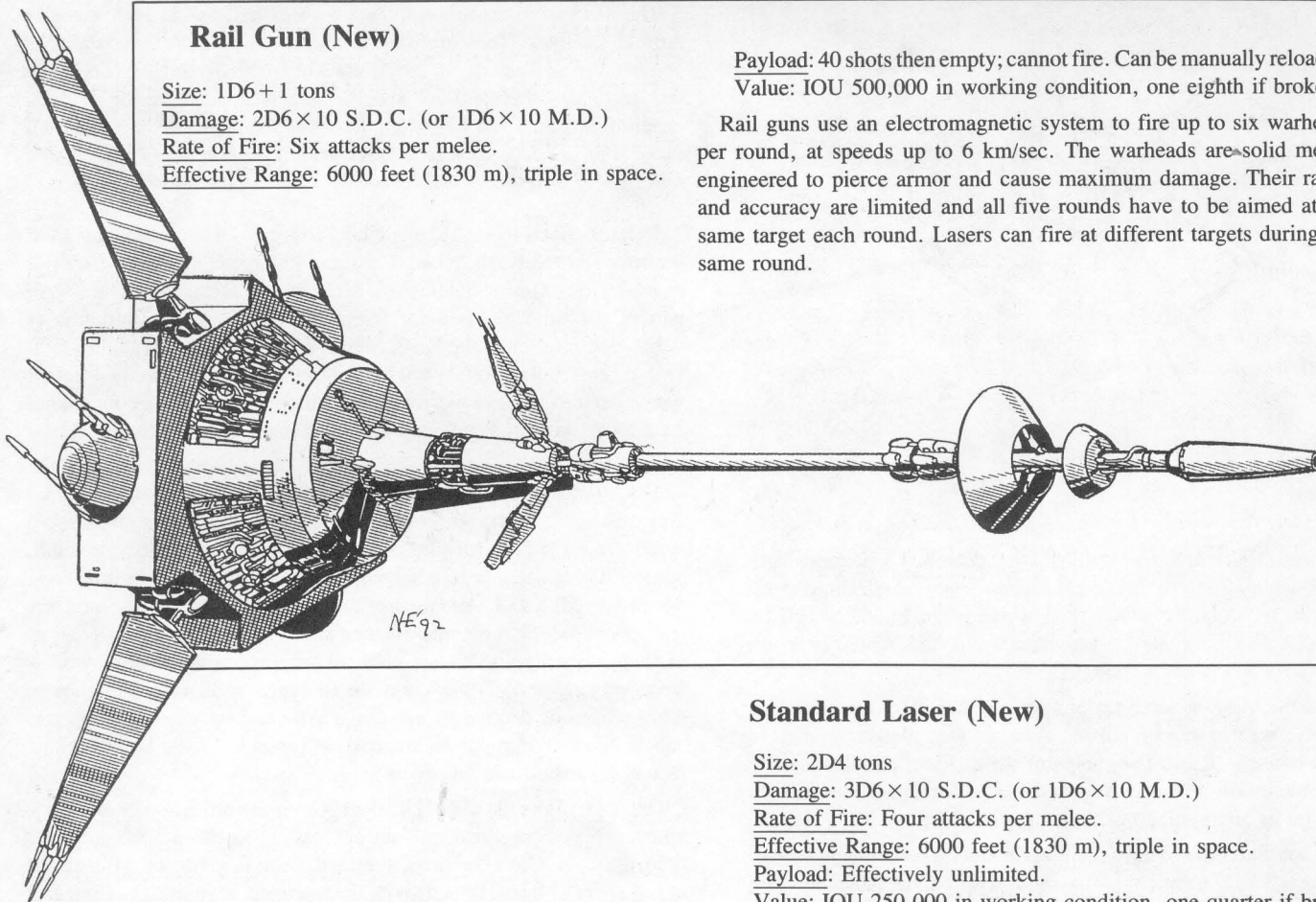
Rate of Fire: Six attacks per melee.

Effective Range: 6000 feet (1830 m), triple in space.

Payload: 40 shots then empty; cannot fire. Can be manually reloaded.

Value: IOU 500,000 in working condition, one eighth if broken.

Rail guns use an electromagnetic system to fire up to six warheads per round, at speeds up to 6 km/sec. The warheads are solid metal, engineered to pierce armor and cause maximum damage. Their range and accuracy are limited and all five rounds have to be aimed at the same target each round. Lasers can fire at different targets during the same round.



Standard Laser (New)

Size: 2D4 tons

Damage: 3D6 × 10 S.D.C. (or 1D6 × 10 M.D.)

Rate of Fire: Four attacks per melee.

Effective Range: 6000 feet (1830 m), triple in space.

Payload: Effectively unlimited.

Value: IOU 250,000 in working condition, one quarter if broken.

Old Chemical Laser

Size: 3D4 tons

Damage: 2D4 × 10 S.D.C. (or 5D6 M.D.)

Rate of Fire: Four attacks per melee.

Effective Range: 4000 feet (1200 m), triple in space.

Payload: 16 shots before requiring a recharge period of 4D6 hours.

Value: IOU 90,000 in working condition, one quarter if broken.

Giant Free Electron Laser (New)

Size: 1D6 × 10 tons

Damage: 1D6 × 100 S.D.C. (or 4D6 × 10 M.D.)

Rate of Fire: Three attacks per melee.

Effective Range: 6000 feet (1830 m), triple in space.

Payload: 40 shots before requiring a recharge period of 1D6 × 10 minutes.

Value: IOU 1D6 million in working condition, one eighth if broken.

Old X-Ray Laser

Size: 4D4 tons

Damage: 1D6 × 1000 S.D.C. (or 2D4 × 100 M.D.)

Rate of Fire: One.

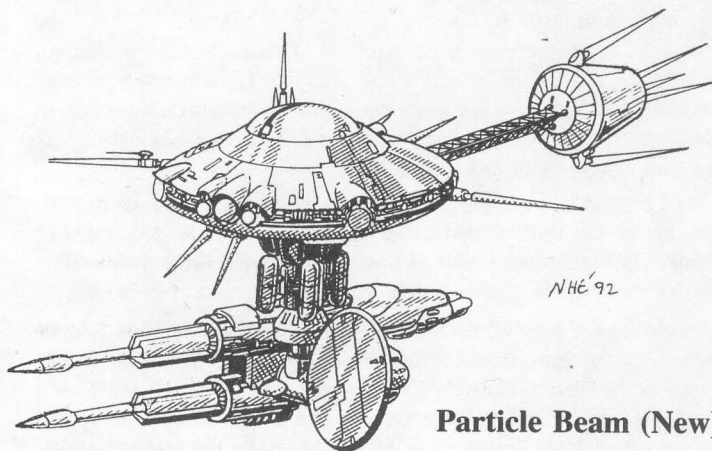
Effective Range: 20,000 feet (6100 m; about 3.8 miles/6.1 km), triple in space.

Payload: 10 shots. Cannot be recharged.

Value: IOU 2D6 × 1000 as scrap for a deactivated system; no buyers for a depleted system.

Notes: X-ray lasers use a nuclear explosion to generate a short but incredibly intense beam of focused X-rays, which is fired a fraction of a second before the explosion destroys the laser (You think it's a really stupid idea? These things exist! — James).

X-ray lasers are many times more effective than normal lasers. On hitting a target the beam instantly vaporizes a section of its outer skin, creating a shockwave that severely fractures or shatters the target's hull. They are not reflected by mirrors and have a huge effective range. X-rays are quickly absorbed by the Earth's atmosphere, so X-ray lasers tend to be pointed out into space. Thankfully there are only about a dozen or so left.



Particle Beam (New)

Size: 3D4 tons

Damage: 4D6 × 10 S.D.C. (or 2D6 × 10 M.D.)

Rate of Fire: Five attacks per melee.

Effective Range: 4000 feet (1200 m), triple in space.

Payload: 30 shots before requiring a recharge period of 1D6 × 10 minutes.

Value: IOU 1D4 million in working condition, one quarter if broken.

Mini-Missile Launcher (New)

Size: 2D4 tons

Damage: Plasma mini-missiles 3D6 × 10 S.D.C. (or 1D6 × 10 M.D.)

Rate of Fire: One at a time or in pairs or volley of four.

Effective Range: One mile (1.6 km), double in space.

Payload: 24 mini-missiles. Can be manually reloaded.

Value: IOU 500,000 in working condition, one quarter if broken.

Basic Decoy Satellite

A small satellite that creates a false radar image that has the same radar profile as the spaceship. This may create the illusion of there being more than one vessel and may lure missiles to it rather than the ship (68% chance of fooling ordinary missiles, 5% chance of fooling a smart bomb). **Cost:** IOU 55,000.

Advanced Decoy

As the basic decoy, this model emits radio signals and has a small, gas propulsion system to propel it away from the parent ship to simulate movement and maneuvers. It has an 80% chance of fooling ordinary missiles and old satellites, 50% chance of fooling new surveillance satellites, and a 25% chance of tricking smart missiles and new killer satellites. **Cost:** IOU 150,000

Satellite Note

After the Bomb: The average satellite has an A.R. 12 and a S.D.C. of 1D6 × 100.

Rifts: The average non-military satellite has 3D6 × 10 M.D.C., while a military satellite will have an M.D.C. of 1D6 × 100.

The accurate broadcast range of a communication satellite is 2000 miles (3200 km). Can go farther but message becomes faint and garbled.

Equipment

Equipment, like almost everything else in orbit, can be hard to get, especially if one is poor or away from the Zone. Almost everything on the equipment lists found in **After the Bomb**, **Heroes Unlimited**, **TMNT RPG**, and/or **Rifts** is available. The only exceptions are vehicles, weapons and explosives. Obviously, Earth bound vehicles, airplanes and the like are of no use in space. Explosives are available, but sold only to registered miners and always delivered off station.

As for weapons, most space stations do not allow firearms, no condone the possession of any weapons, although simple weapons are fairly numerous. Knives and blunt weapons are the most common. Pistols and rifles are rare, and only a handful of the most popular weapons and calibers of ammunition are available (9 mm and .45 caliber rounds, and the uzi, shotgun and 9 mm pistol are examples of commonly available weapons).

Energy weapons, especially in **After the Bomb**, are also a rarity on a space station. Only the militia/defense force, wealthy criminals, and super rich own energy weapons on a space station. Freebooters and other independents almost always have a weapon or five, but must check them upon entry to a space station. Only the Outcast station allows individuals to carry weapons unchecked.

Costs: Common items like clothing, computers, and tools will cost about the same as the items listed in the various RPGs; at the rate of IOU 1 equals one dollar (\$1). Prices may vary 10% to 50% depending on availability. Note that space suits and related equipment are considered to be common items in orbit.

Weapons and ammunition will cost two or three times more.

Cybernetics and bionics will cost at least twice as much, and sometimes five or ten times more. Some items may not be easy to find, or may be in short supply, and this counts double for bioware items. In some cases, it may be necessary to hire a trader or freebooter to find the desired item for sale. This means paying a finder's fees in addition to the purchase price. Location fees can range from IOU 200 to IOU 20,000.

Availability & Cost Table (optional)

Every time a character wants to locate or buy a more hard to find piece of equipment, roll percentile and consult the table that follows. Game Masters may arbitrarily indicate whether or not an item is available and what it will cost.

Normal Equipment

- | | |
|-------|---|
| 01-49 | No problem; normal list price. |
| 50-79 | Hard to find; list price plus 70%. |
| 80-90 | Only a few available; three times list. |
| 91-00 | Available only at ten times list price. |

Bioware, Weapons, Rarities, & Ice

- | | |
|-------|---|
| 01-29 | No problem; normal list price. |
| 30-49 | Hard to find; list price plus 70%. |
| 50-69 | Only a few available; three times list price and don't ask where the seller got it. |
| 70-90 | None currently for sale. |
| 91-00 | Available at 10 times list price. |

Special Weapons

Although it is illegal to carry firearms on most space stations, weapons are still fairly common. Not everyone carries one, but guards, defense officers, freebooters, outcasts, and such, would not be seen without some kind of pistol or knife at their belt or in their boot.

Weapons made for use on space stations come in several varieties, but almost all have two important features. First, they have no recoil. In zero gravity, firing a conventional pistol would send the shooter spinning backwards at about seven feet (2 m) per second until he slammed into something or a towline, umbilical cord, jet pack, or companion stopped him. Violently swinging a heavy club will send the attacker swinging in the opposite direction and/or spinning in circles (that's why smart people learn zero gravity combat). So most weapons are either very light, recoilless, or shoot light/energy, as in the case of lasers. Of course, conventional, recoil weapons work perfectly on space stations with artificial gravity.

Secondly, the damage a weapon does to people should, ideally, not damage the hull of the ship or station. Breaching the hull or a contained environment is a very fast way of ending a combat in a draw; everybody dies in an explosive decompression. As a result, weapons have been developed to hurt people, but not equipment or inorganic structures. They are as follows.

Hand-held laser and ion weapons designed for use in delicate enclosures do not burn neat holes in people; quite apart from the power needed to do that, there's a good chance that they would burn neat holes in the hull as well. Instead they have been scaled down, and work by localized heating which boils the water in their target's body, turning it to steam and causing a small, messy, fleshy explosion. These weapons are not as effective in space against opponents in vacuum suits or inside ships, but do half damage:

Dart pistols, which can also be fired in a vacuum, use an electromagnetic field to fire small, steel flechettes. These may be covered with a nerve poison that will work as a tranquilizer, sleep drug or toxin (see below). They are virtually silent.



Recoilless weapons are traditional projectile style pistols and rifles (fire bullets), but are made out of lightweight plastic and/or ceramic and have no or little recoil. The range of a recoilless weapon is often limited when compared to traditional rifles and pistols, but the results will be comparable. Most of these weapons are designed to fire live ammunition and rubber bullets. Rubber bullets will not damage most items.

Flechette weapons fire rounds that explode in mid-flight, releasing 20 to 100 tiny shards that inflict damage to people, minimal damage to equipment (one-third) and no damage to walls and other structures.

Gas grenades do not explode, but expel clouds of gas in all directions. Smoke grenades give off thick, black smoke which makes visibility difficult. Stun grenades contain a chemical which renders people unconscious when inhaled. While the flash grenade delivers an instant jolt of electricity and short circuits the nervous system, temporarily stunning anybody within its blast radius (10 feet/3 m), with minor physical damage. Unfortunately, none of the grenades will work in a vacuum.

Many orbital characters carry a hand to hand weapon, usually an ordinary knife, blackjack, or club. Vibro-knives vibrate hundreds of times a second and can cut through thin metal and tough plastics such as space suits. Some characters carry rapiers, which are efficient and very lightweight. Matters of honor or status are sometimes settled by rapier or vibro-blade duels, which can become public events.

Anti-Personnel Weapon Descriptions

The following weapons are designed to be safe inside a space station or spacecraft, meaning they will do no or little damage to the hull and equipment.

A Note on Range: The range provided is the range in an atmosphere. In space/vacuum the range is doubled for energy blasts and tripled for laser (light) beams. Projectiles range is also double in zero gravity, but their speed is so reduced after the effective range that they are — 2 to strike and can be dodged. The range of thrown weapons is reduced by half in zero gravity.

Ceramic Knife

Weight: Half a pound (0.25 kg)

Damage: 1D6 S.D.C. (No M.D.)

Effective Range: 50 feet (15.2 m) thrown.

Cost: IOU 50

Ceramic Rapier (sword)

Weight: 1 lb (0.5 kg)

Damage: 2D4 S.D.C. (No M.D.)

Effective Range: 30 feet (9 m) thrown.

Cost: IOU 100

Vibro-knife

Weight: One lb (0.5 kg)

Damage: 2D6 S.D.C. (or 1D6 M.D.)

Effective Range: 50 feet (15.2 m) thrown.

Cost: IOU 800

Vibro-sword

Weight: Four lbs (1.8 kg)

Damage: 4D6 S.D.C. (or 2D6 M.D.)

Effective Range: 50 feet (15.2 m) thrown.

Cost: IOU 2000

Dart Pistol

Weight: One lb (0.5 kg)

Damage: 1D6 S.D.C., plus special chemical effects of the dart; typically such as sleep or stun. Same damage as in **Rifts**.

Rate of Fire: Standard; see Modern W.P.

Effective Range: 100 feet (30.5 m).

Payload: 10 per magazine.

Cost: IOU 500 for the gun, IOU 5 for ordinary dart, IOU 50 for chemical sleep or stun dart.

Standard Recoilless Rifle (plastic or ceramic)

Weight: 5 lbs (2.3 kg)

Damage: 4D6 S.D.C. (or 1D6 M.D. per round if explosive rounds); or 1D6 S.D.C. for rubber bullets (no M.D.).

Rate of Fire: Standard; see Modern W.P.

Effective Range: 1600 feet (488 m).

Payload: 30 rounds per magazine.

Cost: IOU 1200 for the gun, IOU 40 for a box of 90 rounds.

Standard Recoilless Pistol (plastic or ceramic)

Weight: 1.5 lbs (0.75 kg)

Damage: 2D4 S.D.C. (or 1D4 M.D. per round if explosive rounds); or 1D4 S.D.C. for rubber bullets (no M.D.).

Rate of Fire: Standard; see Modern W.P.

Effective Range: 120 feet (36.6 m).

Payload: 10 rounds per magazine.

Cost: IOU 1200 for the gun, IOU 50 for a box of 90 rounds.

Ion Pistol

Weight: 3.2 lbs (1.5 kg)

Damage: 3D6 S.D.C. (or 2D4 M.D.); one-third damage to equipment.

Rate of Fire: Standard; see Modern W.P.

Effective Range: 400 feet (122 m).

Payload: 12 per energy clip.

Cost: IOU 1500 for the gun, IOU 500 for energy clip.

Laser Pistol

Weight: 4.5 lbs (2 kg)

Damage: 4D6 S.D.C. (or 2D6 M.D.); one-third damage to equipment.

Rate of Fire: Standard; see Modern W.P.

Effective Range: 800 feet (224 m).

Payload: 12 per energy clip.

Cost: IOU 3000 for the gun, IOU 600 for energy clip.

Laser Rifle

Weight: 7 lbs (3.2 kg)

Damage: 6D6 S.D.C. (or 4D6 M.D.); one-third damage to equipment.

Rate of Fire: Standard; see Modern W.P.

Effective Range: 1600 feet (488 m).

Payload: 10 per energy clip or 40 per power pack.

Cost: IOU 6000 for the gun, IOU 500 for an energy clip, 5000 for a rechargeable power pack.

Anti-Personnel Grenades

Weight: Half a pound (0.25 kg)

Damage: Varies as listed.

Rate of Fire: As often as one can throw.

Effective Range: 100 feet (30.5 m). Can be thrown twice as far but is -3 to strike.

Payload: Not applicable.

Cost: IOU 30 for the smoke, IOU 70 for stun, IOU 100 for tear gas, 150 for a flash grenade.

Smoke grenades give off thick, black smoke which makes visibility difficult; one cannot see into or through the cloud. -4 to hit in close hand to hand combat in the cloud, -8 to strike for thrown and shooting weapons, and blocks all laser beams. Covers a 20 foot area (6 m).

Stun grenades contain a chemical which knocks out anyone who inhales. Unconsciousness lasts for 1D6 minutes. A save vs toxin of 16 or higher means the victim is only woozy. Reduces number of attacks and bonuses by half for 1D6 minutes.

Tear gas grenades release a toxic cloud that covers a 20 foot area (6 m) and causes great discomfort, difficult breathing and seeing. Victims must roll a 16 or higher to save; if successful the penalties are half. Victims are -4 to strike, parry and dodge, lose initiative, lose two melee attacks and reduce speed by half. Penalties last for 1D4 minutes after the victim has left the cloud.

Flash grenades deliver an instant jolt of electricity that should short-circuit the nervous system, temporarily stunning for 1D4 minutes, and hurts, inflicting 2D6 S.D.C. to anybody within its 10 foot (3 m) area of effect. Victims get to save by rolling a 17 or higher. This grenade can damage electronic circuits, but will not hurt the exterior casings or structures. **Note:** None of the grenades will work in a vacuum.

Flechette Weapons

Weight: 4 to 10 lbs (1.8 to 4.5 kg)

Damage: Varies as listed.

Rate of Fire: Standard; see Modern W.P.

Effective Range: Pistols average 100 feet (30.5 m), rifles 1200 feet (366 m).

Payload: 8 per pistol clip and 20 per rifle magazine.

Cost: Typical pistol: IOU 600. Typical rifle: IOU 2500. Most can fire all the different types of flechette rounds that follow.

Steel Shards: Releases a score of tiny metal shards that do one-third damage to equipment, no damage to hulls, but to people, 1D6 + 1 S.D.C. from pistols and 3D6 + 3 S.D.C. from rifles. Cost: IOU 30 per 10 rounds.

Magnetic Particles: Does no physical damage, but releases a cloud of a hundred tiny particles. The particles fly into unprotected eyes, impairing vision (-4 to strike, parry, and dodge, -6 on initiative) and cover clothing; interfering with poorly shielded personal computers, and other electronic equipment, until washed off (or out of the eyes). The magnetic particles can also be traced by sensitive tracking equipment (limited range of about 300 feet/91.5 m). The visual impairment penalties are not cumulative if hit with several shots. Cost: IOU 30 per 10 rounds.

Explosive Phosphorus: The 20 shards have a phosphorus explosive tip which burns the skin (as well as paper, cloth and plastic with no damage to metal or glass). Damage: 2D6 + 2 S.D.C. from pistol rounds and 5D6 + 2 S.D.C. from rifle rounds. Cost: IOU 150 per 10 rounds.

Poison: The twenty shards are tipped in a non-lethal toxin that will hurt and disorient one's opponent. However, to be effective, the flechette shards must strike bare skin, otherwise they have no effect against body armor, vacuum suits, or even heavy clothing. This means that the shooter is likely to have to make an aimed, "called shot" to strike an exposed area of skin, like the hands, neck or face. Damage from the blast is a mere one S.D.C. point from pistols or 1D4 S.D.C. from

rifles, but the toxin inflicts an additional 2D6 S.D.C. points of damage and unless the victim saves vs toxin (16 or higher), he is -2 to strike, parry and dodge. The affects of the toxin last only 1D6 melees per each bullet that hits. A successful save means damage is half and no penalties. Cost: IOU 200 per 10 rounds.

Tranquilizer: Same as poison described above, except the toxin does no damage and the saving throw is 14 (not 16). The tranquilizer has a 1-50% chance of knocking out/putting to sleep its living target for 2D6 melees. A roll of 51-00 means the person is groggy and dizzy for 2D6 melees and is -2 to strike, parry, and dodge, has no initiative and speed is reduced by half. A successful save means no ill effects whatsoever. Cost: IOU 250 per 10 rounds.

Other Weapons

Note: Energy weapons that inflict far greater damage and which could rupture a ship's hull are also available. These would be the standard weapons listed in the various role-playing games previously mentioned. These weapons are typically used in space battles, on the moon's surface, and by pirates and other murderous rogues for attacks against spaceships and when there is little regard for life.

Chemical Laser (long range)

A full strength, long range laser built into the right arm of a vacuum suit and powered by a power pack.

Weight: 4.4 lbs (2 kg) for the arm mount, 10 lbs (4.5 kg) for the power pack.

Damage: 5D6 S.D.C. (or 2D6 + 2 M.D. in **Rifts**).

Rate of Fire: Standard; see Modern W.P.

Effective Range: 2000 feet (610 m); triple in space.

Payload: 40 shots before power pack needs recharging.

Cost: IOU 15,000 for the entire weapon system with independent and rechargeable power pack. Takes three hours to recharge.

Chemical Laser Rifle (long range)

A full strength, long range laser rifle and power pack.

Weight: 7.4 lbs (3.3 kg) for the rifle, 10 lbs (4.5 kg) for the power pack.

Damage: 6D6 + 6 S.D.C. (or 4D6 + 2 M.D. in **Rifts**).

Rate of Fire: Standard; see Modern W.P.

Effective Range: 3000 feet (914 m); triple in space.

Payload: 40 shots before power pack needs recharging.

Cost: IOU 19,000 for the entire weapon system with independent and rechargeable power pack. Takes three hours to recharge.

Railgun

A smaller version of the magnetic railguns deployed by spacecraft, fire a much smaller, flechette style projectile. It cannot be fitted to a space suit and is large and bulky, but weight is of little consequence in zero gravity. The main disadvantage of a hand-held railgun is its recoil; the firer must be securely braced against something or tied to something, or have a jet pack, or otherwise be thrown backwards at a speed of about 10 feet per second.

Weight: 128 lbs (57.7 kg) for the gun, 100 lbs (45 kg) for the power pack, and 100 lbs (45 kg) for the ammo-drum.

Damage: 1D6 × 10 S.D.C. (or 5D6 M.D. in **Rifts**) per 30 round burst.

Rate of Fire: Standard; see Modern W.P.

Effective Range: 4000 feet (1200 m); double in space.

Payload: 20 shots (each firing 30 rounds) before needing to reload.

Cost: IOU 45,000 for the entire weapon system. IOU 5000 per ammo drum.

Jet Pistol

This is not a weapon at all but a means of transportation and maneuverability in zero gravity. The hand-held propulsion system uses compressed air to propel the user at a speed of up to 20 feet (6 m) per second.

Weight: 8 lbs (3.6 kg) for the gun, 50 lbs (22.5 kg) for the optional tank of compressed air/gas.

Damage: None

Rate of Fire: Standard; see Modern W.P.

Effective Range: Fires a blast of air up to 100 feet (30.5 m).

Payload: 20 blasts of air in a single gun, 200 blasts of air if connected to an air tank.

Cost: IOU 800 for the gun, plus IOU 500 for the air tank and IOU 25 to fill the tank (gases other than oxygen rich air are typically used).

Rocket Flare Pistol (for use in space)

Fires a very bright flare up to half a mile (0.9 km) away, even in a vacuum. The flare is visible to the naked eye for up to 3200 miles (2000 km) in all directions and burns for 2D6 minutes. If used as a weapon it does 6D6 S.D.C. damage. This is a one-use item. Cost: IOU 500

Hardware

Auxiliary Oxygen Pack: Fits to the back of a vacuum suit (and also to survival suits and rescue spheres) to give an extra six hours of oxygen. Cannot be fitted at the same time as a jet pack. Cost: an extra IOU 200

Manned Maneuvering Unit (MMU): A pre-rifts style jet pack-like accessory for vacuum suits, allowing the character to maneuver outside their spacecraft without using an umbilical cord or gas rockets for thrust. It looks like a mutant armchair and straps to the back of the space suit. The MMU has a maximum speed of about 30 mph (48 km) and enough fuel for thirty minutes of constant movement. Typically the device is not in constant use and will work for about five hours of maneuvering. (TMNT Note: T.M.F. of 4 and a speed class of 5). Cost: IOU 1000

Magnetic Shoes: Will stick to a metal "floor" or "wall", meaning that the wearer does not have to hang on to something to stabilize themselves. Also useful for letting characters new to zero gravity orient themselves. One size fits all. Cost: IOU 80 per pair.

Mini-Disk: A small, one inch, silvered disk is used to record and store computer information. Each mini-disk can store up to 100 megabytes of information. Most computers in orbit will be able to read data from mini-disks, or record onto blank ones. Cost: IOU 15 each.

Power Pack (general use): Looks and works just like a rechargeable battery. Almost all small electrical items in orbit take the same kind of power pack, but they have a habit of running out just when you need them most. Cost: IOU 10

Portable Computer: Cost: IOU 500

Remote Computer Link: Uses radio signals to allow the user to network into computer systems such as the Link. Cannot be used with dataplugs. It has a range of up to 200 kms. Cost: IOU 150

Seal: A reinforced adhesive patch up to two feet (0.6 m) in diameter. They are airtight and can be used in an emergency to seal punctures in a ship's hull. Seals are not permanent, but will usually last until proper repairs can be made. Cost: IOU 50 each.

Rescue Sphere: Even more basic than a survival suit, a rescue sphere is useful only as a way of transferring someone across a vacuum without a space-suit. It is a sphere about four feet (1.2 m) in diameter, made of vacuum-proof, flexible fabric with a sealable entry. One person inside it will have enough air to survive for ten minutes, although an auxiliary oxygen pack can be fixed to the outside for a much longer period of air. It takes a minute to enter a rescue sphere. A.R. 12, 80 S.D.C. (40 M.D.C.). Cost: IOU 250

Tool Kit. A typical tool kit will contain a cutting tool, a welding tool, a quick-drying epoxy for patching leaks, spare electrical components, a seal, two spare power packs, screwdrivers, a diagnostic meter for electrical circuits and a hammer. There are two designs of tool kit; one for internal repairs, and one with specially modified tools for EVA work. Cost: IOU 150 each.

Vacuum Suit: Pre-Flash. All pre-Flash suits are heavy and awkward, taking about 15 minutes to put on. A character's P.S. and P.P. are halved while in such a suit. They contain enough oxygen to last six hours. If used in zero gravity, an astronaut will usually tether themselves to their craft, using an umbilical cord for safety. Only characters with average human build can fit into these suits. They have only one advantage: they're pretty cheap. A.R. 8, S.D.C. 25. Cost: IOU 1000

Vacuum Suit: Simple Survival Suit. This is not a true vacuum suit, but a simple excursion suit with a one hour oxygen supply. It has no propulsion system, no radio, grapples or magnetic attachments. The suit will protect a character from decompression or an air leak, but cannot be used for extended periods. It takes about one minute to put on a survival suit. A.R. 6, S.D.C. 15. Cost: IOU 500

Vacuum Suit: Standard. It is assumed that a character will have a vacuum suit made for them, to fit their body exactly. Second-hand suits are available for half the price, but they will not fit properly (-2 P.P.) and may be unreliable or badly worn.

A vacuum suit automatically has the following features: magnetic boots, an 820 foot (250 m) umbilical cord, a two-way radio with a range of 10 miles (16 km), a light source, a ten hour oxygen supply, cooling system, water supply, velcro (tm) patches which can be used for holding tools or equipment, and an emergency radio beacon. The suit has an A.R. 10 and an S.D.C. of 40 (20 M.D.C.). The suits are designed to be modular; more equipment can be added or taken off at any time by any character with the Basic Engineering skill. Cost: IOU 2500

Vacuum Suit: Armor/Hard Suit. A light, flexible metal alloy or ceramic is bonded to the outside of the suit and polished to a high reflectiveness. A.R. 18, S.D.C. 100 (35 M.D.C.) and laser weapons do half damage. Has all the features of the standard vacuum suit. Cost: IOU 6000

Vacuum Suit Jet Pack. The pack is fixed to the back of the suit, and is operated by a small pad on the right wrist. The jet pack has a maximum speed of about 50 mph (80 km) and enough fuel for thirty minutes of constant movement. Typically the device is not in constant use and will work for about five hours of maneuvering; 20 S.D.C. (10 M.D.C.). (TMNT Note: T.M.F. of 6 and a speed class of 8). Cost: IOU 2000

Power Joints. The suit has an exoskeleton, moving with and amplifying the motions of the wearer. It gives the suit an effective P.S. of 30 and an additional 60 S.D.C. (30 M.D.C.) points. Cost: IOU 22,500

Recycling System. The suit recycles all oxygen, meaning it can be worn indefinitely or until the character dies of hunger or thirst. Cost: IOU 1200

Bioware

Bioware is what the space colonists call cybernetic and bionic augmentation and implants. **Rifts Note:** All bioware items can be added to **Rifts** cybernetics.

Artificial Eyes

Interchangeable Eye Socket: Bioware eyes are interchangeable. Once a character has an eye socket installed (it must replace one of their existing eyes), they can exchange artificial eyes whenever they want and in a matter of seconds. Eyes can only be used when placed in a working socket, and a socket is blind without an artificial eye in

it. It is possible to take two artificial eye sockets, but the character will lose 2 points of P.P. and one P.B. if they do. It takes a doctor and bioware engineer to fit a socket. Cost: IOU 15,000. **Note:** All eyes are set/activated at will unless otherwise noted.

Alarm Eye: An alarm eye never sleeps, even if the character does. It can be set to wait for movement or something in particular (person, light, etc.) to enter its field of vision. When this happens it will vibrate silently in its socket, which will wake the wearer in one combat round. Cost: IOU 2000

Clock Eye: In the corner of the field of vision is a constant digital read-out of the correct time, accurate to within half a second a year. The eye can also function as a stopwatch or as a timer to indicate time running out on air supplies, fuses, and so on. Cost: IOU 750

Database: The eye scans everything it sees and if requested, can give factual, basic information on known things in visual range. The eye can typically hold one program at a time. Programs include: Space-craft (identify most known types and basic capabilities), weapons and explosives (including step by step demolition instructions; 50% base skill), biology (recognizes animal types and provides basic physiological notes), computers (recognizes computers and accessories and provides basic computer operation instructions; 50% base skill), mechanical engineering (identifies machinery and offers basic mechanics at 40%), electrical engineering (same as mechanical; basic electronic 40%), and salvage (identifies space junk and common metals). Cost: IOU 5000 for the eye and 1000 for each program; only one program can be used at a time.

Environmental Sensor: This eye gives its wearer constant data on the environment around it. This includes atmospheric composition (is there enough oxygen?), the presence of poisonous chemicals, atmospheric pressure, radiation, temperature, light levels and the presence of infrared or ultraviolet light sources. Cost: IOU 7500

Eye Light: Projects a small beam of light like a flashlight or torch, up to 70 feet (21 m). Cost: IOU 500

Eye Targeting Sight: This eye works in conjunction with the brain's coordination centers with a set of cross-hairs in the center of the eye and as the wearer turns their head, their gun hand will automatically move to follow the crosshairs. An ultraviolet, targetting laser also engages when a target is within 70 feet (21 m). The target eye gives the user +2 to strike when using any pistol or other hand-held missile weapon. Cost: IOU 6500

Image Enhancement. Doubles the wearer's normal range of vision through computer enhancement. Cost: IOU 3000

Laser. The wearer can fire a small laser beam from this eye at will. It has an accurate range of 150 feet (46 m) and does 1D6+2 damage and is +2 to strike. Payload is limited to 6 shots then requires one hour to recharge. The laser can also be used for welding and microsurgery. Cost: IOU 14,000

Nightsight (passive light amplification): The eye amplifies and enhances any light there is to provide a clear picture in darkness. Will work in all conditions, but there must be some degree of ambient light, like star light. Cost: IOU 4000

Thermal Imager. Allows the character to see the world in terms of the amount of heat it emits. Cost: IOU 6000

Video camera. The artificial eye contains a small auto-focusing video camera which the character can turn on or off at will. It can feed its signal to a remote recording source, or can store up to 10 minutes of footage, or 1000 still images. Playback can be made either with the eye or to a separate video monitor. Cost: IOU 8000

Zoom lens. This can be used to increase magnification from normal vision to fifty times larger; either to see a distant object or to examine very tiny details. Note that the character's entire view is not magnified 50 times; when the eye is used at full power they can only see a tiny

percentage (0.04%, or 1/2500) of their normal field of vision. Cost: IOU 5000

Tool Hands

Tool hands, like artificial eyes, are interchangeable. A character wanting to buy and use a hand must first buy the basic joint that goes at the end of the wrist, through which tool hands receive their power and instructions from the character's nervous system. Some hands are only available as right hands; to use them, the basic joint must be attached to the right wrist. Gaining a tool hand means losing a real hand, and none of the artificial replacements are as flexible or as dexterous as the real thing. Any character taking a tool hand loses 2 points of P.P.; having both hands replaced means losing 5 P.P. All artificial limbs look mechanical and metallic.

Basic Joint: A character without a hand fitted to their basic joint loses half their P.P. Cost: IOU 20,000

Basic Artificial Hand: Cost: IOU 5000

Flechette Hand: This functions like the dart gun described previously and fires the same kind of ammunition, although reloading takes 2 melees actions. It can hold four darts, and fires them through a thin piece of artificial skin at the end of the index finger. In all other respects it looks and works like a normal hand. Cost: IOU 8000

Grapple Hand: This hand has only one use: it can be fired from the basic joint up to 600 feet (183 m) and will attach itself to anything it hits with an effective P.S. of 20. It is connected to the basic joint by a strong monofilament cable, also with a P.S. of 20, which the character can rewind to pull either the grapple to them, or them to the grapple. The hand looks completely unnatural. It is only available as a right hand. Cost: IOU 6000

Laser Hand: Originally designed as a welding tool, this has been modified for use as a weapon. It is powered by a single power pack which gives it up to 20 shots. It is accurate up to 300 feet (91.5 m) and does 2D6+2 damage. The hand is bulky, metallic and has no fingers; it cannot be used for gripping or holding objects. It can be used for welding, should the need arise. Cost: IOU 9500

Micro-Manipulation Hand. This is the only hand that adds to a character's P.P. rating. It is specially designed for very delicate work such as repairing electronic circuits or drive mechanisms, and when used for this purpose it boosts a character's P.P. by two points and provides a skill bonus of +5%. Cost: IOU 10,000

Remote hand. The remote hand can be used as a normal hand, but if separated from its owner it can receive and obey radio signals emitted by its owner up to 4000 feet (1200 m). It is as if the character had a very long arm; if they flex their nerves to make the hand grip and turn their arm, the remote hand will also grip and turn although it may be hundreds of meters away. It has a P.S. and P.P. of 10. Most remote hands allow the owner to feel what the hand is feeling. For an additional IOU 2000, hands can be equipped with an auto-retrieve system which enable the hand to track and find its owner. Cost: Normal remote hand: IOU 12,000.

Strength hand. This hand functions normally, but has an in-built P.S. of 25. Cost: IOU 8000

Other Bioware Items

Artificial Heart: IOU 60,000

Artificial Lungs: IOU 40,000 pair.

Artificial Organs: IOU 25,000 each

Basic Cybernetic Arm: P.P. 10; looks metallic. Cost: IOU 20,000

Basic Cybernetic Foot: Looks metallic. Cost: IOU 5000

Basic Cybernetic Leg: Spd 12, looks metallic. Cost: IOU 25,000

Dataplug: An implant in the back of the neck which allows a character to interface directly with a computer, and enter the memory of the

computer as if it were a virtual reality. See the skill "Cyberjacking" for more information. Cost: IOU 5000

Recycler. Implanted at various points within a person's body, the recycler system filters and recycles body waste. This does not affect a character's normal life, but means that they can reduce their intake of oxygen by 50% for up to 12 hours and survive up to 30 minutes on one lung full of air, and a week without food or water. Cost: IOU 12,000

Sub-vocal 2-way radio. A tiny microphone is implanted by the larynx and a small speaker in the inner ear. To broadcast, one has simply to form the words in the throat without speaking out loud. Any spoken words are also broadcast. Received broadcasts are heard only

by the wearer. The radio frequency can be changed by exchanging a small chip behind the right ear; without this chip the radio broadcasts on its default wavelength. Range is four miles (6.4 km). Cost: IOU 5000

Hardened circuits. Any piece of bioware can have its circuits hardened against the effects of electromagnetic scramblers and EMPs for an extra 20% of its listed cost.

Bioware Note: Depending on the Game Master and type of game setting, the cybernetics and bionics described in **Heroes Unlimited** or **Rifts** can be included (GM's decision). Playing in the **Rifts** environment means that all the **Rifts RPG** cybernetic and bionic systems are generally available.

Space Adventures

After the Bomb

Snowjack

By James Wallis

Note: This is an adventure for a small group of low to medium level characters. They should either have their own spacecraft or have access to one, possibly returning from an earlier mission. This adventure can be adapted to **Rifts** with a little effort.

Player Background

Read this aloud to your players:

The sun has just risen from behind the Earth when the computer alarm goes off. It's nothing major, just an incoming message. "Could you dock with the ship 'Zenith', currently in Earth orbit, as soon as possible?"

You know the "Zenith". A self-sufficient ship that was once the pride of the Indonesian space fleet, it is now the headquarters for **Inner-Belt Mining**, an independent company notorious for its cost-cutting and low rates of pay. Most freebooters try to steer clear of them, but ice has been tight recently so mining and salvage work has been plentiful, and a ship is no use if you can't afford to refuel it.

After docking with the "Zenith," your group is made comfortable in the office of Franco Espania, a mutant rat, one of the company's controllers. He leans across his desk and smiles, showing rather too many teeth.

"My friends, thank you for your prompt attention. We have a small problem, and because all our ships are currently out on business we need the help of outsiders. It is a trifling matter, but you will be well rewarded for your efforts.

"A few months ago we launched a snowball from the Asteroid belt towards the Zone. It was fitted with an ion drive and quarters for three crew members. Thirty hours ago it should have begun to apply reverse thrust in order to decelerate into a stable Earth orbit. It did not. We have tried to establish radio contact with the crew but they do not respond.

"The snowball is currently thirty million kilometers from the Zone, moving at around 15 kilometers per second. All we need is for you to dock with it in interplanetary space, learn why it has yet to start decelerating, and, assuming there is some difficulty, to help the crew overcome the problem. As a reward you will receive a percentage of the value of the ice, assuming that it is safely recovered. Do you agree?"

If the player characters do agree, Franco will tell them there is no time to waste, their ship has been refuelled and that they should get going immediately. He gives them a mini-disk containing data on the snowball, its position, and a pre-plotted intercept course. Payment will be made as soon as the snowball is safely in Earth orbit.

GM's Information

Inner-Belt Mining (I-BM) is a mining company whose efforts to constantly cut costs and reduce their overhead means that they are often getting into difficult situations, and need freebooters to help them out. If our heroes are successful on this mission, I-BM may begin to hire them on a regular basis; every time that they get into trouble. Alternatively if they mess it up, they will have made a fairly powerful enemy.

The problem with the snowball is nothing quite as simple as drive failure or a breakdown in radio communications. It's a long story.

Among the less scrupulous freebooters who hang around the Outcast Station is the crew of a large, beaten-up shuttle, the Pooh Jihad, who refer to themselves as the **Anarchist Parasite Association**, or the A.P.A. Their leader, and the owner of their ship, is a hideous mutant known as Frank Zerox, renowned for his outlandish dress, boastful ways and devious cunning.

Frank's latest scheme seems to be a winner. He has placed two members of the A.P.A. inside the Inner-Belt Mining company. A young computer expert named Vato, who women find to be the cutest little thing, was given a staff position on the Zenith. The other is, Sylvia, a large woman with engineering and mining skills, who was sent out to the Belt as part of the I-BM technical support crew. Before long she was assigned to fix an ion drive and crews' quarters to a valuable snowball, P-45, for its trip to the Zone. P-45 weighs 35,000 tons and is about the same size and shape as an old Earth battleship. Sylvia sent a radio message to Vato, and he passed on it to Frank and the A.P.A. Then before the snowball left, Sylvia attached timer-activated explosives to the bolts that secured the crews' quarters to the surface of the ice ball.

A week ago, when the snowball was around 50 million kilometers away from the Zone and coasting at 15 kilometers per second, the explosives were triggered and the crew's cabin was blown off into space. The snowball continued ahead.

Frank's plan is to use the "Pooh Jihad" to intercept the snowball about ten days before it reaches the Zone. While still millions of kilometers away from Earth, he intends to dock with the asteroid and plant more explosives that will split it into two or three parts. This will make the snowball unrecognizable and easier to transport. The largest part



will begin to decelerate using its ion drive, while Frank will use thrust from the "Pooh Jihad" to slow down the smaller chunk(s). The ice will be sold as soon as they reach the Zone. Everyone may know that the snowball has been hijacked, but nobody will be able to prove it, and because a lot of people do not like Inner-Belt Mining very much, most will not care. It is a clever scam, if Frank's A.P.A. can pull it off.

ENCOUNTERS:

Approaching The Snowball

The time taken to reach the snowball will depend on the type of drive on the player character's ship, but they will reach it while it is still millions of miles/kilometers from the Zone. It is still travelling at around 15 kilometers per second. As soon as the snowball is detected on radar it is possible to tell that something is wrong: a successful roll on the inter-planetary navigation skill will show that there has been a slight deviation from the predicted course; less than 2000 miles (3200 km), but still significant. A second successful roll will show that its current trajectory is likely to send it crashing into the Moon.

At the same time the player characters will pick up a distress call. It is an automatic distress beacon and its signal is very faint. A successful roll by a character with the radio: basic skill will let the character work out how far away the beacon is; around 100,000 miles (160,000 km) away.

The players have a difficult choice; they can go to investigate the source of the beacon, or go straight to the snowball. Characters of a good alignment will feel morally obligated to investigate the beacon and come back for the asteroid.

The Beacon

The beacon is attached to the crew module that was once on the snowball and which is currently drifting in space. It is still slowly moving towards the Zone, but its course is diverging from the snowball's. If this trajectory is not changed, the snowball will miss the Zone entirely and burn up when it passes too close to the Sun in four or five months.

As the player characters approach, they may not be able to identify the source of the signal. The module is a small hemisphere less than fifty feet (15 m) in diameter. Once within visual range, it looks more like a piece of old wreckage than any kind of life-support capsule. Broken cables and one damaged solar panel drift aimlessly around it. A small chunk of ice is still attached to one end, and something that looks like a chemical laser sticks out from the other end. The I-BM logo is stencilled on its top half. The compartment shows no lights and looks abandoned. The probable salvage value is not more than IOU 3000 in all, including the ice. Is closer inspection warranted. There is that emergency beacon and a bio-scan should reveal weak life readings.

Inside the module, things are not going well. Almost all equipment apart from the oxygen cracker, the laser, and the emergency beacon are damaged beyond repair. The crew had previously been drawing electricity from a nuclear generator which is still attached to the ion drive on the snowball, and so have been existing on storage batteries and a small solar panel for almost two weeks. Of the three person crew, only one still lives. The atmosphere inside has an excessively high level of hydrogen making it explosive. Any spark, flame or heat will set it off, doing 6D6+6 damage to anyone inside and rupturing the thin hull. But taking one's time and a little care, it is an easy rescue.

George, the surviving crew member is starving, suffering from frostbite and in mild shock. He will refuse to say anything until warmed up and fed and will faint a lot. Once fed and made comfortable, he will regain some strength and become fairly coherent. George will confirm that he was a member of the crew on the P-45. He is unsure of what happened to separate the module from its cargo, but is fairly certain that it was not an accident. One member of the crew was doing EVA work at the time of the explosion; the other one was in the module with him. George is incredibly thankful to have been found, and will do everything he can to help the group, although he is quite weak.

Examination of the module by a character with a mining O.C.C. or demolition skills will reveal that its securing bolts have been blown apart, probably by shaped explosive charges as commonly used by miners. A character with jury-rig or basic mechanics can tell that the module's chemical laser is usable if fed sufficient power.

The Snowball P-45

As the characters approach the asteroid P-45, whether or not they have located the crew module, they can easily tell that something has gone wrong. The snowball is tumbling erratically, end over end, as if something has hit it and knocked it off course.

At closer range, as the huge lump of ice rotates below them, our heroes will be able to see the words "Inner-Belt Mining: Claim P-45: Private Property," stencilled in three and a half foot (1 m) high letters on its surface. There is no sign of the crew's cabin or the crew themselves, although the ion drive and nuclear reactor seem to be intact.

Docking with the P-45 will be difficult. It is not large enough to create a gravity field, and its tumbling rotation makes it almost impossible for a ship to park near or on it. Any attempt to dock will require a pilot: advanced skill roll at -40%. Otherwise, their only other options are to attach the ship to the snowball with grapples, or to maintain a reasonable distance and go across, man by man, using vacuum suits. It is impossible to search the surface any other way.

A thorough search of the P-45 will take three hours and reveal the following:

1. The nuclear reactor and ion drive are in perfect working order, but there is no way of controlling the ion drive (the control system is in the crew module and can be reattached using basic mechanics or jury-rig skills; or a new one can be created using the jury-rig or ion drive repair skill both at -20%.
2. The only sign left of the crew module are the securing bolts set into the ice. They appear to have been severed by small explosions of some kind.
3. A grisly discovery; the body of one crew member is floating near the snowball, tethered by a safety cord. The suit has been ruptured by a small piece of twisted metal and the crewman died from decompression.

In addition, the GM should add up the number of characters searching, multiply the number by 15 and roll percentile dice. If the roll is below the total, one character has found a row of drilled holes that circle the snowball at five meter intervals. Anyone with mining or demolition skills will know that these are for splitting the ice into smaller chunks, but are not normally drilled until the snowball has reached the Zone.

Pooh Jihad Arrives

Shortly after the characters arrive at P-45, the Pooh Jihad, containing the members of Frank's A.P.A., will join the scene. The Pooh Jihad will secure itself to the snowball by grapples. Frank is no fool and realizes immediately that the player characters have either been hired by I-BM or are also trying to pirate the snowball. He does not want to start a conflict until he has the upper hand, and so will open friendly radio contact as early as possible. At first he will pretend that he has also been hired by I-BM, and that there must have been a mix-up in the data work. He suggests that they combine forces to slow down the snowball and get it back on course, and invites the captain and/or pilot of the player character's ship to board the Pooh Jihad to work out the details. Specifically the details of how the payment is divided. Frank will continue to be friendly and open until he can accurately assess the strengths of his opponents.

If any of the player characters go across to the Pooh Jihad, as they open the inner airlock, they will be met by three members of the ship's crew with ion pistols. They are not expecting any resistance, but will not hesitate to use their weapons. The outer airlock door has a S.D.C. of 100, and if that is exceeded it will blow out, sucking the characters and the crew members out into space. The crew members are not wearing vacuum suits.

If the characters do not offer any resistance, they will be stripped of their vacuum suits and any weapons, taken to a small cell within the ship and locked away. The door has an electronic lock and 80 S.D.C. points (A.R. 12).

If our adventurers seem suspicious and decline Frank's hospitality, then he will release the grapples holding his ship to the snowball and will begin to move behind it. This should put the player group on alert. Frank will try to match the P-45's rotation and use it as cover. Just before he reaches its shelter he will open fire on the player character's ship. Frank is confident that he can out-pilot them and will start a cat-and-mouse game around the spiralling snowball. He is not aiming to destroy their ship, just to disable its drives and weapons.

This combat may last some time. The ships are not travelling at great speeds relative to each other, so collisions with each other and/or with the snowball may be survivable. Any kind of missile hitting the surface of the snowball will throw up a cloud of ice crystals that will function as a sand-caster (q.v.). If there are any crew members with weapons from either ship on the surface of P-45, they can fire at ships that pass within range and can even try to board.

If there are members of both crews on the snowball, they may get into a skirmish of their own. And the snowball itself can be turned into a weapon, a huge battering ram, by starting up the ion drive.

Note: Although Frank and his A.P.A. may be mean, desperate and violent, they are not stupid. They will not fight to the death. If their ship is damaged, or if the snowball has travelled so far that the only way it can be saved is if the two crews cooperate, the pirates will be quite prepared to negotiate with the player characters or abandon their scheme. Persuading them to keep their word is another matter, but pirates like Frank Zerox are less likely to try to pull any double-crosses once the ships have returned to the Zone; it is too easy for potential victims to call in friends, hire some muscle, or alert the Network. The possibility is open for Zerox and his crew of miscreants to become either steadfast enemies or uneasy allies of the player characters.

If Frank's attack is successful, he will send a group of four crew members in vacuum suits with ion pistols and laser rifles across to take over the vanquished ship and capture its crew. At the same time he sends another two of the crew down to the snowball to rig up the explosives that will split it into two sections. This leaves just him and one assistant on the Pooh Jihad, making this a good moment for any imprisoned characters on his ship to escape or attack.

The end result of the adventure depends entirely on the player character's resourcefulness and combat skill. Some consequences of the adventure follow.

1. The player characters can defeat Frank Zerox by capturing or slaying most of his crew or crippling his ship. Frank has no desire to face charges of piracy and will limp away the best he can; and will abandon his crew to save his own neck. Turning their attention again to P-45, the group will find that the snowball has come too far for its ion drive to decelerate it enough for a safe entry into the Zone. They could add extra decelerating power by using the drive of their own ship; or alter the snowball's course to a slightly safer vector; or even attempt to supercharge the ion drive in an attempt to slow it down. George will help as much as he can. If they do return safely to Earth orbit with only part of the ice, I-BM will pay them no more than IOU 5000 each. If they return with the entire snowball, I-BM will try to concoct some excuse to reduce their fee by $1D4 \times 10\%$ (like deducting the cost of fuel, etc.). They may have agreed to pay more, but they're cheap scuzzballs.

Note: If Frank Zerox escapes, the group will have made an enemy for life. If he gets away (and he will unless they personally took him in chains), they can be sure that he is already plotting revenge. If they take the Pooh Jihad into tow, intending to sell it when they return to the Zone, Frank will find some way of escaping during the journey and sabotage the ship. If he is killed, pirate friends of his on the Outcast Station may organize a vendetta against the heroes, just to show that nobody kills one of their buddies and gets away with it.

2. If the snowball remains in one piece, its course is not altered and no effort is made to decelerate it, it will impact with the Moon in about three weeks. The moon colony is not damaged but quickly salvages whatever ice it can for itself (no they don't pay the characters for anything). Inner-Belt Mining declares the player characters as dangerous criminals or incompetent freebooters and tries to sue them for damages in excess of IOU 20 million. I-BM will agree to negotiate a settlement by trying to force the characters into indentured servitude; agreeing to this is foolish. The suit is thrown out of Zone court as being malicious and frivolous, but the characters don't get paid either. They do, however, begin to get a reputation as well-known and daring freebooters. This will really annoy Frank Zerox, if he is still alive, because that reputation rightfully belongs to him.
3. If Frank Zerox and his crew split the snowball into two and safely take both parts to the Zone without the player characters stopping

him, I-BM will be very angry. They will make all kinds of threats and/or promises of rich reward for the characters to go after Zerox and bring him to justice (his having a lethal accident in space is acceptable).

Alternatively they may not believe the character's story, hold them completely responsible and trump up charges of piracy against them unless they work for I-BM as transport guards, traders, couriers, and similar duty at minimum pay on a very long contract (1D4 + 3 years).

4. If the PCs' ship is crippled and they are taken prisoner by Frank Zerox, they will be taken to the Outcast Station and left there. Their ship, weapons and gear will be sold to the highest bidders at an auction within 1D6 days after their arrival. If the characters have enough money to cover a quarter of the cost of the ship, Frank will sell it back to them. If the ship belongs originally to a space station or I-BM, Frank will ransom both ship and player characters back to that station. Alternatively, if he likes the character's style and daring he may offer them places on his crew, to replace any that they might have killed or injured. This can include them operating their own ship as a companion vessel to the Pooh Jihad.

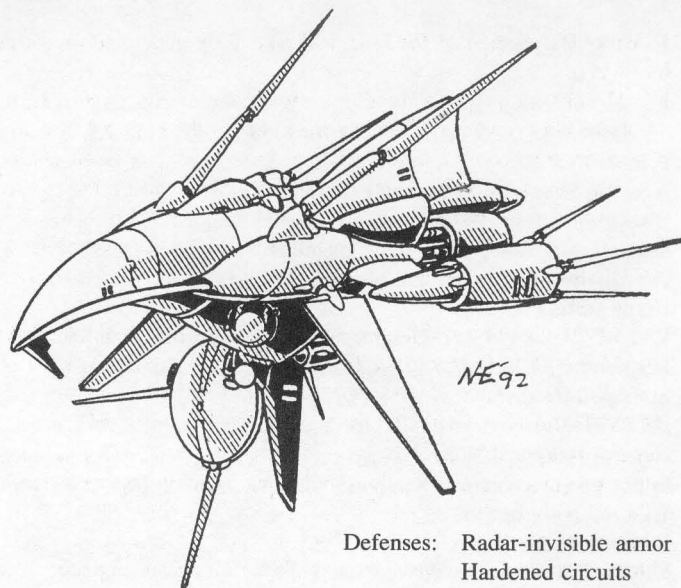
NPCs & Other Data

Snowball Crew Module

Ship design: Hemispherical pressurized unit.
 Built by: Laika station
 Purpose: Crew's quarters on snowball
 Length: 50 feet (15 m)
 Mass: 20 tons
 Drive type: None (chemical or ion attached to snowball)
 S.D.C.: 250
 A.R.: 6
 Max crew: 4
 Recycling: Type 2
 Weapons: One chemical laser
 Defenses: None
 Extras: None
 Cargo space: 5 tons
 Salvage Value: IOU 2000; new IOU 5000
 Description: These are no-frills habitation modules. They have no armor, drive engines or internal power source, and have only one use: being fitted to asteroids. An independent or someone on the Outcast Station might pay something for one.

The Pooh Jihad

Ship design: Large shuttle
 Built by: European Space Agency (pre-Flash)
 Purpose: Piracy, mostly
 Length: 70 meters
 Mass: 250 tons
 Drive type: Ion
 Fuel: Hydrogen/electricity; normal fuel tank
 Range: To Asteroid Belt
 Acceleration: 2.5 G
 Speed class: 35
 T.M.F.: 4
 A.R.: 12
 S.D.C.: 1200
 Max crew: 10
 Recycling: Type 2
 Weapons: 2 x Chemical lasers
 2 x Guided missiles with fragmentation warheads



Defenses: Radar-invisible armor
 Hardened circuits
 Extras: Long-range radar
 Grapples

Cargo space: 100 tons

Salvage Value: IOU 80,000

Description: A very battered old shuttle, covered in a chipped layer of radar-invisible amour which gives it a sinister black silhouette. Its chemical lasers are fixed-mount; one points forward and one back, with an aiming arc of only 20 degrees. The hull has been patched several times, notably around the main airlock.

George

Alignment: Unprincipled
 Attributes: I.Q. 13, M.E. 10, M.A. 13, P.S. 17, P.P. 15, P.E. 19, P.B. 5, Spd. 22
 Age: 27, Sex: Male, Level of experience: 3rd
 Disposition: Friendly, trusting, incredibly grateful to his saviors.
 Occupation: Freelance pilot
 Home station: Freedom Station
 Weight: 130 lbs (59 kg), Height: 48 inches (1.2 m), Size level: 7
 Hit points: 30, S.D.C.: 45, A.R.: Normal
 Species: Mouse
 Human features: Hands: Two sets of arms with human hands, biped: partial, speech: partial, looks: partial.
 Natural weapons: None
 Super power category: Mutant
 Powers: Alter physical structure: fire and energy resistant.
 Random mutations: Body freeze
 Psionics: None
 Skills of Note: Basic electronics 55%, basic mechanics 52%, basic math 90%, computer operation 75%, drive repair: ion 83%, EVA 58%, inter-planetary navigation 60%, jury-rig 55%, orbital navigation 65%, pilot spacecraft 77%, ship to ship combat 52%, body building, combat (Zero Gravity): basic, movement: zero gravity, oxygen conservation, and W.P. blunt. Speaks and reads English.

COMBAT SKILLS:

Attacks per melee: 4

Bonuses: +2 to pull/roll with punch/fall away; +2 to parry; +2 to damage; +5 to dodge, +8 on saves against coma, death and toxins

Notable equipment: None

Personal profile: George is one of life's nice guys, which makes him rather too trusting to be a freelance pilot. Even after he has signed a horrible five-year contract with Inner-Belt Mining, he still tends to take people at their word and so gets ripped off constantly. He doesn't let it get him down, and seems to enjoy himself most of the time. He has stark white fur on the face and underbelly with jet black fur on the back and head.

Frank Zerox

Alignment: Miscreant

Attributes: I.Q. 16, M.E. 14, M.A. 17, P.S. 12, P.P. 25, P.E. 13, P.B. 3, Spd. 18

Age: 34, **Sex:** Male, **Level of experience:** 5th

Disposition: Friendly but devious, always looking for the chance to double-cross. Cold, calculating, merciless and cruel.

Occupation: Freebooter and pirate

Home station: Outcast

Weight: 75 lbs (34 kg), **Height:** 54 inches (1.35 m), **Size level:** 6

Hit points: 33, **S.D.C.:** 36, **A.R.:** As normal

Species: Monkey

Human features: Hands: full, biped: partial, speech: full, looks: none.

Natural weapons: None

Super power category: Random mutations: Healing factor, increased P.P. and body freeze.

Psionics: None

Skills of Note: Computer operation 88%, electrical engineer 73%, inter-planetary navigation 73%, mining 73%, orbital navigation 78%, pilot spacecraft: advanced 65%, radio: basic 80%, salvage 65%, athletics, combat (Zero Gravity): expert, movement: zero gravity 98%, prowling 50%, vacuum survival: 53 seconds, concealment 48%, escape artist 58%, ship to ship combat 63%, W.P. energy pistol, and W.P. knife. Speaks English.

COMBAT SKILLS:

Attacks per melee: 5

Bonuses: +8 to parry; +9 to dodge; +7 to strike; +6 to strike with body blow/tackle doing 1D4 damage; +3 to pull/roll with punch/fall away; +2 to damage. I.Q. bonus of +3% to all new skills (once only); 45% chance to invoke trust or intimidation in others.

Notable equipment: Usually carries a laser pistol, flechette pistol and a vibro-knife.

Personal profile: Frank Zerox is one of the second-string pirates with delusions of grandeur and a scum with incredible amounts of chutzpa. If the authorities or the Network ever catch up with the likes of Dark Myk, Frank is poised to move into ranks of the freebooters and pirates that everybody has heard of. That's the way he likes it.

In the past his activities have been limited to the Zone and were limited to minor acts of violence, piracy, gambling, and some salvage work. Mainly he has wandered the Zone looking for combat and getting involved in the hope of claiming some reward for his assistance from the winner. This has made him one or two firm friends and allies, and a lot of enemies.

The idea of hijacking a snowball is the biggest and most ambitious scheme he has ever tried to engineer. If successful it may make him a household name. This is one of the two things he really wants out of life. The other is a decent refitting for the Pooh Jihad, preferably with more non-reflective armor and several powerful lasers.

Frank has a very highly developed sense of self-preservation. If he is ever in a situation which seems to be turning against him, he is always prepared to surrender or attempt to negotiate some kind of deal. He drives a hard bargain, and has been known to open fire on ships while in the middle of negotiating with them. Anything to get the upper hand in a situation.

He is also very cunning. The Network and defense teams from at least two stations have been looking for him for several years, but apart from a couple of skirmishes he has always escaped unscathed. He will also make an implacable enemy; anyone who tries to double-cross him (him! the arch double-crosser himself!) will be hunted down until they are killed or until Frank or his crew gets bored.

Pooh Jihad Crew Member

(Anarchist Parasite Association)

Alignment: Miscreant

Average Level of experience: 3rd (roll 1D4+1 for level)

Occupation: Freebooter, pirate, or vagabond.

Home station: Outcast or none.

Average Hit points: 4D6+12, **S.D.C.:** 25, **A.R.:** As normal

The members of the crew have a wide variety of races and species, not to mention an odd assortment of random mutations. None have any major powers or psionics worth mentioning, because it might threaten Captain Zerox's command, but most will have some kind of strange abilities.

Skills of Note: Can vary dramatically. Usually have some background with weapons (1D6 W.P.), combat and space.

Average number of attacks per melee: 4 to 6

Average Bonuses: +2 to pull/roll with punch/fall, +2 to strike, parry and dodge, +2 to damage.

Notable equipment: All carry weapons at all times.

Personal profile: The crew of the Pooh Jihad are described accurately by the A.P.A. nickname they have given themselves, for they are anarchists and parasites to the last member. Low life scum looking for a way to the easy life while doing as little as possible. They are shiftless, violent, mean tempered, bad at taking orders, and stay together mostly out of respect for Frank Zerox and faith in his schemes. If the going looks tough, the A.P.A. will probably surrender or try to escape, unless Captain Zerox has a gun at their back.

Cold War

By James Wallis

Note: This adventure is designed for a party of novice to moderately experienced characters with access to a ship. This adventure can be adapted to **Rifts** with a little effort.

Player Background

The adventure should start with the player characters travelling within the Zone, probably on a trading mission or something similar. Over the last few days they have heard rumors that an incoming comet has impacted with a large asteroid in the Belt, and there is a large amount of ice spread out over a small section of the asteroids. Although this has not been confirmed a large number of freebooters and those who can borrow ships from their stations are preparing to travel out in an attempt to make their fortunes in an ice-rush. Orbital space is busy with ships being refitted and fuelled for the long journey out to the Belt.

Suddenly the alarm on the characters' ship goes off; there is something in their path. This is not particularly unusual, but this is a busy and well-patrolled area of the Zone and any check of the ship's data banks will reveal no trace of an object orbiting in this area. A visual or sensory scan shows the object to be a small round satellite, around two feet (0.6 m) in diameter. It does not appear to be dangerous nor damaged, but it does not seem to be active either. It does not correspond to any known design.

The group should not hesitate to pick up the satellite, as it may be a valuable find, possibly pre-Flash. Once it is on board, they can examine it thoroughly. Characters with the following skills can learn the following things about it:

Astrophysics or Orbital Navigation: The satellite was not in a stable orbit. Had it remained in space, it would have probably fallen into the Earth's atmosphere in about two years.

Basic Mechanics: It appears to have been made recently, probably within the last year. Its surface is hardly scratched by space dust.

Radio: Basic: The antennae on the surface suggest that the satellite was equipped to receive and broadcast signals, but only on very specific frequencies.

Scavenge: The satellite seems to be made entirely of parts scavenged from other machines and computers.

Satellite Systems: The satellite seems to be some kind of signal relay. It is currently inactive.

The satellite can be taken apart by anyone with the appropriate skills. It is made up of four main sections. Examining them all to work out the satellite's function will take an hour.

Power: It generates its power from a SNAP 19 nuclear generator. Small, lightweight and efficient, the SNAP series were standard in most pre-Flash satellites. Salvage value: IOU 1500.

Radio: The satellite contains a separate radio receiver and transmitter, but both joined to a large wad of computer circuitry. When a certain coded radio signal is received, a second signal will be broadcast on a different wavelength. It is impossible to tell what the signals are without analyzing the computer circuits, but further study will show that the frequency for the outgoing signal is the same as the frequency used by all the computers in the Link. Salvage value: IOU 100

Scrambler: This is a stripped-down version of the standard scrambler used by many ships, and will garble all radio transmissions and most electronic circuits. It will switch on at the same time as the incoming coded signal is received. Salvage value: IOU 2000

Computer Circuitry: It is impossible to guess with any accuracy the nature of the circuitry just by examining it. The circuits must be linked to a computer to study its programming. As soon as somebody does this, the computer screen fills with a large graphic smile and the computer and anything thing else linked to that computer locks up. Anyone with any computer skill can tell that the system has been infected with a very unobvious virus program.

Getting rid of the virus is easy enough in theory, but very time consuming. The computer must be switched off, all its stored memory erased, and then restored from the back-up mini-disks. If the virus has got into the ship's main computer it will have immediately infected all the slave systems (drive control, targeting computers, etcetera). The time taken to erase the virus from the ship's computers will be 30 minutes per ton of ship. Erasing it from a personal computer is a lot easier and quicker, approximately 6D6+10 minutes. A character making a successful computer programming roll can break into the virus and examine its program before it infects and locks up their computer, but he can only do this once he knows it is a virus.

The program is a strange one. It seems to have been designed to broadcast the virus code when the hardware inside the satellite receives the transmission code, but the virus will not infect the satellite itself. It is not a subtle piece of programming. When activated it locks up the computer, then looks for output devices, interfaces, serial cables, radio links, to transmit itself to other computers. It is also very fast and very thorough. The only reason it did not get outside the ship's systems is that it had not been given the activation code. A computer expert could spend 1D4 weeks to write a program that will work as a vaccine against it. At the end of the virus, hidden in the machine code is the message "Gibbon dun it. Hope youse sick now".

All these facts must raise several questions in the characters' minds. Who built this satellite and why? Are there more like it? When is it going to be triggered? What will it do? Can they stop it?

Game Master Information

The satellite and another hundred like it have been placed in orbit by a core group of mutants from the Outcast Station in preparation for a very large-scale raid on the Freedom Station. This raid will go beyond the normal ice gathering attacks. It will try to get inside the station to plunder as much equipment as possible, as well as possibly crippling a lot of the station's systems.

The satellites were launched about six months ago and are only now drifting close to the Freedom station and orbits frequented by Freedom ships. When triggered they will first activate a virus program specially developed by William Gibbon and broadcast it on the radio wavelength used by the computers in the Link. Once one computer is infected, it will continue to broadcast the virus program to other computers until the entire Link, including the Freedom Station's systems, are locked up by the virus. Then the satellites' jamming systems will be activated, so that any remaining radio messages or electrical systems will be immobilized. At that point, Freedom Station's weapons, combat computers, and their defense fleet should be completely locked up or jammed, and the Outcasts will attack.

However, the Outcasts know that even with jamming, Freedom station's weapons would still work on manual and they could still rally enough friendly independent ships to repulse the attack. Therefore, the news of the ice-strike in the asteroid belt, and the corresponding ice-rush have come at a perfect time. With so few ships left in the Zone, Freedom will be practically defenseless and the Outcasts will be able to descend like wolves on sheep.

That is the plan. It is known to about a quarter of the Outcast Station and their spies and agents on other stations, but the player characters must work it out for themselves before they can do anything about it. There are a number of routes to the truth, some of which are more direct than others.

Discovering the Conspiracy

There are many people in orbit known as Gibbon, and, even if a character makes a successful contacts skill roll, they will be unable to uncover his identity. This can lead to some fun subplots and side line adventuring ("Well, there was that guy Edward Gibbon on moon base who was writing that book on computers — Beeline and Fall or something"). Only a character with the profession of Cyberjack and who does some discrete snooping around in the Link has any chance uncovering some real leads and even messages from the real culprit, William Gibbon, based somewhere on the Outcast station.

A character who logs onto the Link will not be able to find out any details on "Gibbon" directly. However if they try to learn anything about the source of the virus they will be referred to the Virus Information sector of the computer. This is like a bulletin board where computer hackers meet to exchange information on the latest viruses (mostly very specialized and incomprehensible to anyone who does not have computer programming), post software designed to protect against or eradicate viruses, and discuss things.

When the character enters the Virus Information sector there is nobody else currently there. None of the old messages or protective software refers to anything like the virus that they encountered, but a good third of the messages have been written by a person or persons called **Starling/Ducker**, using a computer terminal somewhere in the Outcast Station. There is also a sub-sector entitled simply **Gibbon**, which contains this message:

IF ANYONE HAS ANY INFORMATION ON
THE RECENT ACTIVITIES OF WILLIAM GIBBON,
CONTACT BRUCE STARLING OR RUDY DUCKER
ASAP ON USERNO OUT77590. DO NOT POST MAIL HERE.
THANX

It is possible to try to contact User number OUT77590, which is a computer identity of a terminal in the Outcast station. All the characters will get is the equivalent of a recorded answer and a request to leave a message. Messages can also be left in the Virus Information sector. No messages that are left will be answered for several hours, by which time it will be too late.

Something else the sharp cyberjack will notice is that all the computer links from systems on the Outcast station are temporarily off line.

The players may want to go to the Outcast station to hunt down Starling and Ducker directly, in which case go to the relevant part of the "Outcast Station" section that follows.

The Mysterious Mr. Kebab

If the characters make any effort to sell the satellite, mention it to anyone from the Outcast station, or let it be generally known that they have found something odd, they will be contacted within an hour by an individual calling himself Mr. Kebab, from the Outcast station. He will be pleasant and polite and seems very interested in acquiring the satellite they have found. He will ask questions trying to discover how much they know about it and its systems, but will not give away how much he knows. Mr. Kebab will evade any demands to know who he is or why he is so interested in the satellite, simply saying that he is a collector or has an interest in such things.

After Mr. Kebab has learned all he can from the characters he will make them an offer of IOU 3000 for the satellite, going up to IOU 6000 if they bargain with him. He is in a hurry to get it and insists that they deliver it to his quarters on the Outcast station.

Any player character using his contacts will be informed that no one has heard of Mr. Kebab at the Outcast Station or any other station. If he was a collector as he claimed, certainly someone would know of him; obviously it is a false name. What's going on is that members of the Outcasts have learned that our intrepid adventurers have found one of their satellites and do not want them to sound an alarm when they are so close to attacking Freedom Station. Pretending to buy it back seemed the best plan. If that does not work then removing the troublemakers by trapping and jailing them on the Outcast Station is plan B. If the characters take Kebab up on the offer, go to the relevant part of the "Outcast Station" section which follows. Otherwise, the characters will be secretly watched and if they seem to be getting too close to exposing them, they will be subdued or even killed.

The player group may want to follow up other sources of information, but all the hottest leads point to the Outcast station. Eventually, before long they should decide to go there, either to visit Mr. Kebab or to try and find Bruce Starling and Rudy Ducker, or to check out their lead on William Gibbon.

The Outcast Station

On their arrival to the Outcast station the player characters will notice several things. There does not seem to be a lot of activity in the space around the station, but the few people they do see are heavily armed or laden with equipment. An unusual number of ships are docked at the station too, so many that it may be hard to find a spare airlock. Most of the ships seem to belong to freebooters and pirates. All are fairly heavily armed. Presumably preparing for the ice-rush to the Belt.

When they first enter the station, just beyond the airlock, they will be confronted by a mutant dog (husky) at a desk, his body is entirely covered in short spines, hence his name, Spikey Jones. He demands that they leave all their weapons there, or pay a temporary license fee of IOU 10 per weapon. Smart characters will pay the fee. Trying to bring weapons in without paying the fee will cause a brawl and could lead to temporary imprisonment (which the Outcasts want). At the first

sign of trouble Spikey Jones will shout for help and a group of four bruisers will appear from down a corridor (one cyborg human, and three mutants with no significant super powers). They will attack unless the group seems too powerful, determined or outnumber them. If they back off, Spikey will not press his point and allow them to continue unmolested.

Cooperating with Spikey is best and he will be friendly and even call a guide to help them find their way through the station. The guide is Rina, a small, attractive, mutant terrier with full human looks and a gorgeous figure. She is friendly and helpful. She will take them where they want to go and then leave them there. When they return to the airlock the desk, Spikey, and their weapons if left with him, have all disappeared. (**Rina Quick Stats:** Anarchist, 26 hit points, 20 S.D.C., four attacks per melee, psionic: hypnotic suggestion, telekinesis, see aura and mind block; 56 I.S.P.).

This particular area of the station is unusually crowded and most of the inhabitants seem to be more wary of strangers than usual. Conversation will hush as they pass, eyes will follow them, mutants cautiously finger weapons, and there are sporadic bursts of laughter from behind them. This is somewhat understandable, since the Outcasts have gathered the largest collection of rogues and misfits anywhere.

Player characters with psionic empathy will sense excitement, anticipation, hate, fear, and nervousness; some being more fired up than others. Telepaths will pick up similar emotions and random thoughts and phrases such as, "soon," "must be prepared," "we'll show them Yankers," "kick butt," "love a good fight," "who the hell are they?" "what's he looking at," "be careful," "hm, carve me up a pretty boy," and so on. Of course, every outcast is going to treat the outsiders with suspicion and remember only a third of the station presently knows about the impending invasion on Freedom Station, so while some people's thoughts are on the attack, other's are the normal hostility and paranoia of the inhabitants. Visiting player characters should be pretty scared by these frightening people. Remember, the Outcast Station has a well known reputation as being a place full of monsters, aliens, murderers, pirates, and insane people with insane powers; GM's, play it to the fullest.

If the party does not have a guide they'll find that getting directions from the Outcasts is difficult. Roll percentile dice and consult the following tables depending on their destination.

Looking for Starling and Ducker

- 01-20 Request is met with a fixed stare and an unpleasant scowl. If pressed, a brawl may break out (50%).
- 21-40 "No idea. Try that guy over there. I think he knows them". The guy over there will pass the group over to a third guy, who will pass them on again, ad nauseam. Everyone involved in the chain will find this very funny.
- 41-60 Long, complex descriptions to the wrong part of the station. If the player characters manage to remember it all, and follow it exactly, they will find themselves in the station's waste recycling section.
- 61-80 The person is immediately insulting and will spit on the character asking him the most questions. 1D6 of his buddies step out of the shadows and join in the name calling and bullying. 66% chance that a fight is going to break out. Fortunately, all are first level punks with no significant powers (GM's can change this if appropriate) and will run if the group is too tough for them. If their butts are kicked, there is a 1-40% chance that one of the punks will know where Starling lives and will send the group to a tiny, squalid apartment that hasn't been lived in for months.
- 81-90 Directions to Kebab's quarters (see the section on Kebab/Gamekid)
- 91-00 Directions to the Hacker section of the Station (see section that follows).



Looking for Gibbon

01-20 The questioner is completely ignored.

21-40 "Why ya wanna know that, huh? Huh? Is it your business?

Huh? I say it's none of your business, ya cog. Get outta here." If the character(s) does not back off, a fight may break out (50% chance) and this guy ain't no wimp.

41-60 "The little creep's dead, and not before time. Had it coming to him, the scum. You want to know more, you better go see Gamekid." Directions will be given to Gamekid's quarters upon request.

61-80 On hearing the name Gibbon, the informant suddenly starts being strangely friendly, and offers to lead the group to his room. He will be insistent, and may well pull a gun on them if they refuse his offer. They will be taken to Gamekid's quarters, where their guide will ask Gamekid for a reward for bringing them. He will be kicked out, and they will be ushered in.

81-00 They will be given directions to the Hacker section of the station (described elsewhere).

Looking for Kebab

01-20 "Never heard of him. Quit bugging me, cog."

21-40 Long, complex descriptions to the wrong part of the station. If the PCs manage to remember it all, and follow it exactly, they will find themselves in the station's poorest ghetto. Not a good place to be.

41-60 "You here to sign up? You're late. 'S down that way, hang a right, ask anyone and they'll tell you." Leads to a dead end.

61-80 "Keba — oh right, you mean Gamekid. Okay. Sure. I'll show you." Leads them to Gamekid and leaves. May ask for a hand out.

81-00 "You the guys who found that satellite? Right! He's really looking forward to meeting you. It's along here..." They will be

taken to Gamekid's quarters, where their guide will ask Gamekid for a reward for bringing them. He will be kicked out, and they will be ushered in.

Any violence resulting from any of these encounters is liable to get mean and bloody and could turn into a riot. This could lead to the group ending up thoroughly subdued and locked up. If things have gone really badly and several Outcasts have been killed, a lynch mob may be formed and the culprit, or culprits, will be spaced out of the nearest airlock without a vacuum suit. If they get off lightly then they will just be told to leave the station immediately.

The Hacker Section

The hackers' section of the station is buried deep in the hollowed asteroid. Down here the walls are bare rock, sputtering neon tubes flash white light down the corridors and bundles of technicolor cables, as thick as ropes, run along the walls instead of the usual guide cords. Keyboard jockeys and cyberjacks nestle in small booths, transfixed by their screens or dataplugs, oblivious to anybody.

This section has not been affected by the influx of armed troops and freebooters on the upper decks, and most of the cyberjacks seem completely ignorant of the situation. They are not generally happy to have company, especially company who is not as into computers as they are.

Where's Gibbon?

If asked about Gibbon, a cyberjack may (50%) clam up and refuse to say anything else. Those who do talk will say that William Gibbon is a notorious hacker and computer pirate, and into trashing data and causing chaos for kicks. He wrote and unleashed a couple of very nasty viruses until someone heavy (**GM note:** the Network) leaned on him and persuaded him to stop. Then he disappeared about three months

ago. Nobody has any idea of where he went, but his deck and gear went with him. That's all anyone knows.

What about Starling & Ducker?

All the cyberjacks are more forthcoming about Starling and Ducker. Both are normally resident in this part of the station but the characters will be told that at the moment they are out "paying the rent," trying to find some orbital debris or old satellites to sell so that they can buy more equipment.

Starling apparently owns a personnel carrier which the two of them use. It should be clear from the way the cyberjacks describe Starling and Ducker that they are almost folk-heroes among these people. They are the cyberjack's cyberjacks; geniuses. They have been responsible for a number of improvements in the way the Link is organized and they design and build new hardware from scratch and scrap, and give it away. They were also the first ones to defuse Gibbon's earlier viruses. Recently, they have been concerned by the disappearance of Gibbon, afraid that he may be up to no good somewhere.

If shown the virus program or the circuits from the satellite, most of the hackers will just shake their heads and claim that it's out of their depth. "Starling and Ducker are the people who would know about stuff like this, go see if you can find them".

Meeting Mr. Kebab/Gamekid

Whether the group find the mysterious Mr. Kebab or are forcibly led to him, his office is in the man-made section of the station. The corridors here are almost clear of junk and lowlife, and there is a general feeling of efficiency and of some plan in motion.

The office has a nameplate on the door. The original name has been erased, and several names have been written in and scratched out. The current name is "Joseph Gamekid", and this is how everybody addresses the occupant. He will respond to "Mr. Kebab" only when the player characters call him that.

Inside the office is Mr. Gamekid (or Kebab) and two heavies with four mutant arms, picking their teeth with laser pistols. A couple of grenades and vibro-knife hang from their belt. Gamekid is polite and smug at first. If he had contacted the group about buying the satellite then he will inquire where it is, where and how they found it, and who else did they tell about it. As the conversation continues, his questions and manner become increasingly terse and business-like, almost to the point of rudeness. He continually refers to the satellite as "our satellite." Once he has found out all he needs to know, he will offer them a ridiculously low IOU 500 for the return of the satellite. If they accept, he will gladly pay them the moment the satellite is physically handed over to him and they are free to go. If they do not accept, or protest, then Gamekid will gesture to the two heavies who will show them out of the room at pistol-point and to a nice comfortable prison cell. (**Heavies' quick stats:** Aberrant alignments, 32 hit points and 45 S.D.C.; and each one is wearing body armor with an A.R. 14 and 100 S.D.C.; six melee attacks each, and one has the random mutation powers of light expulsion and peripheral vision, while the other has invulnerability, in addition to their extra arms. They are brothers and will go berserk if one is seriously harmed).

If the group puts up a fight while still in Gamekid's office then he will use the intercom on his desk to call for reinforcements and take cover. Help will arrive in 1D6+3 melee rounds. Meanwhile the two heavies will unleash a furious attack. If they put up a fight in the corridor outside, it may be possible to overpower the heavies without attracting too much attention (brawls are common on this station) and/or flee. If they put up no resistance the player characters are taken to cells somewhere within the station and locked up. There are eight cells, all unguarded and all with conventional locks. Four of the cells already contain other unfortunate freebooters who found strange satellites in orbit and who tried to sell them to a Mr. Kebab.

Talking to the freebooters in the cells will provide them with more information that supports the suspicion that some kind of invasion is about to be launched, but none know firm details. One of the freebooters, Lee Beewood, knows Starling and Ducker and can tell the heroes where they are likely to be; in geo-stationary orbit above the Earth, around 105 degrees west, looking for dead satellites.

The fifth cell contains the putrefying corpse of William Gibbon, identifiable from an I.D. bracelet or his teeth, killed by a laser shot through the head at close range. In his pocket is a mini-computer. All the data in it is password protected (password: Gibbon). It contains information on the Outcast's satellite system, the plans for the raid on Freedom Station and the virus program.

Escaping from the cells and then from the station should be fairly easy and nobody will give chase, even once they have reached their spacecraft and left. The virus has been activated and the raid begun.

What Next?

Finding Starling and Ducker

The raid has begun. All but the Outcast's vessels and station are in a state of pandemonium. Computers are down, guidance and weapon systems are locked out and communications is a shambles. The other stations don't even know that Freedom Station is under assault. Only the moon colony, who seldom networks with their orbital neighbors is unscathed, but oblivious to what's happening.

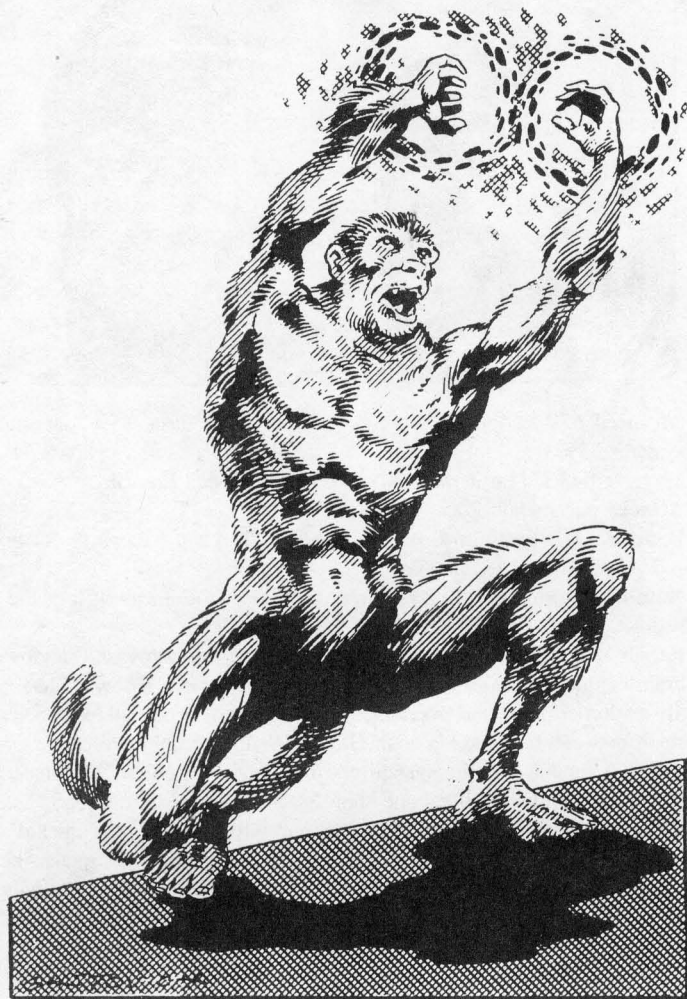
The only way to contact the two cyberjack geniuses is to intercept and dock with them. The journey will only take an hour or so. When the group docks, Starling and Ducker are cursing and shouting. Every system on their ship has frozen solid and they are unable to even call for help because of the satellites' jamming signals. They will be grateful for a tow, and will give the player characters any assistance that they can in return. When they are briefed on the situation, their initial reaction is one of disbelief, but any display of the satellite's hardware or the virus code will convince them. If the heroes don't have a copy of the virus code any more, the cyberjacks can get one from their own ship's computer. While studying it they will tell the group that they knew Gibbon had been working on something like this, but did not know for who or why.

It takes only a few seconds for them to decide that it would take weeks to create any kind of antidote or counter-jammer. After an hour of study the first flashes of explosions can be seen from the direction of the Freedom station; and Ducker suddenly spots that hidden in a tiny section of the virus code is an anti-virus (**GM Note:** Player characters will NOT spot this). When it is given a keyword, the **anti-virus** isolates itself from its parent before destroying it, then replicates and goes in search of other copies of the virus to destroy. It broadcasts and disseminates in the same way as the main virus, but is harmless and will self-destruct once the system is clean. The keyword is predictably, "Gibbon". Within a minute Ducker and Starling's ship is free of infection. (**GM Note:** This same data is found in Gibbon's pocket computer, the one on his corpse).

The problem is that while the satellite jammers are still functioning, the anti-virus program is unable to spread between the computers in the Link, and the Freedom station is still helpless. There are two solutions to this. Either the group can take a copy of the anti-virus, fly through the on-going battle around the Freedom Station avoiding the gun fire from both sides, dock with Freedom, go aboard, convince the security crew at the airlock that they're not Outcasts before the security crew shoots them, and introduce the anti-virus into Freedom's computer system. If players really want to take this option, their characters will be heralded as heroes and all deserve medals for bravery, but may receive them posthumously. The other solution is to find the satellite control system and either disable it or destroy it. Actually, either way they'll be heroes, if they live to get the recognition.

Data on the satellite control system can be found in two places. One is on William Gibbon's pocket computer, which the group may have found on his lifeless body. If they cannot guess the password, Ducker or Starling will break through it in ten minutes. Second, the data is in Gamekid's office on the Outcast station, along with information on the rest of the attack. To get this the characters will have to return to the Outcast station and search for it, while running the risk of being recognized. The station is much less crowded after all the mercenaries and pirates have left in the attack fleet, but this does not mean a cake walk. Quite the contrary, Gamekid's goons will be waiting for them and this time the group is considered to be dangerous and will meet with deadly opposition.

Data from the office or the computer show that the satellite control system is on a small shuttle called the Deadline. A quick examination of ships around the Outcast station shows it is not there, and it does not take a genius to realize that it will be with the attack fleet. If the heroes are persuasive enough, Starling and Ducker will agree to lend their knowledge and the strength of their armored personnel carrier to the cause. Although they are members of Outcast Station, they, like many of the inhabitants, are not murderers nor pirates.



The Attack on Freedom

Over at the Freedom Station, things are not going well for the defenders. The attackers seem well coordinated for a fleet without radio contact, while the defensive fire is sporadic and seems ill-aimed. A few blasted ship hulls float in orbit, spilling debris, but at least twenty ships are still circling and looking for openings, or darting in to fire grapples at the hunks of ice which have been shot free of their moorings and which are drifting away from the station. Sections of the station's hull have been blown open and figures in vacuum suits seem to be

active around them, although from a distance it is impossible to tell whether they are attackers or defenders.

The Deadline is hanging near the back of the fleet, not directly involved in the attack, but occasionally exchanging fire with one of the defending shuttles or the freebooters' craft which have joined the combat. Our heroes should be able to get a surprise attack since it will be unclear which side of the battle they are joining, and nobody suspects that their computers are up and running. However, after one round of unreturned fire, the surprise is over and the Deadline or the vessel attacked will respond in kind. **Note:** The Deadline is piloted by Gamekid, not that anybody knows that. Bear in mind that all ships will have their T.M.F. and Speed Classes halved due to the affect of the satellite jamming system.

To destroy the satellite control system, the S.D.C. of the Deadline must be reduced to zero or below. In other words, it must be turned into floating scrap. If the combat lasts more than ten rounds, other ships are likely to join in its defense. Roll 1D6 per round. On 1-3 no other ship joins in. On 4-5 an Outcast ship comes to its aid, but on a roll of a 6, a freebooter or Freedom defense shuttle joins the attack against the Deadline.

When the Deadline reaches zero S.D.C., a small explosion splits its cabin section into fragments. The hull ruptures. The radioes on the ships comes back to life in a burst of static and a muffled "What th-". A defense shuttle seems to gain a spurt of unexpected acceleration and rams an Outcast transport annihilating both. In a single combat round the Freedom station's lasers are at full strength and within twenty rounds the attack fleet is desperately trying to flee.

The Committee of the Freedom Station are duly grateful to the courage and sacrifice of the player characters and to Ducker and Starling (they are made honorary citizens of Freedom Station). The characters are given medical attention, medals, a public celebration and each is given IOU 50,000 in credit to buy supplies. The group is also given a brand new, fully equipped, medium size transport ship, but it will be 1D6 months before they can get the finished vessel from the Laika Station. Until then, they are offered free room and board on Freedom Station. The characters have gained strong friends and powerful allies in the course of the adventure; not to mention a number of vengeful enemies (Gamekid, for one survives).

NPCs & Other Data

Bruce Starling

Alignment: Unprincipled

Attributes: I.Q. 30, M.E. 17, M.A. 19, P.S. 12, P.P. 13, P.E. 10, P.B. 9, Spd. 14 walking, 44 flying (30 mph/48 km).

Level of experience: 6th

Occupation: Cyberjack and a mutant genius from Outcast Station.

Home station: Outcast Station

Hit points: 32, S.D.C.: 30, A.R.: As normal, **Size level:** 7

Species: Bird: Starling

Human features: Hands: full, biped: full, speech: full, looks: none.

Natural weapons: None

Super Power Category: Mutant animal genius.

Random mutations: Increased I.Q. and machine empathy.

Psionics: None

Skills of Note: Artificial intelligence 92%, astrophysics 80%, basic and advanced math 98%, basic mechanics 98%, bioware mechanics 98%, computer operation 98%, computer programming 96%, computer repair 96%, cyberjacking 98%, escape artist 76%, movement: zero gravity 95%, oxygen conservation, pilot spacecraft 98%, read sensory equipment 87%, satellite systems 96%, writing 75%, W.P. energy pistol, and speaks English, French, German, and Gobbley.

Attacks per melee: Two; no combat training.

Bonuses: I.Q. skill bonus of +16% (included in skills listed), +1 to save vs psionics, 55% chance of evoking trust or intimidation.

Notable equipment: Bioware: dataplug, razornails (left hand). Large personnel carrier with ion drive, co-owned with Ducker.

Personal profile: Of the duo, Starling is the hardware man. The slightly more crazed of the two, he is also slightly more down to earth than his partner. A nice guy when you get to know him, he can be intimidating on first meeting because of his piercing gaze and taciturn nature.

Like Ducker, he was originally from the Freedom station but was asked to leave because of the amount of illicit alterations he was making to the Link. He now spends half his time on the Outcast station and the other half in his personnel carrier, the Get Out Of My Way.

Rudy Ducker

Alignment: Unprincipled.

Attributes: I.Q. 28, M.E. 23, M.A. 14, P.S. 15, P.P. 14, P.E. 13, P.B. 12, Spd. 13 walking, 44 flying (30 mph/48 km).

Level of experience: 7th

Occupation: Cyberjack and a mutant genius from Outcast Station.

Home station: Outcast Station

Hit points: 33, **S.D.C.:** 35, **A.R.:** As normal, **Size level:** 11

Species: Duck

Human features: Hands: full, biped: full, speech: partial, looks: partial.

Natural weapons: None

Super Power Category: Mutant genius

Powers: Mutant Genius

Psionics: None

Skills of Note: Artificial intelligence 85%, computer Operation 98%, computer programming 90%, computer repair 90%, cyberjacking 98%, basic electronics 90%, drive repair: ion 98%, EVA 98%, jury-rig 90%, movement: zero gravity 98%, orbital navigation 98%, oxygen conservation, basic and advanced math 98%, radio: basic 98%, writing 77%, and is literate in English, French and Spanish.

Attacks per melee: Two; no combat training.

Bonuses: I.Q. bonus of +14% (added to skills listed) and +4 to save vs psionic attack.

Notable equipment: Bioware: dataplug. Half ownership of the large personnel carrier with Starling.

Personal profile: The quiet half of the duo. Ducker is a genius, and like many geniuses he is a little other worldly. His mind revolves only around mathematics and computers, and he often gives the blank-faced appearance of being datapugged to a computer even when he isn't. Nevertheless, his ideas are usually profound, but not often usable. Whereas Starling sees computers as a tool, Ducker regards them as their own justification. He doesn't have to use a computer for anything, he just likes playing with them and exploring the possibilities they offer. Together, the two are a formidable team, their minds and skills complimenting each other perfectly; apart they are still pretty formidable all the same.

Joseph Gamekid

Alias: Mr. Kebab

Alignment: Aberrant

Attributes: I.Q. 17, M.E. 19, M.A. 20, P.S. 18, P.P. 12, P.E. 14, P.B. 15, Spd. 14

Level of experience: 5th

Occupation: Professional criminal, murderer, gambler and scum.

Home station: Outcast Station

Hit points: 27, **S.D.C.:** 25, **A.R.:** As normal, **Size level:** 7

Species: Human (lesser mutant)

Natural weapons: None

Super Power Category: Random mutation

Powers: Plastic bones and oxygen retention

Psionics: None

Skills of Note: Combat (zero gravity): basic, defense systems 70%, ship to ship combat 60%, orbital navigation 85%, pilot spacecraft:



advanced 65%, computer operation 80%, radio: basic 85%, satellite systems 85%, vacuum survival: 55 seconds, W.P. energy pistol, W.P. energy rifle, and is literate and speaks English and French.

Attacks per melee: Four

Bonuses: +2 to pull/roll with punch/fall away; +2 to parry/dodge; +2 to strike; +2 to damage

Notable equipment: Always carries a laser pistol and two flash grenades.

Personal profile: The murderous Gamekid is the slimy and devious brain behind the major attack on the Freedom station. He wants to see the station crippled and overtaken by the Outcasts, and will let nobody stand between him and his goal. He used William Gibbon to create the software for his satellite system and then had him quietly eliminated so that he could not tell anyone about it. Unknown to him, Gibbon had included an override for his own use, and will prove to be Gamekid's downfall. Should the player characters mess up Gamekid's plans, he will become a very powerful and cruel enemy. Gamekid is usually accompanied by his two huge body guards, Sven and Stefan, both are powerful, four armed mutants. Gamekid also has a weakness for the ladies and high risk gambling.

Typical Outcast Soldier

Alignment: Any selfish or evil alignment.

Average level of experience: 1D4+2

Occupation: Guard, vagabond or freebooter.

Home station: Outcast Station

Average hit points: 26, **S.D.C.:** 40, **A.R.:** As normal or amour.

Species: Any, **Average Size level:** 8 to 12

Human features: Varies dramatically, over 95% are deformed.

Natural weapons: Varies dramatically.

Super Power Category: Varies.

Powers: Psionic, genius or super powered.

Random mutations: Generally have four to eight psionic powers or two or three super abilities.

Skills: Combat, weapons, and space; otherwise varies.

Average number of attacks per melee: Four to six.

Bonuses: Varies.

Notable equipment: Always carries weapons.

Personal profile: Outcasts do not make good soldiers because they are far too wild and independent. Their obedience is low but their initiative is high. Some would say too high. Nevertheless, if paid enough, motivated, or threatened enough they can be a force to be reckoned with.

The spaceship, Deadline

Ship design: Small shuttle

Built by: ESA (pre-Flash)

Length: 120 feet (40 m)

Mass: 100 tons

Drive type: Chemical

Fuel: Hydrogen/oxygen mix; normal sized fuel tank

Range: Limited to within the Zone.

Acceleration: 1G for 1 hour

Speed class: 30

T.M.F.: 6

S.D.C.: 550

A.R.: 12

Max crew: Eight

Recycling: Type one plant

Weapons: Two chemical lasers

Defenses: Hardened circuits; Sand-caster

Extras: Long range radar

Cargo space: 25 tons

Salvage Value: IOU 15,000. Bear in mind that the characters are going to wreck it, and the Yankers are likely to claim it as theirs anyway.

Description: A small, battered shuttle, the Deadline is deliberately unobtrusive to avoid drawing attention to itself. It has two purposes: to contain the satellite control system, and to provide a relatively safe platform for Gamekid to watch the battle for the Freedom station. In all respects it is an unremarkable and cheap vessel. Holds three survival capsules.

Useful Characters

This section provides the background on only a few of the interesting and useful characters in orbit. Game Masters will have the pleasure of working up the rest themselves. Because the characters are being generated for three systems simultaneously, there may be slight differences and an occasional inconsistency in the character generation rules from one RPG setting to another.

General Algonov

Alignment: Principled

Attributes: I.Q. 17, M.E. 15, M.A. 20, P.S. 12, P.P. 9, P.E. 8, P.B. 9, Spd. 9

Age: 68, **Sex:** Male, **Level of experience:** 10th

Disposition: Strict but fair. Alert, analytical, compassionate, honorable; has a great sense of intuition.

Occupation: Leader of the Laika station; Military Specialist

Home Station: Laika

Weight: 150 lbs (67.5 kg), **Height:** 5 foot 6 inches (1.65 m)

Hit Points: 41, **S.D.C.:** 30, **A.R.:** Normal, **Size level:** 8

Species: Human

Super Power Category: None

Powers: None

Psionics: As above

Skills of Note: Defense systems, ship to ship combat, orbital navigation, movement: zero gravity, combat (zero gravity): expert, oxygen conservation, basic math, radio: basic, radio: scrambler, fencing, interrogation, intelligence, computer operation, W.P. energy pistol, W.P. sword.

Secondary Skills: Dance, first aid, and languages include Russian (98%, literate), English and French (95%, not literate).

Attacks per Melee: Six

Bonuses: +2 to pull/roll with punch/fall away; +2 to strike, +3 to parry and dodge (+3 with rapier), +2 damage. Kick attack does 1D6 damage, and critical strike on unmodified 18-20. I.Q. bonus: +4% to all skills.

Cybernetics: Bioware: eye socket and six database eyes, environment sensor eye, and a sub-vocal 2-way radio.

Personal profile: Algonov is a senior statesman, and is treated with respect even by the leaders of the other stations. He is the perfect diplomat, and has managed to keep the peace among the factions on his station for thirty years. However, he is getting old and tired, his hair has turned white and his grip is beginning to loosen. He is aware of this, just as he is aware of almost everything that happens on Laika Station, and is looking for someone who might prove to be a reliable successor.

Physically Algonov is not a dominating person, but his use of language is eloquent and insightful, and only a dolt would not be impressed by his grasp of government and understanding of people. He is a powerful ally to have.

Marc de Gascogne

Alignment: Unprincipled

Attributes: I.Q. 23, M.E. 13, M.A. 18, P.S. 9, P.P. 18, P.E. 13, P.B. 13, Spd. 11

Age: 28, **Sex:** Male, **Level of experience:** 5th

Disposition: Flamboyant, charismatic, energetic, an excellent conversationalist and wheeler dealer.

Occupation: Leader of French section and Scholar.

Home Station: Yuro

Weight: 165 lbs (75 kg), **Height:** 5 foot, 9 inches (1.7 m)

Hit Points: 28, **S.D.C.:** 35, **A.R.:** As normal, **Size level:** 9

Species: Hamster

Human Features: Hands: partial, biped: full, speech: full, looks: partial.

Natural Weapons: Claws (1D6 S.D.C.)

Super Power Category: Two minor powers: increased I.Q. and infravision.

Psionics: None

Skills of Note: Computer operation, computer programming, computer repair, basic and advanced mathematics, medical doctor, biology, chemistry, salvage, combat (zero gravity): expert, movement: zero gravity, disguise, forgery, W.P. pistol/dart pistol, and the languages French and English (98%; literate in both) and speaks some Russian 70%.

Attacks per Melee: Four

Bonuses: +2 to pull/roll with punch/fall away; +4 to parry/dodge; +4 to strike, +1 on initiative, and I.Q. bonus of +9% on all skills.

Cybernetics: Bioware: basic hand joint with a micro-manipulation hand.

Personal Profile: Marc de Gascogne is a rising star in the tricky area of inter-station diplomacy. He has managed to arrange deals with most of the other sections of the Yuro station which will allow him and his allies to get what they want with a minimum of fuss, and is currently trying to set up similar trade alliances with the Freedom and Laika stations.

Gascogne is the sort of person that almost everyone likes. He is open and generous, but will only offer assistance or equipment if he knows he can deliver. If he is unable to help, he will do his best to suggest someone who can. He will also try to get work for his friends, or for

people who have done him a favor or proved themselves reliable in the past. This has led to rampant favoritism which does not always work to his advantage (there are a number of people holding positions they are not suited for).

Naturally such a rapid rise to power has made Gascogne his share of enemies. There are several people within the French sector who would love to see him gone, especially the more militant minded. The Network is said to be keeping a careful eye on him, because his astute trading arrangements are undermining their own black market and illicit activities. A showdown may become inevitable before too long.

Baron Dioxin — Head of the Network —

Alignment: Aberrant

Attributes: I.Q. 16, M.E. 15, M.A. 13, P.S. 14, P.P. 19, P.E. 14, P.B. 8, Spd. 12

Age: 54, **Sex:** Male, **Level of Experience:** 9th

Disposition: Baron Dioxin is a ruthless and efficient businessman. He is suave and polite, welcoming to friends, strangers, and enemies alike with a smile and open arms. But his enemies feel his cold power when he is angered.

Occupation: Leader of the Network. Criminal and scholar.

Home Station: The "Inside Joke," a large self-sufficient ship parked in geostationary Earth orbit.

Weight: 180 lbs (82 kg), **Height:** 6 feet, 1 inch (1.85 m)

Hit Points: 45, **S.D.C.:** 25, **A.R.:** As normal, **Size level:** 10

Species: Rat

Human Features: Hands: full, biped: partial (walks with a slouch; legs seem a bit short), speech: full, looks: full. Easily passes for human.

Natural Weapons: 1D4 teeth.

Super Power Category: Random mutations resulting in bio-manipulation, detect psionics, and see the unseen.

Psionics: See super powers.

Skills of Note: Basic mechanics, pick locks, streetwise, forgery, escape artist, interrogation, contacts, computer operation, computer programming, pilot spacecraft, radio: basic, radio: scrambler, surveillance, salvage, combat (zero gravity): basic, movement: zero gravity, W.P. pistol (flechette is his favorite), W.P. energy pistol and language English (98%; literate)

Attacks per Melee: Four

Bonuses: +2 pull/roll with punch/fall away; +4 parry/dodge; +4 to strike; +2 damage; kick attack does 1D6 damage and I.Q. bonus of +3% to all skills.

Cybernetics: Bioware: one eye socket, environment sensor eye, night-sight eye and zoom lens eye.

Personal profile: Baron Dioxin does not see himself as an evil man, but as a free marketer running a business that is frowned upon because others are envious of his wealth and power. He has a strange code of honor and a sense of calm politeness (even when he's torturing somebody to get information). He likes to think himself a merciful, generous and peaceful man and, thus, his operations are not overtly violent. In fact, often the presence of the Network helps to reduce the amount of violence in that area, mainly because nobody wants to cross the Baron. When he has to be, Baron Dioxin can be a cold, calculating, killing machine, authorizing hits (murders), torture, vandalism, and extortion.

In person, Dioxin is friendly, although constantly guarded and rarely talks about himself. He is willing to grant requests for aid or a loan, but then that person owes him for life. His strange code makes him a man of his word, but the Baron also becomes outraged, almost crazed, when he is lied to, betrayed, or swindled and he will seek painful retribution. Likewise he will hurt or kill anybody who besmirches his reputation. This same twisted code gives Baron Dioxin a soft spot for small children and the impoverished, who he will help from time to time. He will never be party to any activity that would harm or endanger them.

Dark Myk

Famous Pirate and Freebooter

Alignment: Miscreant

Attributes: I.Q. 14, M.E. 17, M.A. 24, P.S. 20, P.P. 13, P.E. 18, P.B. 21, Spd. 16

Age: Unknown, looks 30-ish, **Sex:** Male, **Level of Experience:** 8th

Disposition: Charming, cheerful, suave, debonair, seems the soul of sincerity, but is a ruthless manipulator, liar, thief, and murderer.

Occupation: Freebooter/Pirate

Home Station: Unknown, suspected of having a hide-out in the asteroid belt.

Weight: 170 lbs (76 kg), **Height:** 6 foot, 6 inches (1.9 m)

Hit Points: 45, **S.D.C.:** 40, **A.R.:** As normal, **Size level:** 9

Species: Greyhound dog (dark grey in color).

Human Features: Hands: full, biped: partial, speech: partial, looks: none.

Natural weapons: Bite (1D6 damage)

Super Power Category: Random mutations of increase size (grow), invulnerability and light expulsion.

Psionics: None, but if a **Rifts** character, he has all the usual dog pack O.C.C. powers and see greyhound bonuses in **Rifts**, page 111.

Skills of Note: Cryptography, radio: basic, computer operation, defense systems, basic electronics, pick locks, pick pockets, palming, streetwise, prowl, combat (gravity): advanced, combat (zero gravity): assassin, movement: gravity, W.P. energy pistol, W.P. energy rifle, W.P. automatic pistol, W.P. sword and language: English (literate too).

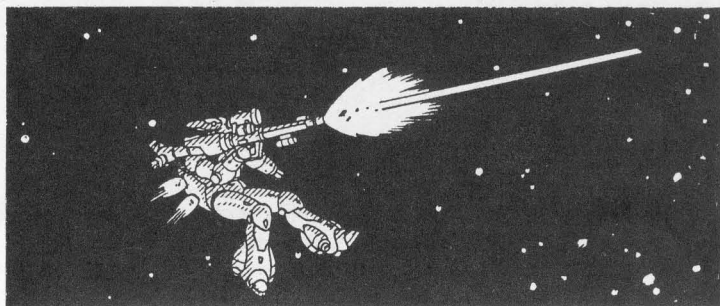
Attacks per melee: Six

Bonuses: +3 to pull/roll with punch/fall away, +1 on initiative, +6 to parry and dodge, +4 to strike, +12 damage, kick attack does 1D6 damage, entangle, knock-out/stun on roll of natural 17-20, +1 to save against psionics, and +3 to save against poison.

Notable equipment: Always carries a vibro-sword, a pair of laser pistols, and two flash grenades. Wears a Cyberworks hard suit exoskeleton on pirate raids, and owns a fast, medium size transport ship, the Julianne.

Personal profile: Dark Myk is an irascible, swashbuckling rogue who is too likable to be believed. He is simply so charming and exuberant that one cannot help but be impressed with the mutant's sense of style and grandeur, if nothing else. Unfortunately, he is also a murderous cut throat, thief, pirate and assassin. You name the crime and Dark Myk has probably done it, especially the big ones. But along with his terrible crimes he has been known to save prospectors from claim jumpers, women from danger, and fight godless monsters (from space rifts).

One of his greatest assets is his likability, which causes people to let down their guard so he can make his move. He is a masterful liar who can make ice melt on his tongue and a song swell from one's heart, all to his advantage. The next moment he is a merciless fiend intent on satisfying his own needs and desires. There is a saying about friends that sums up Dark Myk to a tee. "Dark Myk's best friends are those with his knife in their back." Ah, the life of a pirate.



The rescue of Chicken Little

After the Bomb
By Kevin Siembieda

Note: This is an action packed adventure of fair difficulty. It requires quick thinking and teamwork. Some heavy weapons and a couple reliable and fast vehicles will be helpful, but no special powers or equipment is needed. Suitable for any level of characters, but mid to high level (5th to 11th level) have the best chance. This adventure is not so easily converted to **Rifts**.

Player Background:

A Cardanian spy has been captured by an Empire of Humanity patrol. The spy has vital data regarding some new Empire plot. Word has it, an insidious plot that must be stopped. She must be rescued!

The player can be characters working for Cardania, or an ally of Cardania, or hired on as mercenaries because they are in the same area as the Empire of Humanity patrol that's holding the Cardanian spy. If mercenaries, the Cardanian government will pay 35,000 bucks to each character if they successfully free the spy, a chicken by the name of Roberta Cluck, and escort her safely to Cardania. The high fee should alert the player characters that this chick is hot and the mission must be extremely dangerous. Cardania wants the team to strike immediately, because they fear that Roberta will be tortured then killed for the information in her head. It is critical that she be saved immediately and returned to Cardania alive!

ENCOUNTER ONE: The Empire's Patrol

The Empire patrol is easy to find. As is so often the case, the Empire stooges think themselves superior to any rebel band of mutants and have set up a sloppy encampment; allowing our band of heroes to move in close. About a dozen soldiers can be seen in the camp, others may be inside one of the three tents.

A moment after the player characters move in within ear shot of the encampment, they can hear one of the humans speaking (obviously the squad leader by the way he barks out commands). He has just gotten up from a long range radio and says, "Hey! Listen up. This is our hot bird alright. Command says she's a top Cardanian spy and that we should use extreme caution. She is to be kept under constant observation and is to be left manacled at all times. Privates Bruno, Raja, and Karl," three of the mutant dogs jump to attention, "I want you three to stay with our prize until command picks her up. A chopper is on its way, so we only have to keep this bird on ice for an hour. You see anybody, 'pecially mutie animals, you give them ONE warning shot and demand they move on. If they do not comply immediately, shoot to kill. If they are armed or appear anyway threatening, shoot to kill. Sergeant," A burly human armed to the teeth snaps to attention, "take your men and establish a perimeter defensive line. You others stay alert. Let's do this by the numbers gentlemen. I want no mistakes."

With that last command the sergeant, two other humans and three other canine rangers, collect their gear and begin to head into the woods (1-40% chance that one is heading toward one of the player characters; 1-20% chance that it is the sergeant). The others scramble to defensive positions within the camp.

The patrol is composed of nine canine rangers and four human soldiers.

Canine Rangers: The six sent out on perimeter defense are each 4th level and skilled in basic hand to hand combat, basic survival, tracking, W.P. assault rifle, W.P. pistol, W.P. knife, and are armed with M-16 style assault rifles, .45 automatic pistols, one smoke grenade, and a survival knife. They have six extra ammo clips for each weapon. Average hit points: 30, S.D.C.: 30. Alignments are aberrant.

Privates Bruno, Raja, and Karl are all mutant dogs of average attributes and second level skill. They are each armed with the same ordinance as the more experienced rangers. Average hit points: 22, S.D.C.: 20. Alignment: Anarchist.

The Human Soldiers: The two human privates are only first level and nervous. They are skilled in expert hand to hand combat, basic survival, W.P. assault rifle, W.P. pistol, W.P. knife, and have the same weapons as the canine rangers. Average hit points: 18, S.D.C.: 20.

The gentleman giving the orders is Lieutenant Rogers. He is smart, competent and alert. He is skilled in expert hand to hand combat, radio: basic and scrambler, intelligence, and wilderness survival. He has weapon proficiencies in every weapon he uses. He has a .45 machine pistol, G-9 assault rifle, a combat knife, and two explosive grenades, as well as the radio. Lt. Rogers is 5th level and wears a flak vest (A.R. 11, S.D.C. 80). Hit points: 31, S.D.C.: 25. Alignment aberrant.

The sergeant is a smart, tricky, 7th level veteran and the greatest threat. He is skilled in martial arts hand to hand combat, boxing, prowl, radio: basic, intelligence, wilderness survival, and has a weapon proficiency in every weapon he uses. He is armed with the type 2xd power armor exo-skeleton (A.R. 18, S.D.C. 240, P.S. 23) which is mounted with an ion blaster (5D6 S.D.C. damage and +2 to strike). He is also armed with an assault rifle mounted with a 40 mm grenade launcher, .45 automatic machine pistol, and four explosive grenades.

Note: Empire soldier stats, power armor, robots and weapons are found in the **After the Bomb** adventure/sourcebook. The "chopper" is a combat helicopter that will be accompanied by two transport choppers.

ENCOUNTER TWO: Reinforcements

If the player group takes too long to make their move, they may find themselves in deep trouble. The helicopters will arrive early, within 49 minutes, and will join in the fire fight if they arrive during combat. Finding the camp trashed, they will give pursuit. If the sergeant survived, he will be one of the pursuers. Note that the Empire troops will use deadly force but will take care not to kill the female spy (at least at this point in the adventure). This may give our heroes an edge and an opportunity to flee into the woods.

The choppers will land releasing their troops to pursue on foot while the helicopters will provide whatever aid they can in finding and capturing (or killing) the player characters. The helicopters have enough fuel for one hour of flight before having to turn back to refuel. If the group has not been apprehended by that point they will return to base and two **Saber-15 jet fighters** will be sent out to join in the search (arrive in the area one hour later).

The ground troops released by the helicopters consist of: 12 canine rangers basically the same as the previous six 4th level rangers.

Six Empire foot soldiers (same as the privates only these are all third level and half are armed with light machineguns doing 5D6 S.D.C. per round and the other half armed with rocket launchers that inflict 1D6 x 100 S.D.C. — have two rockets each).

Six human soldiers in 2xd power armor (also 3rd level).

Two 1xd robotic armored units. A.R. 18, S.D.C. 1200. See **After the Bomb**, page 9, for full data.

All are anarchist or miscreant alignments.

The ground forces will follow the player characters deep into hostile territory and all the way to the border of Cardania if necessary. After eight hours of pursuit, they are ordered to assassinate the spy and EVERYBODY she has had contact with, including the destruction of



entire towns that they may take refuge in. The characters can learn this by intercepting a radio message, by being given this nasty detail by a sympathizer, or by overhearing a conversation between soldiers. This will make for an interesting marathon run through the wilderness requiring combat skill, cunning and sneakiness. Cardania is at least a four day journey travelling undercover by foot and ground vehicle.

Other Elements

Game Masters may throw in the following elements/combatants throughout the course of the adventure.

1. Other Empire troops in the area, along the way, will be notified of the situation and warned to be on the lookout for them. Their orders are to kill the spy and her would-be saviors.
2. Evil animal mutant mercenaries who occasionally work for the Empire of Humanity as bounty hunters. There is a bounty of 50,000 Bucks for the head of Roberta Cluck and 2,000 for each of her savior's.
3. The Empire of Humanity will air drop a special assassination team about 120 miles from Cardania in an attempt to intercept the heroes. The team of eight is composed of Empire Marines wearing the flying 2xj power armor (see **Mutants of the Yucatan** for complete data or substitute seven with 2xd armor and one 1xd robot).
4. Of course bandits and other menaces can be added along the way, depending on the players, GM and the tone of adventure.

Note: Cardania will send 2D6×10 troops to assist and escort the player characters when they are within 100 miles of the city, assuming that the characters have notified Cardania that they are in the area. Also note that after the first day on the run, Roberta Cluck will entrust her secrets to the player characters, in case she doesn't make it. See the info in the next adventure.

The adventure continues? Operation Shuttle

The adventure can end with the arrival in Cardania. The government will be very grateful and pay the characters for their great service and give them medical treatment, food, and replace their ammunition as well. However, their service will be requested for another dangerous mission if they are willing.

Player Background

Armed with the information provided by Roberta, the player characters and the Cardanian government now know that there exists some sort of space colony in orbit around the Earth. They also know that the Empire of Humanity has made contact with them and plans to attempt allying themselves with these space people. The word has it that the orbiters wish the Empire to aid them in an assault against an enemy and they will in turn aid the Empire against their enemies. This treaty includes the sharing of technology and resources.

Obviously, complete data about the Zone is not available and Roberta does not know which of the space stations have contacted the Empire of Humanity. What is certain, is that an alliance with a dangerous force in space would give the Empire a tremendous advantage in their war against mutant kind, especially if they could create killer satellites. Control of such satellites could give them control over the skies.

Roberta and our heroes have also learned that the spacemen don't have the capabilities of returning to space, after they land and have asked the Empire of Humanity to send a diplomatic envoy to them. The Empire has had an old American space shuttle, one rocket and launch capabilities for years, but had little reason to use it (very costly in man power and resources). Now they have a reason to move ahead.

The Empire has been busy readying themselves for this great adventure for the last six months and will be ready to launch soon. They had planned to launch the shuttle in 62 days, but one must now assume that those plans have been changed since the discovery of the spy. Roberta is positive that the shuttle can NOT be launched any sooner than 46 days from today.

Her new mission: To stop the launch by destroying the one space shuttle and/or one rocket in the Empire's possession. If either is destroyed, it will take the Empire at least five years to build a new one. If both are destroyed, perhaps longer. And if the entire launch base is destroyed, it could be a decade or more before they are able to fly into space. Precious time for the survival of mutant animal kind. Of course such a daring attack will certainly accelerate the war between humans and intelligent mutant animals, but then this information of a space colony (presumably human) and the Empire's plans for an alliance has taken the war to a new stratum of magnitude already.

The heroic player characters will be offered the assignment first. If they accept, they will become the first strike team and given all the equipment they will need for the mission. Roberta Cluck (assuming she survived) will accompany them along with two other, tough and resourceful non-player characters of the GM's creation. Two other, slightly larger, teams will be mobilized to follow after them within a few days.

Game Master Information

Game Masters take it from here. There can be adventures along the way as they sneak to the launch base (located at Technoville or one of the old Nasa launch sites, or somewhere else) or the action can jump to the team's arrival at the launch base.

The base will be abuzz with activity and heavily guarded. An electrified fence surrounds the perimeter two miles (3.2 km) away from the rocket launch pad and mission control buildings. Twelve 1xd robot power armor units and 48 security robots, like those described on page 44 of **After the Bomb**, patrol the one mile area between the fence and a second, non-electrified inner fence. And a pair of combat helicopters do fly-bys every hour.

Beyond the second fence are more 1xd robot armor units on patrol, as well as patrols of canine rangers in jeeps and on motorcycles. A pair of combat helicopters circle the base continually passing the same area about every 15 minutes. There are also six strategically positioned watch towers armed with laser cannons and four human soldiers, but there are many blind spots.

The launch pad, with the rocket and shuttle already in launch position, is guarded around the clock by helicopter, two tanks, 48 soldiers, and eight 1xd robot units. The rocket will be launched within 48 hours!

Total Military Forces:

- 2 Saber-15 fighter jets
- 6 Combat helicopters
- 2 Tanks
- 48 Jeeps
- 96 Motorcycle troops; all canine rangers
- 96 Foot soldiers; human and canines
- 24 1xd robot power armor units
- 48 2xd power armor troops; all human
- 24 2xj flying armor troops; all human marines
- 144 Military personnel; mostly human technicians.

Overall, defenses are very good, but could be better. The assault team can get quite close before being noticed, if careful.





Game options for a happy ending

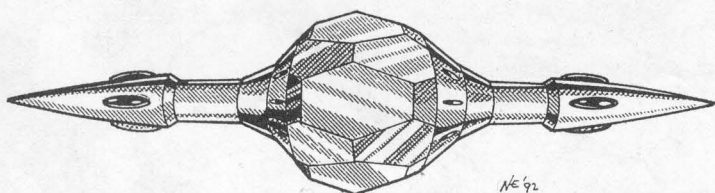
Obviously the characters will be discovered at some point and a pitched battle will ensue. Whether they have destroyed the rocket or not will depend on circumstance. Whether they die fighting or are taken captive for interrogation is also left to the GM and circumstance.

Option One: Launch day can be delayed by 2D4 days because of bad weather conditions. Giving the players a second or even third shot at destroying the shuttle. The group can also be assisted or rescued by the timely appearance of one of the other assault teams.

Option Two: A huge Cardanian assault force comes racing out of the woods and save the day by destroying the shuttle, rocket, and launch pad with an all out assault. Of course there is an air and ground battle which can involve the characters.

As things turns out, the player character's team was really meant to be a diversion (and they were). They are given a reasonable, but modest reward and offered commissions in the Cardanian military (will start as lieutenants and can rise to the rank of colonel).

GM Note: You can add some spice by having one of the people that discovers them to be a character they have met before, like the sergeant or lieutenant from the previous adventure. **Note:** The space station the Empire of Humanity is in contact with is likely to be The Outcast Station or some faction on the Yuro Station.



Adventure Ideas

Adventures in **Mutants In Orbit** can be event led, or they can be player led (meaning the characters go looking for trouble).

Player led adventures start when a player decides that his character wants to do something and the GM, instead of working through a plot line that he has prepared in advance, goes along with it, improvising. The opportunities for characters to do their own thing are largely dictated by their occupations and alignments, but the possibilities are endless. They may decide to start a trading mission, to go hunting for satellites and debris to salvage, hire out their services on all kinds adventures, to explore the Graveyard, or even chase UFOs. They may want to go and visit the Outcast Station, the Moon or Mars, or go asteroid mining.

Go with it. A good GM will be able to find plot ideas in all of these. Usually, ideas will just emerge from something a player said, or a character does. Improvising an adventure, playing from a handful of notes and letting the players govern the direction of the play can make for a very interesting and exciting game.

Event led adventures are likely to be the most common. This is partly because there are so many events that are just waiting to happen in the universe of **Mutants In Orbit**, and creating scenarios around them is very easy. It is a universe full of piracy, political conflict, awkward diplomatic situations, intricate trade agreements, crime networks, computer networks, border skirmishes, claim jumping, exploration, strange mutation, equipment failure, and even war. Life is a constant struggle. Anything can happen.

A few possible plot lines or events that can develop into plot lines or adventures are described here.

- **Stray Rock:** An asteroid or a snowball is heading into the Zone. Either through accident or design it is slightly off course and travelling too fast to be stopped. If it continues on its present course it will hit a space station, and it is up to the player characters to find a way to deflect the rock, render it harmless, or even to move the station out of the way.
- **The S.D.I.:** There is a very large, extremely dangerous and mostly insane computer system floating in orbit, waiting for the chance to shoot at things. Suppose it's just lonely?
- **Aliens?:** There are otherworldly beings out watching and waiting. Are they friend or foe? Monster or mutant? Where do they come from and why? Do they need our help? Do we need their help? Are they just mischievous or diabolically evil? Again, this could turn into a long-running series of adventures, picking up clues here and there and gradually piecing together a complete picture.
- **The Enemy:** They're sitting out there, waiting for something to happen. What would happen if their supply shuttles suddenly stopped coming? Would they rather starve to death than contact the mutants for supplies, or would they resort to pirating freebooters' ships to get more food, water and oxygen? Suppose one of the Enemies' supply shuttles was damaged so that it could not return to earth and was found, either by the PCs or by some freebooters, what would the reaction be? Might it lead to a long-running search for the hidden Enemy base? Finally, what would happen if the scientists ever did develop some form of drug, vaccine or radiation that would counteract the effect of the mutagen, meaning that only pure-blood humans would be produced again? How would they spread it through orbit? How would it affect the PCs and would they be able to stop the Enemy getting it back down to Earth, and might that lead to them ending up on Earth themselves?
- **Beyond The Asteroids:** What lies out in the orbit of Jupiter? Is there any truth to the rumor that the pre-Flash humans established a colony on the Earth-like moon Titan; or did they attach a huge traction drive to it in an attempt to pull it nearer to the Sun before beginning to terraform it? Are there huge ice-moons here, enough to support the entire orbital community for decades? What about strange experimental technologies from before the Flash, or left

here for us to find by visitors from beyond our solar system? And what does lie beyond the solar system? Constant acceleration rates and huge speeds are possible with the traction drive. Did humankind ever make it to Alpha or Proxima Centauri before the Flash, and if so what kind of colonies exist there now?

- **Piracy and sabotage** are a constant problem.
- **War** with the moon is an ever present danger.

Random Space Encounters (Optional)

Roll as seems appropriate. Or use as more adventure ideas.

01-02 Badware. Badware is orbiting hardware that turns out to be able to defend itself. It may be part of the old S.D.I. system, an experimental device launched by one of the stations, or a trap laid by a pirate crew who is lurking nearby, waiting to see if they capture anything.

03-04 Body In Space. There is a 30% chance that any body found floating in orbit will be wearing a vacuum suit. If they are, there is a 20% chance that they will be still alive or revivable. If not, there is a 5% chance that they have the Body Freeze mutation and can be thawed out. Revived characters have a debt of honor to the person who saved them, and may be able to impart useful information about the person or reason that they were floating in space in the first place. Deep-frozen characters may have been there for hundreds of years and will know the location of items long forgotten, or secrets about the design of stations, particular ships or the S.D.I. system.

05-07 Combat. There is combat in progress within radar range (and therefore weapon range) of the player characters. Characters can move on or join the battle. Pick a side. If their side wins, it is common space protocol to split 10% to 25% of the booty with the craft that intervened. A dispute over the percentage could result in another battle.

08-11 Debris. A combat or collision has happened in this area of orbit, so recently that the debris has not had time to spread out. It will show up on radar. A ship that passes through it will take 6D6 damage automatically. Anyone searching the debris has a 5% chance per hour of finding salvageable material worth IOU 50-300 (1D6 x 50).

12-14 Distress signal. The character intercepts an automatic distress signal. It is possible to figure out the approximate location of the signal, but not what the source may be. Roll 1D6.

- 1 Vacuum suit; 60% chance of occupant surviving
- 2 Escape capsule; 80% chance of occupant(s) surviving; 20% empty
- 3 Ship in distress, radio destroyed. It may have had a collision or been involved in a combat. 75% chance of survivors; 30% chance of still being space worthy; 50% chance of arriving at the scene to find that someone else has got there first.
- 4 Hoax call or accidental triggering of a beacon.
- 5 Nothing remains of this particular disaster except for the distress beacon itself.

6 A trap set to lure the unwary to an unobserved area of space where they will be set upon by pirates or outcasts.

15-16 Ice crystals. A free-floating cluster of ice, worth IOU 1000-4000 (1D4 x 1000). There is a good chance that the ice has been lost by someone else, who may have marked it and will come after it, accusing the PCs of ice theft.

17-20 Hardware. Hardware is the name for any form of pre-Flash space junk that can be salvaged. It ranges from engineer's wrenches and dropped rivets to small dead satellites. Even after over two centuries, there is still a huge amount of hardware left in orbit. There is a 15% chance that the ship's detection circuits will miss the item and it will hit the ship, causing 2D6 points of damage per pound (0.45 kg) of weight. Otherwise it can be retrieved. Hardware is typically worth IOU 25-300 (1D6 x 25; if you roll a 6 then roll another 1D6 and add the two before multiplying).

21-22 Meteoroid storm. A cloud of meteors, little more than space dust, moves into the course of the ship before heading into Earth's atmosphere and burning up. Large storms can wreck ships and severely endanger stations, and there is no safe defense except a sudden and immediate course change. If the ship passes through the storm, roll 1D6 and multiply by two for the amount of damage. If you roll a six, roll again and add; and keep going for as long as you keep rolling sixes.

23-24 Micro-meteoroid. A single lump of matter gets past the ship's warning systems and hits the ship.

25-26 Pirates. Although piracy is less frequent in the Zone, it can happen anywhere. Even orbital space is huge, and by the time a distress call is intercepted and a rescuer arrives an experienced pirate crew can have stripped a spacecraft down to the bare hull.

Pirates may simply appear with guns blazing, trying to damage their target without destroying it, or they may adopt a disguise. This can range from false distress signals and dummy hardware, to pirates pretending to be traders in order to dock with a ship. They will rarely attack a ship that appears to be larger or better armed than their own.

27-30 Rock. A small asteroid, probably not more than a few meters across, has entered Earth orbit. If investigated there is a small chance (5%) that one of the other stations, including the Enemy Base, have used it as a disguise for observation equipment.

31-34 Satellite. Not all satellites in orbit are dysfunctional junk, but all are regarded as fair game by scavengers. As a result a number of modern satellites have weapons systems built into them to dissuade the more persistent forager. There is a 25% chance that any satellite found will be operational, and a 50% chance that operational satellites will either have a self-destruct mechanism or a small chemical laser on board to defend themselves. Operational satellites are worth IOU 500-3000 (1D6 x 500), while non-working ones are worth IOU 250-1500 (1D6 x 250).

35-36 S.D.I. Satellite. Players will not encounter the S.D.I. Control Module unless they go looking for it; it is too intelligent and paranoid to be found by accident. To determine the type of satellite found, roll percentile dice on the following table:

- 01-40 Surveillance satellite.
- 41-60 Laser satellite
- 61-70 Particle beam
- 71-80 Electro-magnetic railgun.
- 81-92 Kinetic Kill Weapon
- 93-98 Brilliant Pebble
- 99-00 X-Ray Laser

Next, roll percentile dice again:

01-30 Not functional; both Artificial Intelligence and weapon are broken

31-45 The weapon is fine but the A.I. is so completely mad that it will ignore any signals from the C.M., surveillance satellites or its own surveillance systems

46-64 The A.I. is fine but the weapon is broken or out of ammunition .

65-80 Both A.I. and weapon are fine, but it has lost contact with the C.M. and the rest of the S.D.I. system. It will be hesitant about firing on the PCs' ship.

81-00 Everything is fine, and the PCs are in trouble.

37-53 Ship. First roll percentile dice to work out the design of ship.

- 01-20 Small personnel carrier
- 21-32 Large personnel carrier
- 33-55 Small shuttle
- 56-67 Large shuttle
- 68-80 Small transport
- 81-90 Large transport
- 91-96 Small self-sufficient ship
- 97-99 Large self-sufficient ship
- 100 Solar yacht

Then if the first roll was between 01 and 90, roll percentile dice to determine the origin of the ship.

01-15 Freedom	71-80 Trader
16-30 Laika	81-90 Miner
31-40 Yuro	91-95 Moon Colony
41-50 Outcast	96-98 The Network
51-70 Freebooter	99-00 Unidentified; possibly aliens.

54-55 Ship in distress. A spaceship (roll on the table above to discover what type) is experiencing trouble. The PCs may intercept a radio message or may simply come across it in orbit. Roll on the following table to work out the source of the problem.

01-35 Out of fuel. Roll 1D6. On 1-4 the ship will simply continue in orbit until refuelled or towed. On a 5 it is travelling at escape velocity and will shortly leave orbit and head into deep space, without the ability to stop. On a 6 it is heading towards either the Earth or the Moon and will fall into their gravity well unless helped. Although salvage rates are not applicable because the ship is still crewed, a reward is definitely payable to anyone who saves the ship.

36-50 Drive trouble. The spacedrive has broken down and the crew cannot repair it. Use the 1D6 method above to work out its destination.

51-65 Hull breached. A meteoroid or stray shot from a weapon has ruptured the ship's hull and it needs assistance in carrying out repairs.

66-85 Short of oxygen. The ship's recycling plant or oxygen reserves are depleted and the crew will die unless they receive more urgently. As above, a reward is payable to anyone who rescues them.

86-95 Under attack. Depending on how long it takes the PCs to arrive, a combat may be in progress, there may be no sign of either ship or the signaller may be drifting in space, a stripped hulk.

96-00 Hoax by pirates, designed to ambush do-gooders. They will not attack any ship larger or better-armed than themselves.

56-59 Snowball. There is a 30% chance that the snowball has a crew of 1-3 people, and a 5% chance that it is off course and requires assistance.

60 Solar flare. A solar flare is a signal for great alarm. The radiation from the sun will scramble unhardened electronics and may cause physical harm to anyone who is not in an shielded environment. There is usually a 2-3 hour warning of a solar flare.

61 Spitball. A spitball is something that looks like a small snowball but which turns out to be frozen carbon dioxide rather than water. As such it is useless. They are rare, but miners occasionally send them back to Earth as a practical joke.

62-63 Stray Shot. A blast from a combat millions of miles away or days ago impacts with the PCs' ship. Roll 1D6 twice and multiply the two results; this is how much damage the ship takes.

64-65 Wreck. The ruined hull of a spacecraft floats in orbit. There is a 40% chance that it has already been stripped of all usable material by scavengers. Searching it may give clues to what it was, who owned it and why it was destroyed, which may lead into an adventure.

66-00 No encounter

Up And Away

Encounters in deep space are very rare, but the journeys are long and anything which may relieve the monotony will be welcomed. Roll percentile dice once per week to determine if there has been an encounter.

01-05 Ambush. Pirates prefer to work in deep space because there is less chance of being caught by a ship coming to the victim's rescue. As a result they do not need to adopt a disguise, but will just appear and demand that the PCs surrender. They will not attack any ship larger or better armed than their own.

06-12 Comet tail. The ship passes through the long residual tail of a comet. Roll 1D6. On 1-2 they have passed through the dust tail and the hull takes 1D6 x 6 damage. On 3-6 they pass through the plasma tail, taking 1D6 x 3 damage. Electronic instruments will go haywire (50% chance if hardened) and will take 1D6 days to repair and restore. During this time the ship may be on a random trajectory into deep space, depending on how severe the damage was.

13-20 Distress signal. The PCs detect an automated distress signal coming from their sector of space. Roll 1D6 on the following table.

1 Vacuum suit

2 Escape capsule

3 Ship in distress, radio destroyed. It may have had a collision or been involved in a combat.

4 Hoax call or accidental triggering of a beacon.

5-6 Roll again, except that when the PCs approach it is obvious that the beacon has been in space for well over a year, possibly many years. The object emitting the signal is scarred by micro-meteoroids and space dust, and any inhabitants are long dead.

21-30 Rock. A large asteroid. There is a 30% chance it is a metal-rich one on its way to the Zone from the Belt.

31-37 Ship. Use the tables on the "Random Space Encounters" table above to determine the type of ship. It is up to you to decide on its destination and the purpose of its mission.

38-42 Ship in distress. The PCs' ship picks up a radio signal from a ship in distress, seemingly from somewhere nearby in space. Roll on the following table.

01-35 It is a "ghost" signal reflected from somewhere else or broadcast years before. This may become clear from listening to it or trying to communicate with the broadcaster, or may only become apparent when the PCs try to carry out some kind of rescue.



36-60 Out of fuel. The ship will simply continue on its present course until refuelled or towed, or until it hits something. Although salvage rates are not applicable because the ship is still crewed, a reward is definitely payable to anyone who saves the ship.

61-75 Drive trouble. The spacedrive has broken down and the crew cannot repair it. As above, it will keep going until it hits something or is rescued.

76-90 Short of oxygen. The ship's recycling plant or oxygen reserves are depleted and the crew will die unless they receive more urgently. As above, a reward is payable to anyone who rescues them.

91-94 Hull breached. A meteoroid or stray shot from a weapon has ruptured the ship's hull and it needs assistance in carrying out repairs.

95-98 Under attack. Depending on how long it takes the PCs to arrive, a combat may be in progress, there may be no sign of either ship or the signaller may be drifting in space, a stripped hull.

99-00 Hoax by pirates, designed to ambush do-gooders. They will not attack any ship larger or better-armed than themselves.

43-49 Snowball. There is an 80% chance that this is a hunk of ice travelling from the Belt back to Earth, and a 30% chance that it has a crew of 1-3 people. If it is not a claimed ice-find, then it is fair game for the PCs to recover.

50 Wreck. The long-dead hull of a spaceship. There is a 60% chance that it is still complete, including the mummified bodies of the crew. It will be drifting because it has sustained some kind of damage; either from weapons, from a lack of fuel or oxygen, or from a systems failure. Full salvage costs will be paid if the PCs can bring it back to Earth orbit.

51-00 No encounter.

Getting into Orbit After the Bomb

There has never been a shortage of weird science in the worlds of the **Heroes Unlimited** and **TMNT** games; it is the underlying theme to a lot of adventures and character backgrounds. With so many evil, mad or misguided scientists lurking in the shadows, it is easy to imagine matter transportation devices, time machines, or rockets with space shuttles hidden in some pre-Bomb/Flash secret base.

Theoretically, characters on Earth could find a huge underground base containing a well-preserved ion drive shuttle or one-use rocket, together with enough fuel to launch it into orbit. Unlikely, yes, but this is fiction. The problem then is how to motivate characters to blast off into the unknown. Perhaps they have received communications from one of the orbital stations. They might have intercepted a distress call from someone in orbit. If they are being chased, it could possibly be the only way out regardless of the consequences. It could be a big mistake too. Shuttles like the **HOTOL** (Horizontal Take-Off and Landing) are designed like normal aircraft and the characters could easily mistake one for a conventional jet prototype. They would only discover their error when the autopilot takes them into a low orbit. It could blow a fuse, or be partially disabled by an S.D.I. satellite, or encounter and follow another spacecraft to the moon or one of the space stations.

RPG Note: Countries which would be likely to have such advanced technology stored away would include the USA, Russia, China, Japan, Australia and French Guiana, a principal launch site for the European Space Agency. Most launch sites will be as close to the equator as possible; the closer a launch is to the equator, the less fuel it will take to move a spacecraft into a stable orbit.

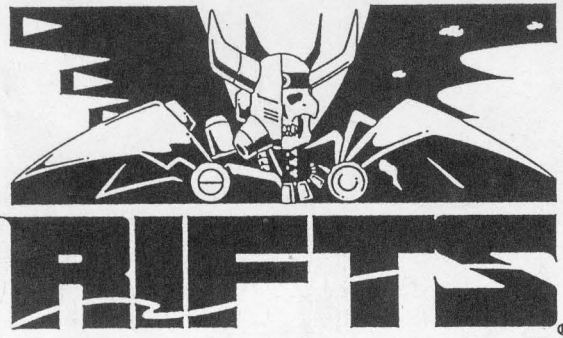
In the **After The Bomb** universe, only one group has the technology and resources to build and launch orbital rockets and satellites: the



Empire of Humanity, working from their base at Technoville. Recently, they have become interested in exploring outer space and have a small, but well equipped space program in place. One of their first missions, to investigate debris in geosynchronous orbit around Earth.

Obviously they are not going to offer the player characters a lift, especially mutant animals, but if the characters can find out about the this shuttle craft they might be able to stow away on board. Okay, it's not very likely, but it is possible. It is more likely that the scientists at Technoville may need some new mutant specimens on which to try out experimental drugs and serums. Or, possibly as subjects of a space experiment, likely to be a one-way trip. By a coincidence (you're the GM, you can arrange coincidences) the player characters may have been recently been taken prisoner by the Empire of Humanity, and quickly find themselves on the next space shuttle for reasons unknown (probably labor or experimentation). What happens next is up to the GM.

Finally, since **After The Bomb** has always been a little tongue in cheek, you can have the characters abducted or helped by aliens. Or find an alien spaceship. The ship is in perfect working order but there is no sign of the crew. Trying to come to terms with an alien ship and exploring space could form the basis for an entire campaign of adventures.



A Visit to an Unfriendly Planet

A Rifts Adventure Outline

Giant mutant insects have suddenly cropped up in (somewhere in the North American wilderness). They are threatening one small community in particular.

At some point our heroes encounter one praying mantis or giant beetle, and, later, five human sized ants (two with energy rifles). The insects fight to the death and are killed. Considering the county's trouble with Xitixix, this will not be a welcome development. **Note:** At the GM's option, this could be a good time to introduce any insect player characters or friendly NPC. Remember, insect characters will have a low I.Q. and react on instinct more than anything else.

The local people insist that an insane Shifter is responsible for the insect monsters. Going to town where he resides will provide a long and complete history and assessment of this character.

Mage William Targturn, a 9th level shifter, was once a great asset to the town, which he helped to build and to protect. But he was always too ambitious for his own good and had dreams of attaining great power and wealth through magic and dimensional travel. Over the last decade he has become a different man, reclusive, paranoid, cruel and wild eyed. When he makes one of his rare appearances in town, he is, or becomes, drunk or high on drugs, becoming loud, boastful of his frightening dimensional journeys and encounters with monsters, and confrontational. Inevitably, the night ends with a brawl and sometimes death, as Mage Targturn must prove he is the most powerful.

His castle tower has fallen into a state of decay. Horrible demons and aliens are sometimes unleashed from it, only these days the shifter makes no effort to protect the town's people. Monsters are rumored to be Mage Targturn's constant companions (which is not always true) and the shifter will disappear for a year at a time.

Two months ago the shifter paid the town one of his visits. He was high and meaner and crazier than ever. He spoke of betrayal and loss of respect by his neighbors and the world. He laughed and hissed and snarled about revenge and power. He spoke of inhuman allies, pawns actually. The perfect army. Instinctive predators. Soon the townfolk would witness the coming of a new age, one where he would be the ruler of the world.

Two days later, the first of three or four different types of giant insects appeared. The people assume that this is the army of predators of which Targturn spoke.

Game Master Information

Mage William Targturn has discovered a rift to Mars where the giant insects live. Unfortunately, recent experiences with the Splugorth have driven him over the edge of sanity and have turned him into a creature of evil (diabolic alignment). With the help of his demon slaves, Mage Targturn plans on corralling or tricking an army of mutant insects into following him into a rift and bringing them to Earth as his minions. It doesn't even phase him that he cannot actually control the insects and that they would destroy him in an instant.

The player characters ultimately explore his tower, which has a number of monstrous pets/specimens, (two of which are bluebottle bristle flies locked in the basement) and two demonic housekeepers (who may or may not cause trouble or fight). After a brief skirmish or two, the group discovers a group of magic circles and an opened dimensional rift. Without warning they are inadvertently sucked into the rift and whisked away to the source of the insects; Mars!!!

On Mars, they can encounter different insects and finally meet Mage Targturn. He is quite insane and completely evil. He will welcome them as spectators to his greatest moment, for even now his demon aids are gathering a legion of insect warriors. The big advantage the group has is that the mage now believes himself to be invincible, which he is not. By a strange quirk of fate, bluebottle bristle flies see him as their leader; Targturn communicates with them via telepathy and they respond. This is unbelievable, because the flies never respond to any form of communication. One can only presume that the shifter's telepathic power has mutated in some inexplicable way. Targturn also has mind block and sense magic psi-powers.

To stop this madness the mage must be killed and the rift closed.

The battle follows...

Note: If the player characters cannot close the dimensional rift themselves, a low level shifter in the town, once a student of Mage Targturn, can be found and will be successful in closing it for them.

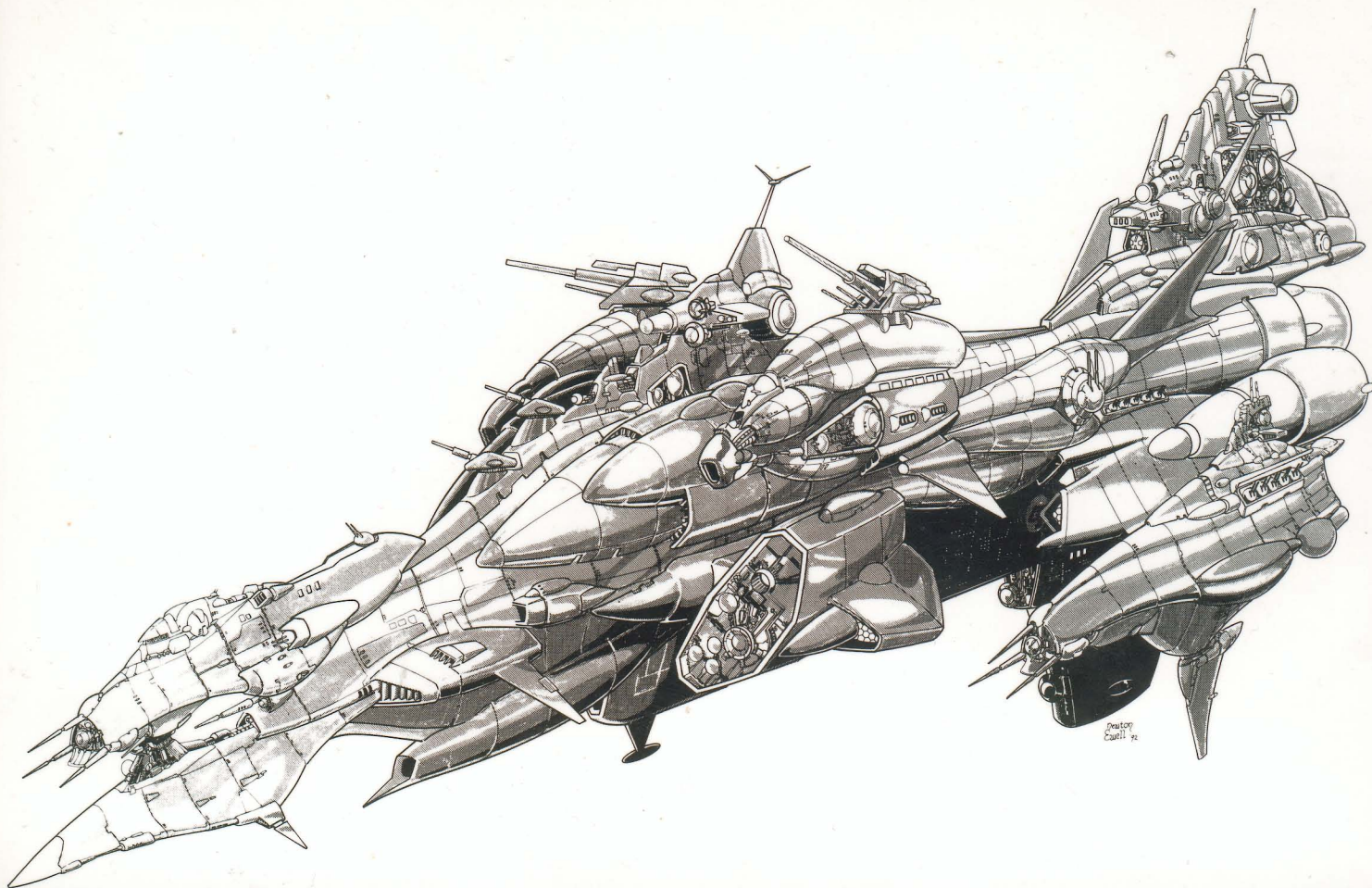
Objectives: 1. Kill the shifter. 2. Return home and seal the dimensional portal. 3. Others...

Rifts adventure ideas

Of course there are all the usual adventures involving piracy, freebooting, exploration and political unrest.

- **Things from the rifts:** Supernatural menaces. Supernatural beings do emerge from the various rifts on the moon, Mars and in space. The humans in orbit are ill prepared for such creatures and their presence can lead to many adventures; from straight forward monster stomping, murder and mayhem, to intelligent beings trying to control and manipulate human pawns for their own pleasure and mad schemes.
- **Travelers from the rifts:** These can be humans, practitioners of magic, mutants, dragons, monsters, and already established player characters from **Rifts Earth** or anywhere or anytime (characters from **Beyond the Supernatural**, **Palladium RPG**, **Heroes Unlimited**, **Robotech**, etc.). They can be heroes or villains; helping or hurting.
- **Alien Menace(s):** A strange, unearthly machine, robot, or creature is found floating in space, seemingly lifeless. It is taken on board by a rescue or salvage vessel and brought to the Zone. At some point the thing becomes active, awakening from its long sleep. The problem: It is extremely powerful and hostile. Take it from there. Matters can be complicated by asking questions like: are there more and if so can this one summon them? Can this one thing reproduce?
- **The various factions at Yuro Station and the Outcasts** are always up to something. They are perfect foils for espionage, secret plots, dangerous experiments, and political turmoil.
- **Mutant insects** brought back from Mars for study or experimentation escape and cause mayhem. Or specimens are taken to other worlds. The Splugorth might find them interesting commodities to sell as pets/guards and slave labor.
- **A coalition of superbeings** might see some of the most powerful, evil or power hungry super empowered beings join forces to take control/rule of one of the space colonies, or try to. Or they become a group of deadly super pirates or other villains.
- **Super beings, powerful psionics, and mutants** will be a constant source of trouble. As are creatures of magic and supernatural creatures.

Note: Also see the **After the Bomb** section for ideas.



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